Technical Airworthiness Authority Advisory (TAA Advisory)	
Title	**Requirements for Navigation in Northern Domestic Airspace and Polar Regions**
TAA Advisory Number	**2017-02e-v4**
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RDIMS File	**2182D-1027-812-6 VOL 1** **AEPM RDIMS # 1600287 (English)** **AEPM RDIMS # 1724599 (français)**

1 Purpose

1.1 This Technical Airworthiness Authority (TAA) Advisory sets out the equipage requirements for navigating within the Northern Domestic Airspace (NDA) during night and Instrument Flight Rules (IFR) operations by using True Heading outputs and long-range navigation capabilities. The advisory also addresses communication aspects associated with operations in NDA.

2 Applicability

2.1 This advisory applies to all DND/CAF personnel, as well as their support contractors, who are seeking to obtain an airworthiness approval and Technical Airworthiness Clearance (TAC) to conduct night and/or IFR operations in the NDA, as required by the fleet Statement of Operating Intent (SOI) or by Royal Canadian Air Force (RCAF) National Defence Flying Orders.

2.2 The methodology used in this advisory assesses the impact of high latitude (NDA and Polar) operating conditions on the function and performance of equipment required for night and IFR operations. The Flight Manual (FM) will be annotated to identify any applicable limitation or restriction.

3 Related Material

3.1 **Definitions.** Nil.

3.2 **References**

3.2.1 The following references should be used in conjunction with this advisory, as appropriate:

a. Federal Aviation Administration (FAA) Order 8900.1 – *FAA Flight Standards Information Management System*, Volume 4 – Air Navigation and Operational Authorizations, Chapter 1 – Air Navigation, Communications, and Surveillance, Section 5 – Safety Assurance System: Special Navigation Areas of Operation, paragraphs 4-103c;

b. Canadian Aviation Regulations (CARs), Part VI, Subpart 5, Paragraph 605.16(1)(g);

c. B-GA-100-001/AA-000 – *National Defence Flying Orders*;

d. Transport Canada Civil Aviation (TCCA) – *Transport Canada Designated Airspace Handbook*, TP1820E;

e. Nav Canada, *Aeronautical Information Publication* (AIP) Part 2, Enroute 4.3;

f. Transport Canada Airworthiness Manual (AWM) Chapter 523 – Normal, Utility, Aerobatic and Commuter Category Aeroplanes (up to Change 523-18);

g. Transport Canada AWM Chapter 523 – Normal Category Aeroplanes (Change 523-18 and later);

h. Transport Canada AWM Chapter 525 – Transport Category Airplanes;

i. Transport Canada AWM Chapter 527 – Normal Category Rotorcraft;

j. Transport Canada AWM Chapter 529 – Transport Category Rotorcraft;

k. MIL-HDBK-516C, *Airworthiness Certification Criteria*, dated 12 December 2014 or later;

l. C-05-005-001/AG-002 – *Airworthiness Design Standards Manual* (ADSM), Part 3, Chapter 2; and

m. C-05-005-001/AG-001 – *Technical Airworthiness Manual* (TAM), Part 2, Chapters 5, 6 and 7.

4 Discussion

4.1 Background

4.1.1 Northern Domestic Airspace

4.1.1.1 Canadian Domestic Airspace (CDA) is divided into two main regions – Southern Domestic Airspace (SDA) and NDA (Figure 1). In the NDA, runway headings, tracks, etc., are given in degrees true, rather than magnetic. This is due to the diminishing horizontal component of the earth's magnetic field in proximity to the magnetic North Pole and its effects on magnetic compass systems.

4.1.1.2 The NDA includes the Northern Control Area (NCA), the Arctic Control Area (ACA) (Figure 2) and all the airspace below the base of these control areas down to the surface of the earth. The FAA (reference 3.2.1.a) designates Canada's NDA as an Area of Magnetic Unreliability (AMU). Although Canadian publications sometimes refer to it as the area of compass unreliability, they are the same. The NDA, NCA and ACA are depicted on all Canadian enroute charts and encompass the northernmost Canadian airspace.

4.1.1.3 Both civil (reference 3.2.1.b) and military (reference 3.2.1.c, Book 1 of 2, Chapter 8, para 9) operational regulations require a means of establishing direction that is not dependent upon a magnetic source when operating within the NDA. These operational regulations exist because anomalies with the Earth's magnetic field in the Polar Regions cause erroneous magnetic heading indications. Aircraft, therefore, use True Heading information when flying in the NDA. Appropriately certified navigation equipment, as well as special techniques and/or procedures, are critical to safe operation in polar areas, including the area of magnetic uncertainty (reference 3.2.1.d).

4.1.2 Increased Alignment Times Due to Magnetic Variation and Convergence of the Meridians

4.1.2.1 Conventional magnetic compasses sense magnetic direction by detecting the horizontal component of the earth's magnetic field. Since this horizontal component vanishes near the magnetic poles, magnetic compasses are highly unreliable and unusable in an area of approximately 1,000 NM from each magnetic pole. Within these areas, air navigation tasks are further complicated by very rapid changes in magnetic variation over small distances. For example, when flying between the Magnetic North Pole and the True North Pole, a heading of True North results in a magnetic heading of south (a magnetic variation of 180 degrees).

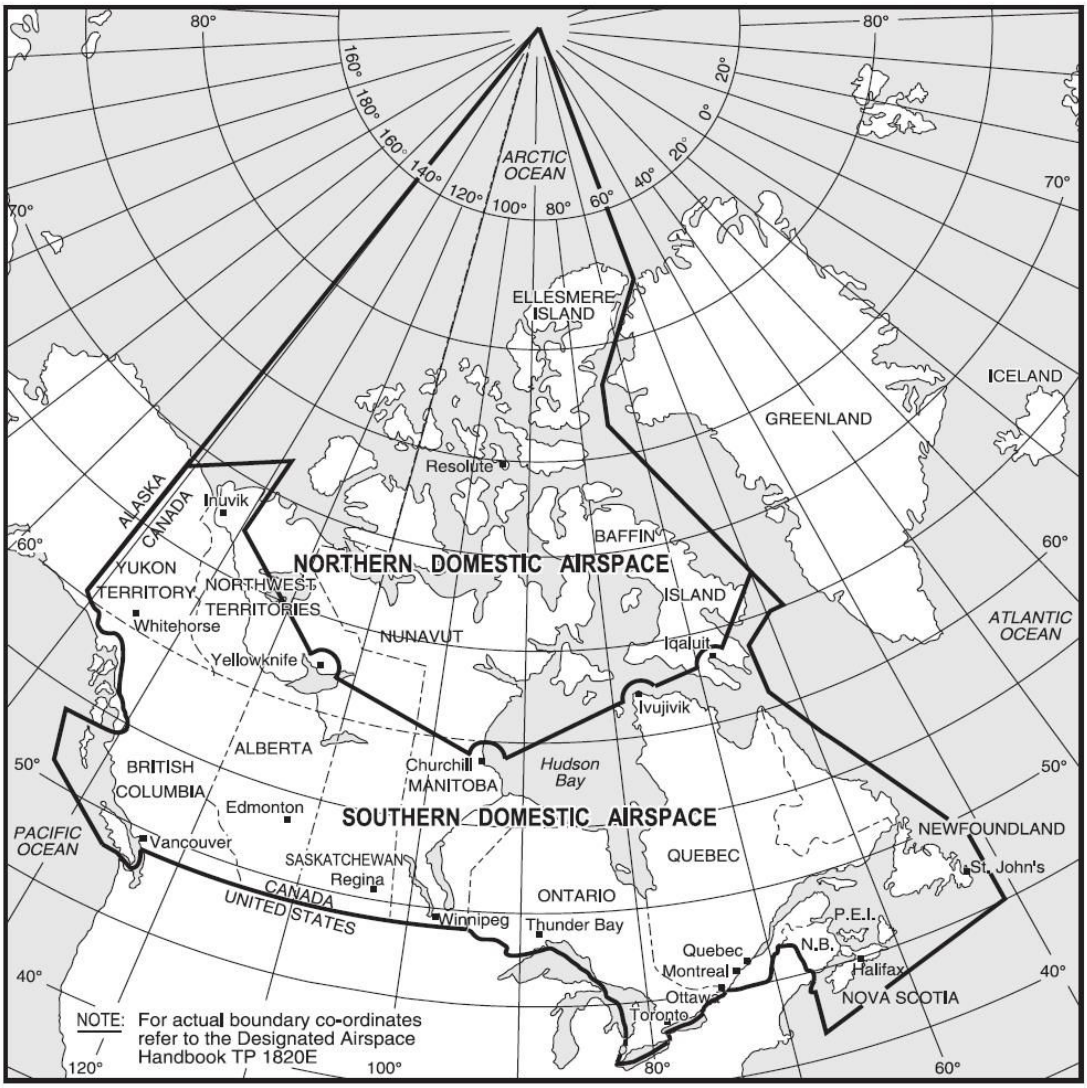

Figure 1. Northern and Southern Domestic Airspace
(Copyright Transport Canada)

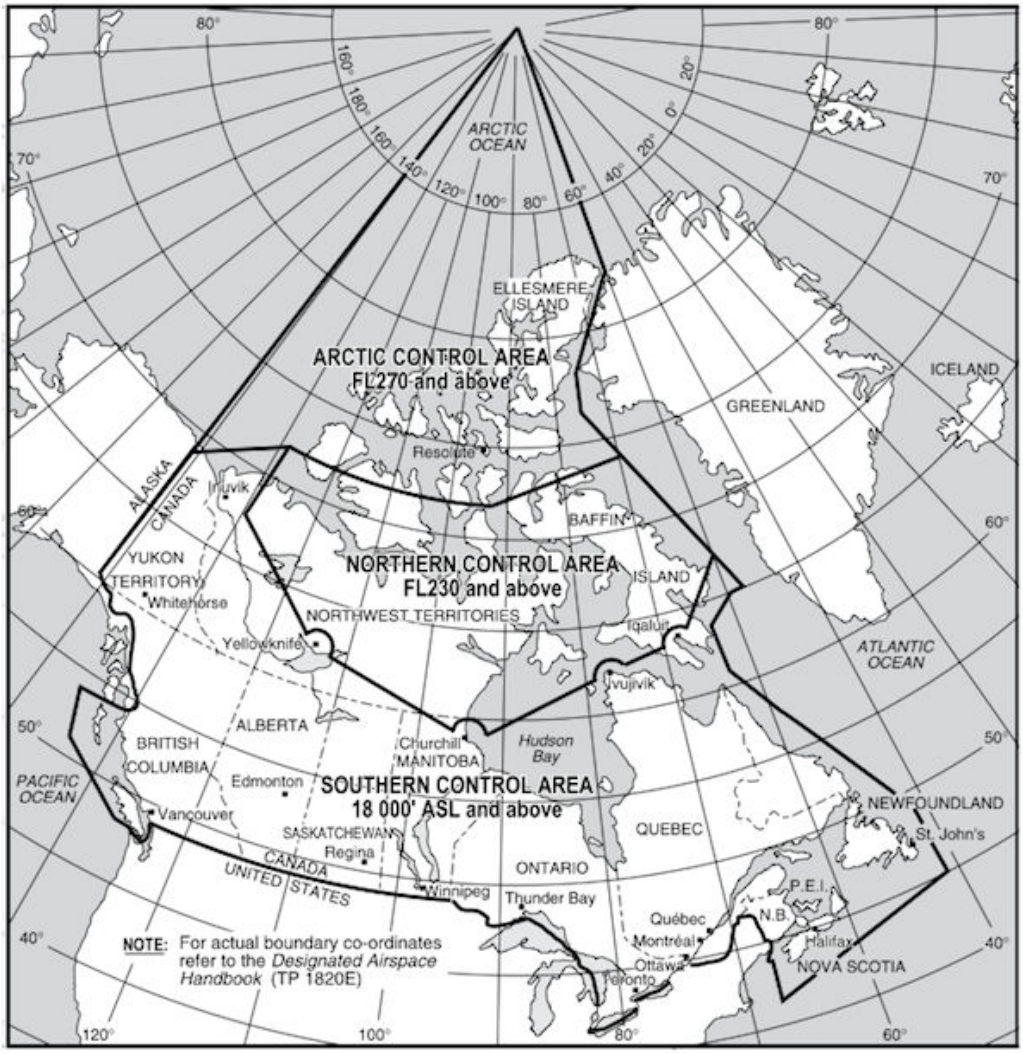

Figure 2. Arctic, Northern and Southern Control Areas
(Copyright Transport Canada)

4.1.2.2 The convergence of the meridians (i.e., lines of longitude) presents additional directional complications. When flying "great circle" courses at latitudes greater than 67 degrees, convergence of the meridians can create rapid changes in true headings and true courses with small changes in aircraft position. As a result, relatively small errors in determining the aircraft's actual position can produce very large errors in determining the proper heading to fly and maintain the assigned flight path. When even small errors occur, very large navigation errors can develop over extremely short distances. An extreme example of this phenomenon occurs at the earth's geographic North Pole. Flight in any direction from the exact pole is initially due South.

4.1.3 **Navigation in the NDA**

4.1.3.1 Navigating in the NDA presents several issues not found anywhere else in the world (other than near the South Pole). Because of these issues, an acceptable method of navigating within the NDA is resorting to long-range navigation systems referenced to True North, by using Inertial and/or GNSS:

a. **Inertial Based Navigation Systems**. All Inertial Navigation Systems (INS)/Inertial Reference Systems (IRS)/Inertial Reference Units (IRU) can calculate True North-referenced outputs independently from other aircraft systems.

b. **GNSS systems.** As of June 2023, according to Nav Canada's Aeronautical Information Publication – AIP Canada (ICAO) Part 2, Enroute 4.3 (reference 3.2.1.e), the only global operational GNSSs approved for use in Canada are the United States NAVSTAR Global Positioning System (GPS) and the Russian GLONASS. Furthermore, the United States FAA Wide Area Augmentation System (WAAS) can provide position augmentations for use in the CDA. Coverage of the FAA WAAS augmentations is subject to visibility of at least one of the WAAS geostationary satellites. GNSS systems can output tracks referenced to degrees True, but generally do not provide any heading information. Operationally, a GNSS and an Automatic Direction Finder (ADF) can be used to determine aircraft heading. This heading can then be used to manually set a Directional Gyro, for example.

4.2 Requirements

4.2.1 The applicant is responsible for demonstrating that the installed navigation equipment and overall avionics architecture continues to provide its intended function while operating in the NDA. The appropriate certification basis needs to be identified to ensure that the correct means and methods of compliance are incorporated into the project objectives, safety assessments, test plans and flight manual amendments.

4.2.2 For aircraft designed and certified to civil airworthiness standards, as a minimum, the following Transport Canada Airworthiness Manual (AWM) requirements (references 3.2.1.f to j) or equivalents, as set out in the Airworthiness Design Standards Manual (ADSM) (reference 3.2.1.l), should be included:

a. AWM Section 52X.1301, *Function and Installation*;

b. AWM Section 52X.1309, *System Safety*;

c. AWM Section 52X.1501, 1583 and 1585 *Flight Manual (FM)*; and

d. AWM Section 52X.1529, *Instructions for Continued Airworthiness.*

4.2.3. The certification basis should be assessed to determine whether any additional airworthiness standards and requirements need to be addressed as a result of any specific design peculiarities.

4.2.4 For aircraft designed and certified to MIL-HDBK-516 (reference 3.2.1.k), the typical requirements should include:

a. Section 4.5 – *Operator's and Maintenance Manual*;

b. Section 10 – *Diagnostics Systems*;

c. Section 11 – *Avionics; and*

d. Section 14 – *System Safety*.

4.2.5 Specific avionics, system safety and Flight Manual (FM)/Aircraft Operating Instructions (AOI) requirements, criteria and guidance are identified in this advisory's Annexes A, B and C, respectively. Fleets seeking airworthiness approval to operate in the NDA need to address these requirements as part of their airworthiness certification program.

4.3. Means of Compliance during Type Design Examination

4.3.1 The intent of the Type Design Examination (TDE) is to credit certification activities that have been performed by organizations acceptable to the TAA. However, contrary to the TAA, who assesses the aircraft eligibility to conduct operations in the NDA as part of the type certification process, most airworthiness authorities assess an aircraft's ability to safely operate in the areas of magnetic unreliability as part of the air operator certification. As a result, granting appropriate credits during a TDE can be challenging, as the type design documentation will not contain information regarding the operational approval of the aircraft and its operators. The applicant can use the following two strategies to demonstrate compliance with this advisory for operations in the NDA when the initial

airworthiness compliance strategy is TDE-based. Note, however, that neither of the two strategies will grant an approval that allows for existing limitations or restrictions to be amended or removed from the flight manual or type design.

a. The applicant obtains from an Operator of the aircraft type sufficient operational documentation (e.g., Operations Specifications, Operations Manual extract, etc.) regarding the Operator's approval to conduct operations in the NDA. This information is required by the TAA to identify any operational limitations or restrictions that may be applicable to the RCAF fleet.

b. The applicant submits criteria tables, completed against the criteria provided in Annexes A, B and C of this advisory. During the Type Design Review, the submission is assessed by the TAA (DTAES 3 staff) and, if deemed acceptable, DTAES Subject-Matter Experts (SMEs) (DTAES 6, 7 and 8) will conduct a thorough review of the tables and make recommendations to the TAA (DTAES 3 staff) on the approval of the fleet's NDA operations. This strategy requires that sufficient acceptable aircraft technical information is available to the applicant to fill the criteria tables.

Note

The TAA acknowledges that obtaining technical data to perform such an analysis can be problematic. As a result, the TAA may deem acceptable an exemption from the requirement to complete and submit Annex B, when the following conditions are met:

a. the aircraft is equipped with any two (2) separate true heading sources, as well as an area navigation system;

b. the TDE Assessment of Applicability did not identify differences in configuration between the original design subject to the TDE and the DND-registered aircraft with respect to the navigation and Air Traffic Controller (ATC) communication systems that may substantially impact NDA-applicable failure conditions in a negative way; and

c. Annex A was found satisfactory, and related observations/issues/concerns with corresponding resolutions are not assessed to have a significant impact on NDA-applicable failure conditions.

4.3.2 If any limitation or restriction contained in the flight manual or type design needs to be amended or removed, the applicant will have to initiate a separate design change by using this TAA Advisory as means of compliance to demonstrate safe operations in the NDA.

ANNEX A
TO TAA ADVISORY 2017-02
DATED 1 MARCH 2017
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Avionics Requirements and Guidance on the Intended Function

Item	Certification Requirements for Compliance with AWM 52x.1301 or MIL-HDBK-516, sections 10 and 11	Additional Guidance
1	The aircraft must have a means of switching from Magnetic to True heading, when entering the NDA, and vice versa, when exiting the NDA. If the switching between Magnetic/True Heading is not sufficiently self-evident, a suitable alerting or other annunciation should accompany the switching.	This requirement applies to primary and standby heading displays if the standby heading systems can display True heading. If applicable, the same switch should drive both the primary and standby heading indications. For True heading indication, slaving to a non-Magnetic heading determination system (e.g., gyrocompassing) is preferred, however Directional Gyro (DG) mode is satisfactory provided acceptable crew procedures are documented in the FM/AOI (see Annex C of this TAA Advisory). For aircraft approved to conduct Performance Based Navigation operations, the following guidance of FAA AC 20-138D paragraph 14-7 should be followed: *"If a magnetic/true heading reference switch is installed in the aircraft, the positioning and navigation equipment should be driven by the same switch to maintain consistency in the displays and operation for both manual and automatic heading reference changes."* The same means of switching between True and Magnetic heading should, therefore, also switch the navigation equipment mode. For more information related to PBN operations, see TAA Advisory 2019-05. In some implementations, the switching occurs automatically based on an established criterion, for example when reaching a certain latitude. In those cases, the applicant must substantiate how the switching criteria aligns with the boundaries of the NDA. If there are significant differences, crew procedures may be considered as mitigation.
2	The aircraft must have a means to signal to crews when True Heading is selected.	This requirement is usually met by an appropriate indication on the primary flight display and/or navigation display.
3	The primary gyro system and standby must be capable of alignment in attitude in the NDA.	Demonstration of alignment in attitude is required both on the ground and in the air, unless an analysis demonstrates that such alignment is not impacted by the latitude. For systems indicating both attitude and heading, alignment in attitude must be possible independently of alignment in heading (i.e., failure of alignment in heading must not impact alignment in attitude).

Item	Certification Requirements for Compliance with AWM 52x.1301 or MIL-HDBK-516, sections 10 and 11	Additional Guidance
4	Inertial-based systems must be capable of alignment in heading to the maximum northerly latitude identified in the FM/AOI.	The availability and performance of all alignment modes as a function of latitude must be determined on the ground and in-air (if applicable). Examples of modes include Gyrocompass (GC), Stored Heading (SH), Best Available True Heading (BATH), and Shipboard Inertial Navigation System (SINS). The TAA does not set a maximum alignment time. For example, a gyrocompassing Attitude & Heading Reference System (AHRS) certified to TSO-C201 by the FAA must be demonstrated to have a heading alignment time of 10 minutes or less below 60 degrees North, but the alignment time above that latitude need only be specified by the manufacturer. Historically, the TAA has found an alignment time of 30 minutes or less to be appropriate.
5	Sufficient annunciation must be provided to alert crews of degraded heading system performances.	Unless it can be demonstrated that heading performance is unaffected in the polar regions, an alert must be triggered when the heading system is providing degraded performance. For slaved systems, this is generally the case when the heading is erroneous by more than 6 degrees. This requirement has historically been met by comparing different heading sources. Most modern aircraft designs that are equipped with two or more gyroscopically stabilized heading systems include a comparator that will provide an alert if both systems diverge significantly. A threshold of 6 degrees in level flight is often used, in accordance with the FAA guidance of AC 23-17C, however tighter tolerances exist. Another option to meet this requirement is using an Original Equipment Manufacturer (OEM) degraded mode function (e.g., see RTCA DO-334). Additional demonstration of compliance of the alert is not required if compliance was assessed as part of the initial airworthiness, or subsequent design change, provided the results are shown to be applicable to operations in the NDA.
6	Inertial Navigation Systems must have a drift rate in INS-only mode in the NDA that supports the intended function.	For aircraft approved for IFR navigation in INS-only mode, the drift rate in the NDA must be no higher than 2 nm per hour, in accordance with AC 20-138D para 6-6. If a lower drift rate was used to substantiate specific PBN approvals, that lower drift rate must be re-evaluated for operations in the NDA.

Item	Certification Requirements for Compliance with AWM 52x.1301 or MIL-HDBK-516, sections 10 and 11	Additional Guidance
7	Standby heading instruments must have adequate performance in the NDA to support their intended use.	In the southernmost regions of the NDA, a standby heading instrument in magnetic mode may still provide valuable indication to crews. If intended to be used operationally, the performance of the heading instrument in terms of accuracy must be assessed. The drift rate of standby heading instruments in DG mode must be determined. Should the drift rate change compared to operations outside of the NDA, sufficient information must be included in the FM/AOI (see Annex C of this TAA Advisory). The TAA does not define a maximum drift rate, provided that acceptable crew procedures can be defined to adjust the heading value operationally. A standby heading instrument with a heading that can be sourced by using a non-magnetic heading determination (e.g., Embedded GPS/INS (EGI)) must be capable of accepting such true heading in the NDA.
8	The aircraft must be equipped with certified long-range communication system, if the intent is to approve the aircraft for operations in controlled airspace within the NDA.	Typically, this requirement will be met by installing a HF radio, or a Satvoice system, in accordance with the standards listed in Part 3, Chapter 2 of the ADSM (advisory reference 3.2.1.l). The suitability of the long-range communication system must be demonstrated for operations in the NDA. In cases where the long-range communication system does not cover the entirety of the NDA (e.g., a geosynchronous-based Satvoice system), adequate limitations and crew procedures must be documented in the AFM in accordance with Annex C of this TAA Advisory.
9	The navigation database must be appropriate for operations in the NDA.	The quality and coverage (e.g., airport) of the navigation databases must be assessed. For example, procedures contained in the navigation database and tailored data must be referenced in degrees True in the NDA, and in a format compatible with the navigation system.
10	Digital maps and associated displays must be appropriate for operations in the NDA.	The quality and coverage of the maps must be assessed. Limitations and crew procedures flowing from that assessment must be documented in the FM/AOI in accordance with Annex C of this TAA Advisory.
11	The terrain and obstacle databases of the Terrain Awareness and Warning System (TAWS) must be appropriate for operations in the NDA.	The quality and coverage of the databases must be assessed. Limitations and crew procedures flowing from that assessment must be documented in the FM/AOI in accordance with Annex C of this advisory.
12	The data entry mechanism of the navigation system must accept heading/track data entries referenced in True.	Some Flight Management Systems (FMS) and Control Display Units (CDUs) require heading/track information referenced in True to be entered with the suffix “T”, otherwise the procedure will be flown incorrectly. Other FMS will allow the selection of True or Magnetic via a menu toggle. Notwithstanding the methodology, the design philosophy must be consistent, clear, and unambiguous.

Item	Certification Requirements for Compliance with AWM 52x.1301 or MIL-HDBK-516, sections 10 and 11	Additional Guidance
13	Any navigation procedures that are sensitive to a track/heading input (e.g., approaches, go around, etc.) must work correctly with heading/track data in degrees True.	For example, some FMS or standalone navigation systems provide enhanced Visual Meteorological Conditions (VMC) situational awareness by allowing the creation of a straight-in segment based on the insertion of a Final Approach Fix (FAF). For those systems, it must be ensured that the location of the FAF is based on True North in the NDA, otherwise the final approach segment may not be properly aligned with the runway centerline.
14	Other required systems must function properly when operating in the NDA in true heading mode.	Required systems (vs. Mission Equipment) are systems that are required for the safe operation of the aircraft. Such systems include FMSs, Automatic Flight Control Systems (AFCS), Flight Directors (FD), Displays, Weather Radar, etc. If necessary, any applicable limitations or modifications to crew procedures must be documented in the FM/AOI as per Annex C of this advisory.

ANNEX B
TO TAA ADVISORY 2017-02
DATED 1 MARCH 2017
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System Safety Requirements

The safety analysis performed for operations in the Southern Domestic Airspace (SDA) must be reviewed and assessed for operations in the Northern Domestic Airspace (NDA).

The review of the design should identify all required systems that use heading, and the impact on the aircraft of the use of True Heading versus Magnetic Heading by those systems. The review should also consider component design limitations that apply to the NDA but did not apply to the SDA. This review will assist in formulating a comprehensive test plan.

The review should also include operational assumptions made in the original Functional Hazard Assessment (FHA) or System Safety Assessment (SSA) that may be impacted/affected by operations in the NDA.

In general, it is anticipated that the following systems may be affected: Navigation, Communication and Flight Controls.

Example:

> *In the SDA, it is considered that the aircraft is always within Very High Frequency (VHF) range of an appropriate Air Traffic Controller (ATC), but this is not the case in the NDA. What impact does this have on the availability of communications?*

The hazards listed below are a generic set of hazards that may be impacted. A detailed review of the specific design being assessed will identify whether other hazards exist which need to be addressed.

Note

> *The definitions of probability classifications have evolved over time. It is, therefore, important to determine the certification basis amendment level applicable to the aircraft being assessed. For example, early type design certifications typically required that a "Major" failure condition meet the probability classification of improbable. More recent type designs require that a "Major" failure condition meet the probability classification of "Remote". For the purpose of this advisory, where there are differences between early and more recent probability classifications, the earlier classification will be denoted in square brackets (e.g., [improbable]).*
>
> *Where no design change is associated in establishing whether the aircraft meets the requirements of this TAA Advisory, it is acceptable to use the original definitions of probability classifications (i.e., there is no requirement to re-assess already established FHA or SSA items). However, if there is a design change required to ensure the aircraft meets the requirements associated with this TAA Advisory, it is then recommended to use the currently published probability classifications when deriving new FHA or SSA items.*

Item	Requirements, Consideration & Guidance Certification Requirements: AWM 1309(b) or MIL-HDBK-516 Section 14
1	Loss of all attitude (primary and standby) is considered a Catastrophic failure condition.
2	Loss of all Communications is considered a Major failure condition, but credit can be taken for availability of VHF communication. As such, the safety analysis should document that the implemented design meets the criteria associated with a Major failure condition (i.e., loss of all communications should be remote [improbable]). In the SDA, aircraft are generally equipped with dual VHF communication transceivers, which allow the aircraft to meet the intent of this requirement. Within the NDA (unless otherwise required by the OAA), VHF-only communication is not considered sufficient. As such, Loss of Long-Range Communication is considered a Minor failure condition. It is considered acceptable to equip with one long-range communication system (such as a HF communications transceiver, or an appropriate SATCOM voice system), provided it is installed as required equipment. Position reports can still be made on the common enroute VHF frequency (126.7 MHz) and there are several Peripheral Stations (PAL) and Community Aerodrome Radio Stations (CARS) available. In an emergency where the HF and/or SATCOM have failed, contacting overflying flights on 121.5 MHz is acceptable.
3	Loss of all Navigation is considered a Major failure condition. As such, the safety analysis should document that the implemented design meets the criteria associated with a Major failure condition (i.e., the loss of all navigation should be remote [improbable] and there is no single failure that would cause the loss of all available navigation equipment). The analysis may have to be supported by test showing that the aircraft's primary navigation system can provide a navigation solution (e.g., EGI), given fewer ground-based Navigation Aids in the NDA.
4	Loss of all Navigation and Communication is considered a Catastrophic failure condition. As such, the safety analysis should document that the implemented design meets the criteria associated with a Catastrophic failure condition, (i.e., the loss of all navigation and communications should be extremely improbable).
5	Loss of all heading (primary and standby) in the NDA can be considered a Major failure condition provided that the aircraft is equipped with a fully functional area navigation system capable of navigating in degrees true. This area navigation system must be certified according to the requirements of the airspace being utilized. As such, the safety analysis should document that the implemented design meets the criteria associated with a Major failure condition (i.e., the loss of all heading should be remote [improbable]). Credit is being provided for an area navigation system that can provide track guidance. This credit is because in an emergency situation where all heading information is lost but attitude and position information is still available, navigation will still be possible. Furthermore, if the aircraft is equipped with an ADF and an area navigation system that provides bearings to NDB's, an aircraft heading can be determined and used to manually update the heading reference system in cases where the design supports a free Directional Gyroscope mode.

ANNEX C
TO TAA ADVISORY 2017-02
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FM/AOI and Master Minimum Equipment List Requirements – Considerations and Guidance Material

Item	Certification Requirements	Requirements, Considerations & Guidance
1	AWM 52X.1501 (a), 52X.1583 and 52X.1585 MIL HDBK 516, Section 4.5 TAM, Part 2, Chapter 7 – Canadian Armed Forces Publications (advisory reference 3.2.1.m)	The maximum northerly latitude at which heading, attitude and positional alignment was demonstrated during the certification program will be documented in the FM and/or AOI's. Any additional NDA limitations resulting from the certification program must be reflected in FM and/or AOI's. Changes to the normal, abnormal and emergency operating procedures identified during the certification program will be documented in the relevant sections of the FM and/or AOI's. As required, the system description section of the FM and/or AOI's will be amended to address operations in NDA.
2	AWM 52X.1529 TAM, Part 2, Chapter 6 – Master Minimum Equipment List (MMEL) (advisory reference 3.2.1.m)	The information contained in the aircraft MMEL should be validated for flight in the NDA. Such flight may reveal MMEL changes that should be made to allow safe operations in the NDA. The following are examples that highlight the need for a review of the MMEL: a. The Magnetic Standby Compass may be required in the SDA but is not required in the NDA, thus a note to this effect may need to be added in the MMEL. b. If an aircraft in motion alignment is required, then the definition of a serviceable EGI may need to be more clearly stated (i.e., EGI must be aligned in attitude - but does not need to be aligned in heading before takeoff - to allow In Motion Alignment to occur). c. Standby Instrument may not (need not) be aligned in heading until EGI (primary) is aligned in heading.