EFFECTIVE 0901Z **25 JANUARY 2024**
TO 0901Z 21 MARCH 2024

AIP CANADA

Aeronautical Information Publication

Serving a world in motion
navcanada.ca

NAV CANADA

Published by NAV CANADA in accordance with ICAO
Annexes 4 and 15 of the Convention on International Civil Aviation

EFFECTIVE 0901Z **25 JANUARY 2024**
TO 0901Z 21 MARCH 2024

AIP CANADA

Part 1

General (GEN)

Serving a world in motion
navcanada.ca

NAV CANADA

Published by NAV CANADA in accordance with ICAO
Annexes 4 and 15 of the Convention on International Civil Aviation

PART 1 – GENERAL (GEN)
GEN 0.

GEN 0.1 Preface

0.1.1 Publishing Authority

The *AIP Canada* is published by NAV CANADA.

0.1.2 Applicable ICAO Documents

The *AIP Canada* is published in accordance with the guidance material and the standards and recommended practices (SARPs) as outlined in the following ICAO documents:

- Annex 4 – *Aeronautical Charts*
- Annex 15 – *Aeronautical Information Services*
- Doc 8126 – *Aeronautical Information Services Manual*
- Doc 8697 – *Aeronautical Chart Manual*
- Doc 10066 – *Procedures for Air Navigation Services – Aeronautical Information Management* (PANS-AIM)

0.1.3 Publication media

The *AIP Canada* is available online and in electronic PDF format. Refer to the NAV CANADA website to access the publication online.

<www.navcanada.ca>
Aeronautical Information
AIP Canada

0.1.4 The *AIP Canada* Structure and Established Regular Amendment Interval

The *AIP Canada* one of several aeronautical information products, the details of which are provided in GEN 3.1, “Aeronautical Information Services.” It is published every 56 days. AICs and AIP Supplements, also aeronautical information products, are published every 28 days.

The structure of the *AIP Canada* is in accordance with what is recommended in the PANS-AIM (ICAO Doc 10066), “Appendix 2 *Contents of the Aeronautical Information Publication* (AIP).”

This includes the three sections:

- Part 1 – General (GEN)
- Part 2 – Enroute (ENR)
- Part 3 – Aerodromes (AD)

For more details on the itemized contents, refer to table of contents for each section .

0.1.5 Service to Contact in Case of Detected *AIP Canada* Errors and Omissions

Please report any inaccuracies or omissions to the AIP Coordinator at NAV CANADA:

Email: aipcoord@navcanada.ca

GEN 0.2 Record of *AIP Canada* Amendments

Any amendments made to the *AIP Canada* are detailed in the List of Changes on the NAV CANADA website:

<www.navcanada.ca>
Aeronautical Information
AIP Canada

GEN 0.3 Record of *AIP Canada* Supplements

For a record of AIP Supplements for Canada, refer to NAV CANADA's website:

<www.navcanada.ca>
Aeronautical Information
AIP Canada
AIP Canada Supplements (SUPs)

GEN 0.4 Checklist of *AIP Canada* Pages

A record of the date that pages are added to *AIP Canada* is given in Table 0.4, "Checklist of *AIP Canada* Pages."

Table 0.4, Checklist of *AIP Canada* Pages

Page Number	Publication Date	Page Number	Publication Date
GENERAL (GEN)			
GEN 0–1	17 June 2021	GEN 1–10	25 June 2015
GEN 0–2	25 January 2024	GEN 1–11	25 June 2015
GEN 0–3	15 June 2023	GEN 1–12	25 June 2015
GEN 0–4	25 January 2024	GEN 1–13	25 June 2015
GEN 0–5	15 June 2023	GEN 1–14	01 February 2018
GEN 0–6	15 June 2023	GEN 1–15	01 February 2018
GEN 0–7	15 June 2023	GEN 1–16	25 June 2015
GEN 0–8	15 June 2023	GEN 1–17	20 October 2011
GEN 0–9	15 June 2023	GEN 1–18	20 October 2011
GEN 1–1	17 June 2021	GEN 1–19	25 June 2015
GEN 1–2	4 February 2016	GEN 1–20	13 November 2014
GEN 1–3	26 March 2020	GEN 1–21	3 August 2006
GEN 1–4	20 April 2023	GEN 1–22	13 November 2014
GEN 1–5	20 April 2023	GEN 1–23	27 October 2005
GEN 1–6	25 June 2015	GEN 1–24	14 July 2022
GEN 1–7	25 June 2015	GEN 1–25	15 October 2015
GEN 1–8	25 June 2015	GEN 1–26	4 February 2016
GEN 1–9	13 November 2014	GEN 1–27	15 June 2023

Page Number	Publication Date	Page Number	Publication Date
GENERAL (GEN)			
GEN 1–28	15 June 2023	GEN 1–61	15 June 2023
GEN 1–29	15 June 2023	GEN 1–62	25 April 2019
GEN 1–30	15 June 2023	GEN 1–63	17 June 2021
GEN 1–31	15 June 2023	GEN 1–64	23 February 2023
GEN 1–32	13 April 2006	GEN 2–1	25 June 2015
GEN 1–33	15 June 2023	GEN 2–2	27 October 2005
GEN 1–34	15 June 2023	GEN 2–3	15 June 2023
GEN 1–35	15 June 2023	GEN 2–4	31 December 2020
GEN 1–36	15 June 2023	GEN 2–5	22 April 2021
GEN 1–37	20 April 2023	GEN 2–6	14 July 2022
GEN 1–38	20 April 2023	GEN 2–7	31 December 2020
GEN 1–39	20 April 2023	GEN 2–8	02 December 2021
GEN 1–40	20 April 2023	GEN 2–9	27 October 2005
GEN 1–41	20 April 2023	GEN 2–10	22 April 2021
GEN 1–42	20 April 2023	GEN 2–11	20 October 2011
GEN 1–43	20 April 2023	GEN 2–12	22 April 2021
GEN 1–44	20 April 2023	GEN 2–13	22 April 2021
GEN 1–45	15 June 2023	GEN 2–14	27 October 2005
GEN 1–46	15 June 2023	GEN 2–15	27 April 2017
GEN 1–47	15 June 2023	GEN 2–16	27 April 2017
GEN 1–48	15 June 2023	GEN 2–17	13 April 2006
GEN 1–49	15 June 2023	GEN 2–18	13 April 2006
GEN 1–50	27 April 2017	GEN 2–19	27 August 2009
GEN 1–51	18 September 2014	GEN 2–20	27 August 2009
GEN 1–52	18 September 2014	GEN 3–1	12 August 2021
GEN 1–53	18 September 2014	GEN 3–2	20 April 2023
GEN 1–54	18 September 2014	GEN 3–3	12 August 2021
GEN 1–55	18 September 2014	GEN 3–4	10 October 2019
GEN 1–56	20 April 2023	GEN 3–5	16 July 2020
GEN 1–57	18 September 2014	GEN 3–6	10 October 2019
GEN 1–58	18 September 2014	GEN 3–7	10 October 2019
GEN 1–59	23 February 2023	GEN 3–8	12 August 2021
GEN 1–60	15 June 2023	GEN 3–9	25 June 2015

Page Number	Publication Date	Page Number	Publication Date
GENERAL (GEN)			
GEN 3–10	22 April 2021	GEN 3–23	25 February 2021
GEN 3–11	25 June 2015	GEN 3–24	25 February 2021
GEN 3–12	27 April 2017	GEN 3–25	08 September 2022
GEN 3–13	20 April 2023	GEN 3–26	29 December 2022
GEN 3–14	22 April 2021	GEN 3–27	29 December 2022
GEN 3–15	20 April 2023	GEN 3–28	30 November 2023
GEN 3–16	29 March 2018	GEN 3–29	20 April 2023
GEN 3–17	02 December 2021	GEN 3–30	05 November 2020
GEN 3–18	14 July 2022	GEN 3–31	22 April 2021
GEN 3–19	23 February 2023	GEN 3–32	26 March 2020
GEN 3–20	30 January 2020	GEN 3–33	27 October 2005
GEN 3–21	25 January 2024	GEN 4–1	22 April 2021
GEN 3–22	25 February 2021	GEN 4–2	25 June 2015

Page Number	Publication Date	Page Number	Publication Date
ENROUTE (ENR)			
ENR 0–1	05 October 2023	ENR 1–14	22 April 2021
ENR 0–2	05 October 2023	ENR 1–15	22 April 2021
ENR 0–3	05 October 2023	ENR 1–16	22 April 2021
ENR 0–4	05 October 2023	ENR 1–17	16 July 2020
ENR 0–5	05 October 2023	ENR 1–18	16 July 2020
ENR 1–1	26 March 2020	ENR 1–19	26 mars 2020
ENR 1–2	22 April 2021	ENR 2–1	22 April 2021
ENR 1–3	22 April 2021	ENR 2–2	24 March 2022
ENR 1–4	17 June 2021	ENR 2–3	22 April 2021
ENR 1–5	22 April 2021	ENR 2–4	24 March 2022
ENR 1–6	17 June 2021	ENR 2–5	22 April 2021
ENR 1–7	25 January 2024	ENR 3–1	02 December 2021
ENR 1–8	10 August 2023	ENR 3–2	02 December 2021
ENR 1–9	31 December 2020	ENR 3–3	02 December 2021
ENR 1–10	31 December 2020	ENR 3–4	02 December 2021
ENR 1–11	21 May 2020	ENR 3–5	02 December 2021
ENR 1–12	22 April 2021	ENR 3–6	02 December 2021
ENR 1–13	26 March 2020	ENR 3–7	02 December 2021

Page Number	Publication Date	Page Number	Publication Date
ENROUTE (ENR)			
ENR 4–1	26 March 2020	ENR 7–14	03 November 2022
ENR 4–2	14 July 2022	ENR 7–15	03 November 2022
ENR 4–3	12 October 2017	ENR 4–4	14 July 2022
ENR 4–4	14 July 2022	ENR 7–16	03 November 2022
ENR 4–5	22 April 2021	ENR 7–17	03 November 2022
ENR 5–1	08 September 2022	ENR 7–18	23 February 2023
ENR 5–2	02 December 2021	ENR 7–19	23 February 2023
ENR 5–3	20 April 2023	ENR 7–20	23 February 2023
ENR 5–4	26 March 2020	ENR 7–21	03 November 2022
ENR 5–5	26 March 2020	ENR 7–22	16 July 2020
ENR 5–6	25 June 2015	ENR 7–23	16 July 2020
ENR 5–7	25 June 2015	ENR 7–24	16 July 2020
ENR 5–8	25 June 2015	ENR 7–25	16 July 2020
ENR 5–9	26 March 2020	ENR 7–26	16 July 2020
ENR 5–10	26 March 2020	ENR 7–27	16 July 2020
ENR 5–11	22 April 2021	ENR 7–28	20 April 2023
ENR 6–1	26 March 2020	ENR 7–29	19 May 2022
ENR 7–1	26 March 2020	ENR 7–30	05 November 2020
ENR 7–2	26 March 2020	ENR 7–31	16 July 2020
ENR 7–3	26 March 2020	ENR 7–32	16 July 2020
ENR 7–4	15 June 2023	ENR 7–33	19 May 2022
ENR 7–5	12 August 2021	ENR 7–34	16 July 2020
ENR 7–6	26 March 2020	ENR 7–35	20 April 2023
ENR 7–7	12 August 2021	ENR 7–36	25 January 2024
ENR 7–8	26 March 2020	ENR 7–37	25 January 2024
ENR 7–9	17 June 2021	ENR 7–38	08 September 2022
ENR 7–10	12 August 2021	ENR 7–39	08 September 2022
ENR 7–11	17 June 2021	ENR 7–40	08 September 2022
ENR 7–12	03 November 2022	ENR 7–41	08 September 2022
ENR 7–13	16 July 2020	ENR 7–42	08 September 2022

Page Number	Publication Date	Page Number	Publication Date
AERODROMES			
AD 0–1	20 April 2023	AD 2–8	13 September 2018
AD 0–2	20 April 2023	AD 2–9	22 April 2021
AD 0–3	02 December 2021	AD 2–10	22 April 2021
AD 1–1	05 March 2015	AD 2–11	02 December 2021
AD 1–2	13 April 2006	AD 3–1	13 April 2006
AD 2–1	13 April 2006	AD 3–2	13 April 2006
AD 2–2	13 April 2006	AD 3–3	22 April 2021
AD 2–3	22 April 2021	AD 3–4	20 April 2023
AD 2–4	20 April 2023	AD 3–5	02 December 2021
AD 2–5	20 April 2023	AD 3–6	17 June 2021
AD 2–6	02 December 2021	AD 3–7	17 June 2021
AD 2–7	17 June 2021	AD 3–8	02 December 2021

GEN 0.5 List of Hand Amendments to *AIP Canada*

Nil.

GEN 0.6 Table of Contents to Part 1 (GEN)

GEN 1. NATIONAL REGULATIONS AND REQUIREMENTS

GEN 1.1 Designated Authorities

The designated authorities responsible for facilitating international air navigation and their addresses are provided in the following subsections.

1.1.1 Civil Aviation

Transport Canada is the responsible aeronautical authority in Canada.

Transport Canada, Safety and Security
Assistant Deputy Minister
330 Sparks Street
Ottawa ON K1A 0N8

The Transport Canada, Aerodromes and Air Navigation Branch is responsible for the establishment and administration of the Regulations and Standards for the provision of AIS in Canada.

Enquiries relating to regulations and standards for Aeronautical Information Services (AIS) should be addressed to:

Transport Canada Civil Aviation
Flight Standards (AARTA)
330 Sparks Street
Ottawa ON K1A 0N8

Tel.: 1-800-305-2059
Fax: 613-957-4208
E-mail: TC.Flights.Standards-Normesdevol.TC@tc.gc.ca

Transport Canada has five Regional Offices:

Pacific Region

Transport Canada Civil Aviation
Suite 820
800 Burrard Street
Vancouver BC V6Z 2J8

Tel.: 1-800-305-2059
Fax: 1-855-618-6288

Prairie and Northern Region

Transport Canada Civil Aviation
344 Edmonton Street
P.O. Box 8550
Winnipeg MB R3C 0P6

Tel.: 1-888-463-0521
Fax: 1-204-984-8125

Ontario Region

Transport Canada Civil Aviation
4900 Yonge Street, 4th Floor
Toronto ON M2N 6A5

Tel.: 1-800-305-2059
Fax: 1-877-822-2129

Quebec Region

Transport Canada Civil Aviation
700 Leigh Capréol
Dorval QC H4Y 1G7

Tel.: 1-800-305-2059
Fax: 1-855-633-3697

Atlantic Region

Transport Canada Civil Aviation
P.O. Box 42
Moncton NB E1C 8K6

Tel.: 1-800-305-2059
Fax: 1-855-726-7495

Figure 1.1.1, Transport Canada Regions

Air transport services (overflights and technical stops):

Transport Canada
National Operations Branch
Foreign Operations Division (AAROF)
Place de Ville, Tower C, 7th floor,
330 Sparks Street
Ottawa ON K1A 0N5

Tel.: 613-990-1100
Fax: 613-949-4227
AFTN: CYHQYAYB
E-mail: overflights-survol@tc.gc.ca

Note: Under normal circumstances, foreign air operators are encouraged to use e-mail to contact the Foreign Operations Division during normal working hours. Outside of normal working hours and in a time-critical situation, Transport Canada Aviation Operations Centre (CAO) may be reached 24 hours a day by calling 613-992-6853 or 1-877-992-6853 or by e-mailing <operations.aviation@tc.gc.ca>.

In accordance with the *Civil Air Navigation Services Commercialization Act*, NAV CANADA is responsible for the provision of aeronautical information services (AIS) and air traffic control (ATC) services in Canada.

NAV CANADA
151 Slater Street
Suite 120
Ottawa, ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

1.1.2 Meteorology

Aviation Weather Services
NAV CANADA
151 Slater Street
Suite 120
Ottawa, ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

1.1.3 Customs

Canada Border Services Agency
191 Laurier Avenue West
Ottawa, ON K1A 0L8
Canada

Tel.: 1-800-461-9999 (EN) (Canada)
1-800-959-2036 (FR) (Canada)
+1 204-983-3500 or
+1 506-636-5064 (outside Canada)
Fax: +1 613-941-5691
E-mail: CBSA-ASFC@canada.gc.ca

1.1.4 Immigration

Citizenship and Immigration Canada
365 Laurier Avenue West
Ottawa, ON K1A 1L1
Canada

Tel.: 1-888-242-2100 (Canada)

If anywhere outside of Canada, contact the Canadian embassy, high commission or consulate responsible for your region. For contact information, refer to the Visa Offices section of Citizenship and Immigration Canada's website:

<www.cic.gc.ca/english/information/offices/missions.asp>
Visa Offices

1.1.5 Health

Health Canada
Tunney's Pasture, 1918-A-1
Ottawa, ON K1A 0K9
Canada

Tel.: +1 613-957-2991
Fax: +1 613-941-5366
E-mail: info@hc-sc.gc.ca

1.1.6 Enroute and Aerodrome and Heliport Charges

NAV CANADA
Customer Service
151 Slater Street
Suite 120
Ottawa, ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

1.1.7 Agricultural Quarantine

Canadian Food Inspection Agency
59 Camelot Drive
Ottawa, ON K1A 0Y9
Canada

Tel.: +1 613-225-2342
1-800-442-2342
Fax: +1 613-228-6601

1.1.8 Aircraft Accident Investigation

Transportation Safety Board (TSB) of Canada office:

Transportation Safety Board of Canada
Place du Centre, 4th Floor
200 Promenade du Portage
Gatineau, QC K1A 1K8
Canada

Toll-free (within Canada): 1-800-387-3557

Toll: 819-994-3741
Fax: 819-953-9586
TTY: 819-953-7287
E-mail: airops@tsb-bst.gc.ca

Regional TSB offices:

TSB – Pacific
Regional Manager, TSB-AIR
4–3071 Number Five Road
Richmond, BC V6X 2T4
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 604-666-7230
E-mail:
airnotifications.vancouver@tsb-bst.gc.ca

TSB – Ontario
Regional Manager, TSB-AIR
23 East Wilmont Street
Richmond Hill, ON L4B 1A3
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 905-771-7709
E-mail:
airnotifications.toronto@tsb-bst.gc.ca

TSB – Western
Regional Manager, TSB-AIR
17803–106A Avenue
Edmonton, AB T5S 1V8
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 780-495-2079
E-mail:
airnotifications.edmonton@tsb-bst.gc.ca

TSB – Quebec
Regional Manager, TSB-AIR
185 Dorval Avenue, Suite 403
Dorval, QC H9S 5J9
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 514-633-2944
E-mail:
airnotifications.montreal@tsb-bst.gc.ca

TSB – Central
Regional Manager, TSB-AIR
335–550 Century Street
Winnipeg, MB R3H 0Y1
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 204-983-8026
E-mail:
airnotifications.winnipeg@tsb-bst.gc.ca

TSB – Atlantic
Regional Manager, TSB-AIR
150 Thorne Avenue
Dartmouth, NS B3B 1Z2
Canada
Toll-free (within Canada):
1-800-387-3557
Toll: 819-994-3741
Fax: 902-426-5143
E-mail:
airnotifications.dartmouth@tsb-bst.gc.ca

1.1.9 Department of Foreign Affairs, Trade and Development

Prohibitions concerning aircraft operations and/or provision of aeronautical products may have been imposed by Canada. Persons or companies wishing to conduct business with other States should first consult with the Department of Foreign Affairs, Trade and Development (DFATD) for detailed information on any sanctions imposed by Canada in respect to any business with a particular State pertaining to the importation/exportation of aeronautical products, services, or experts.

Enquiries related to export controls should be directed to:

Department of Foreign Affairs, Trade and Development
Deputy Director
Economic Law Section

Tel.: 343-203-2455

Foreign Affairs, Trade and Development Canada
Export Controls Division (TIE)
125 Sussex
Ottawa, ON K1A 0G2
Tel.: 613-996-2387
Fax: 613-996-9933
E-mail: tie-reception@international.gc.ca

GEN 1.2 Entry, Transit and Departure of Aircraft

1.2.1 General

All flights into, over or from the territory of Canada, as well as all flights landing in the territory of Canada, are to be carried out in accordance with Canada's civil aviation regulations.

Aircraft landing in or departing from the territory of Canada are required to first land at an aerodrome at which customs control facilities have been provided. For information about which aerodromes provide customs service, see the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section B, "Aerodrome/Facility Directory." If the heading CUST (customs) appears in an aerodrome table, the aerodrome is an airport of entry (AOE) with customs service for international flights.

1.2.2 Commercial Flights

Aircraft flying on international commercial operations (other than Canada and US operations) can use the aerodromes listed in Table 1.2.2, "International Commercial Flight Aerodromes."

General aviation operators are not limited to the aerodromes available for commercial flights in Table 1.2.2. They must consult the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section B, "Aerodrome/Facility Directory," for information on all registered civil and military aerodromes in Canada.

Table 1.2.2, International Commercial Flight Aerodromes

Regular-Use Aerodromes	
Calgary International (CYYC)	Québec/Jean Lesage International (CYQB)
CFB Goose Bay (CYYR)[1, 2]	St. John's International (CYYT)
Edmonton International (CYEG)	Stephenville (CYJT)
Gander International (CYQX)	Toronto/Lester B. Pearson International (CYYZ)
Halifax/Stanfield International (CYHZ)	Vancouver International (CYVR)
Hamilton (CYHM)	Victoria International (CYYJ)[5]
Montréal International (Mirabel) (CYMX)[6]	Winnipeg/James Armstrong Richardson International (CYWG)
Montréal/Pierre Elliott Trudeau International (CYUL)	Ottawa/Macdonald-Cartier International (CYOW)
Alternate-Use, Refuelling Only Aerodromes	
CFB Goose Bay (CYYR)[2]	Stephenville (CYJT)
Iqaluit (CYFB)	Prince George (CYXS)
Alternate-Use Aerodromes	
Abbotsford (CYXX)	Montréal International (Mirabel) (CYMX)[6]
CFB Comox (CYQQ)[3]	Windsor (CYQG)
CFB Goose Bay (CYYR)[1, 2]	

Notes:

1. CFB Goose Bay may be used by all international and domestic general and commercial aircraft. Civilian aircraft do not require prior permission to use the aerodrome. Military aircraft that use CFB Goose Bay can refer to the *Canada Flight Supplement*, Section B, "Aerodrome/Facility Directory," and Section E, "Military Flight Data and Procedures," for information on the general conditions under which the aerodrome is available for use.
2. Supplies and services for passengers at CFB Goose Bay are limited. Use of CFB Goose Bay as an alternate or refuelling stop should be planned accordingly.
3. While a runway at CFB Comox aerodrome is suitable for large aircraft engaged in international operations, the facilities for refuelling and handling large civil aircraft and for providing immigration, health and passenger amenity services are extremely limited. Operators using CFB Comox aerodrome as an international alternate and requiring these facilities and services can anticipate extensive delays and passenger discomfort.
4. For regular, general aviation use.
5. For use by international non-scheduled air transport.
6. Mirabel is intended for scheduled cargo, only. No aircraft handling and ground services are available.

1.2.2.1 International Commercial Flights Operating into and out of Canada or Transiting Canadian Airspace

All foreign commercial air operators are required to conduct commercial air transport service aircraft flights into or out of Canada or over Canadian airspace in accordance with the appropriate procedures for scheduled and non-scheduled air transport services.

Commercial Air Transport Service Flights into and out of Canada

For scheduled commercial air transport service aircraft flights into and out of Canada, the foreign air operator must

- hold a Canadian Foreign Air Operator Certificate (FAOC) issued by the Minister of Transport in accordance with *Canadian Aviation Regulations* (CARs), section 701.01, "Application";
- be designated an air operator in accordance with a bilateral air services agreement between Canada and the State of certification of the foreign air operator, or according to any other arrangement between the two States; and
- possess a scheduled international service licence issued by the Canadian Transportation Agency.

For non-scheduled air transport service aircraft flights into and out of Canada, the foreign air operator must

- hold a Canadian FAOC issued by the Minister of Transport in accordance with CARs, section 701.01, "Application";
- obtain prior permission from the Canadian Transportation Agency unless the commercial air transport service is otherwise provided for in a bilateral air services agreement between Canada and the State of certification of the foreign air operator; and
- possess a non-scheduled international service licence issued by the Canadian Transportation Agency.

Commercial Air Transport Service Flights Registered in an ICAO Member State

If an aircraft is registered in an ICAO member State, a foreign commercial air operator can transit Canadian airspace or conduct technical stops at Canadian airports for scheduled and non-scheduled commercial flights without further authorization from Transport Canada provided the air operator **holds** a current Canadian FAOC valid for the type of aircraft being operated.

If the foreign air operator does **not hold** a Canadian FAOC valid for the type of aircraft being operated, the air operator must request flight authorization ten working days prior to the flight. The request for authorization must include the following information:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown, the aircraft registration and the seating capacity;
- A list of the dangerous goods being carried or, if no dangerous goods are being carried, a statement that reads "No dangerous goods are being carried";
- A statement that reads "The aircraft is airworthy and is being operated under the authority of a normal certificate of airworthiness that has been issued pursuant to Article 31 of the Convention on International Civil Aviation"; and
- The proposed flight routing, including the last point of departure outside of Canada; the first point of entry into Canada; the date and time of arrival at and departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

Forward the request to the Foreign Inspection Division Overflight Desk by aeronautical fixed telecommunications network (AFTN), fax or e-mail:

AFTN: CYHQYAYB
Fax: +1 613-949-4227
E-mail: overflights-survol@tc.gc.ca

Commercial Air Transport Service Flights Registered in a Non-ICAO Member State

If an aircraft is registered in a State that is not an ICAO member, a foreign commercial air operator must obtain permission through diplomatic channels prior to operating a commercial air transport service flight to or from a Canadian airport or through Canadian airspace.

The State of the air operator must provide complete information about the flight in a diplomatic note to the Department of Foreign Affairs, Trade and Development, and include the following details:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown, the aircraft registration and the seating capacity;
- A list of the dangerous goods being carried or, if no dangerous goods are being carried, a statement that reads “No dangerous goods are being carried”;
- A statement that reads “The aircraft is airworthy and is being operated under a flight authority that is equivalent to the certificates of airworthiness that are issued pursuant to Article 31 of the Convention on International Civil Aviation”; and
- The proposed flight routing, including the last point of departure outside Canada; the first point of entry into Canada; the date and time of arrival at and the departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

State Aircraft Flights to and from a Canadian Airport or Transiting Canadian Airspace

A foreign commercial air operator of a State aircraft must obtain permission through diplomatic channels prior to operating a flight to or from a Canadian airport or transiting Canadian airspace.

The State of the air operator must provide complete information about the flight in a diplomatic note to the Department of Foreign Affairs, Trade and Development, and include the following details:

- The name of the foreign air operator and the call sign of the flight or flights;
- The type of aircraft to be flown and the aircraft registration or identification; and
- The proposed flight routing, including the last point of departure outside Canada; the first point of entry into Canada; the date and time of arrival at and departure from any Canadian airport or airports; and the place or places abroad where passengers and freight will be embarking and disembarking.

Aircraft Flights Operated Pursuant to a Flight Authority Other than a Normal Certificate of Airworthiness

When a foreign air operator of a foreign-registered aircraft that is to be operated under the authority of a special flight permit or special flight authority, and the aircraft does not conform to Article 31 of the Convention on International Civil Aviation and Annex 8, "Airworthiness of Aircraft," to the Convention on International Civil Aviation, the operator of the aircraft is required to get the Foreign Inspection Division, Transport Canada, to validate the aircraft's special flight permit or authority prior to operation to or from a Canadian airport or through Canadian airspace.

Notes:

1. To initiate the process of obtaining a Canadian FAOC, contact the Foreign Inspection Division, Transport Canada, at the following address:

   Transport Canada
   National Operations Branch
   Foreign Operations Division (AAROF)
   Place de Ville, Tower C, 7th floor
   330 Sparks Street
   Ottawa ON K1A 0N5

   Tel.: 613-990-1100
   Fax: 613-949-4227

   Foreign Operations Applications and Inquiries
   E-mail: foa-aoe@tc.gc.ca

2. To be designated in accordance with a bilateral agreement, consult the foreign commercial air operator's regulatory authority.

3. To apply for a licence, contact the Canadian Transportation Agency at the following address:

   Secretary
   Canadian Transportation Agency
   Ottawa ON K1A 0N9

   Tel.: 1-800-222-2592
   Fax: 819-953-5253
   TTY: 1-800-669-5575
   E-mail: FAX-LATA-ALCD@otc-cta.gc.ca

4. Off-loading persons, personal belongings, baggage, goods or cargo during a technical landing at a Canadian airport will be permitted where circumstances require it to ensure the safety of persons or property. Permission to transfer the persons, personal belongings, baggage, goods, cargo and/or crew to another aircraft must be obtained from Transport Canada and the following Canadian inspection services:

   - Canada Border Services Agency
   - Citizenship and Immigration Canada
   - Health Canada
   - Canadian Food Inspection Agency

5. If the aircraft is carrying dangerous goods, the following information is required:

   - The class, quantity (weight in each class), and shipping name of the dangerous good or goods and the United Nations number, as well as a statement indicating that the dangerous goods are packaged in accordance with the *International Air Transport Association Regulations/ICAO Requirements*, and if applicable, the *Nuclear Safety and Control Act*.

- Confirmation that the civil aviation authority of the State from which the flight originates and the civil aviation authority of the air operator have authorized the flight.

6. To apply for a flight authority validation contact the Foreign Inspection Division, Transport Canada at the following address:

Transport Canada
National Operations Branch
Foreign Operations Division (AAROF)
Place de Ville, Tower C, 7th floor
330 Sparks Street
Ottawa ON K1A 0N5

Tel.: 613-990-1100 (general inquiries)
Fax: 613-949-4227

Foreign Operations Division Overflights Desk
E-mail: overflights@tc.gc.ca

When applying for the flight authority validation, submit the following documents along with the specified fee:

- A copy of the certificate of registration for the aircraft;
- name and address of the person who has legal custody and control of aircraft;
- A copy of the special flight permit or special flight authority, including all conditions required to be complied with when the aircraft is being operated;
- whether persons/cargo will be carried on board;
- purpose of the flight;
- The flight routing, including airport of departure, technical stops and airport of arrival; and
- A fee of $100 in Canadian funds payable by cheque or credit card. The cheque should be made out to the Receiver General of Canada. The credit card can be either MasterCard or Visa. Identify the type of credit card and include the name of the cardholder, the card number and the expiry date. Transport Canada will debit the amount owed.

7. Unless operational requirements dictate otherwise, technical stops for foreign commercial air operators will be restricted to the following international airports:

Calgary (CYYC)	Hamilton (CYHM)	Stephenville (CYJT)
Goose Bay (CYYR; military)	Montréal/Pierre Elliott Trudeau (CYUL)	Toronto (CYYZ)
Edmonton (CYEG)	Ottawa (CYOW)	Vancouver (CYVR)
Gander (CYQX)	Québec (CYQB)	Victoria (CYYJ)
Halifax (CYHZ)	St. John’s (CYYT)	Winnipeg (CYWG)

The following information is important to note when making a technical stop:

- At civilian airports, the air operator is responsible for notifying the aerodrome manager and Canada Border Services Agency before the flight.

- Prior permission required (PPR) is normally necessary at Department of National Defence military airports.
- Flight crews should consult the *Canada Flight Supplement* or an equivalent document for current civil or military aerodrome information.

1.2.2.2 Use of Department of National Defence and Civil High Arctic Aerodromes

Commercial air operators wanting to use Department of National Defence and civil high arctic aerodromes, as well as the aerodrome in Alert, Nunavut, are required to apply to Transport Canada at the following address:

Transport Canada
Attn: Director General, Civil Aviation
330 Sparks Street, 5th floor
Ottawa, ON K1A 0N5
Canada

Details concerning the type of aircraft, servicing requirements and scheduling should accompany the request. Private operators may apply directly to the appropriate Department of National Defence Base Commander, or they may contact Wing Operations at the telephone number listed in the *Canada Flight Supplement*, Section B, "Aerodrome/Facility Directory," under the subheading OPR (operator).

Private operators wanting to use the aerodrome in Alert, Nunavut, are required to apply to Department of National Defence headquarters at the following address:

National Defence Headquarters
Attn: G.A. Stewart, 8CBN J007
CAS D Air Prog—8Wg Alert Management Office (Ottawa) Logistic and Airlift Coord
101 Colonel By Drive
Ottawa ON K1A 0K2

Tel.: 613-996-7741
E-mail: george.stewart2@forces.gc.ca

The Eureka, Nunavut, aerodrome was established and is operated to support Environment Canada's high arctic weather stations. Facilities are extremely limited. Requests for meals and accommodations are to be made to Environment Canada's Aerological and Surface Operational Programs at the following address:

Aerological and Surface Operational Programs
Attn: Station Program Manager, Eureka
123 Main Street, Suite 150
Winnipeg, MB R3C 4W2
Canada

Tel.: +1 204-983-4757
Fax: +1 204-984-2072
E-mail: stationprogrammanager@ec.gc.ca

1.2.3 Private Flights

Private aircraft flying over or landing in Canada for non-commercial purposes need not obtain prior permission. However, the pilot must file a flight plan.

For customs purposes, private aircraft are any civil aircraft flying to or from Canada for personal or business reasons, and not carrying passengers or cargo for compensation or hire. Customs officers determine whether an aircraft pilot or crew or both is operating in a private or commercial capacity. The ownership, aircraft type or predominant usage of the aircraft has little bearing on this determination. Many corporate and business aircraft operate as "private aircraft," while individually owned aircraft may operate for compensation.

The term “passengers and/or cargo carried for compensation or hire” means passengers or cargo or both transported in exchange for payment or other consideration, including monetary payment or services rendered, when the passengers or cargo or both are not connected with the operation of the aircraft, ownership or business.

For information on visa and document requirements, refer to GEN 1.3.1, “Passports,” 1.3.2, “Visas,” and 1.4.1.1, “Entry."

1.2.4 Transborder Flights

A transborder flight is a flight between Canada and the United States. According to CARs, section 602.73, “Requirement to File a Flight Plan or a Flight Itinerary,” a flight plan must be filed for all flights between Canada and a foreign state.

1.2.4.1 Flights from Canada to the United States

United States Customs and Border Protection (CBP) requires private aircraft pilots or their designees arriving in the U.S. from a foreign location, or departing the U.S. for a foreign location, to transmit electronically to CBP passenger manifest information for each individual travelling on board the aircraft. The CBP requires private aircraft pilots or their designees to provide additional data elements when submitting a notice of arrival and also requires them to submit a notice of departure. Private aircraft pilots or their designees are required to submit the notice of arrival and notice of departure information to CBP in the same transmission as the corresponding arrival or departure passenger manifest information via the Electronic Advance Passenger Information System (eAPIS) or an approved alternate system. Data must be received by CBP no later than 60 minutes before an arriving private aircraft departs from a foreign location destined for the U.S. and no later than 60 minutes before a private aircraft departs a U.S. airport or location for a foreign place. Advise customs (ADCUS) and CANPASS notifications are no longer accepted on flight plans for transborder flights departing from Canada to the U.S.

Private pilots or their designees are required to set up an eAPIS account at least five days prior to their first transborder flight. For additional information, consult the CBP web site at <www.cbp.gov>.

The publication *U.S. Customs and Border Protection Guide for Private Flyers* outlines special arrangements and restrictions applicable to U.S. airports. This publication is available online at the following address <https://www.eapisfile.com/Docs/eAPIS/private_flyers_guide.pdf>.

1.2.4.2 Flights from the United States to Canada

All aircraft arriving in Canada from a foreign point of origin must land at an airport designated for Canada Border Services Agency (CBSA) clearance unless otherwise authorized by the CBSA. Pilots who arrive in Canada by private, company owned or charter aircraft carrying 15 people or fewer have the option of reporting to the CBSA by telephone through the telephone reporting centre (TRC) at 1-888-226-7277 or in person directly at a staffed airport of entry (AOE). Flights with more than 15 passengers on board must clear directly at a staffed AOE. Pilots who choose to report to the CBSA via telephone through the TRC are required to provide advance notification of arrival and information about travellers and goods to the TRC a minimum of two (2) hours but no more than 48 hours before arrival by calling 1-888-226-7277. The pilot must advise the TRC of any updates to the original estimated time of arrival (ETA), destination, or changes to traveller information before arriving in Canada. Immediately upon landing in Canada, the pilot must make a second phone call to the TRC at 1-888-226-7277 to report the arrival of the aircraft and receive further instructions. The pilot and all travellers aboard must not leave the aircraft until advised to do so. If, due to weather conditions or other emergency circumstances, the aircraft has to land at a place not designated for CBSA reporting, the pilot must call the TRC at 1-888-226-7277, the nearest CBSA office or a Royal Canadian Mounted Police (RCMP) office immediately upon landing in Canada.

Medical evacuation (MEDEVAC) non-emergency flights are subject to standard general aviation requirements. Non-emergency MEDEVAC flights include transport of a patient from a foreign hospital back to Canada after medical treatment has been received and transport of a patient to a Canadian hospital for non-emergency procedure/treatment. These specific non-emergency MEDEVAC flights should enter Canada via a staffed AOE or AOE/15 within its hours of operation. Like general aviation, all arrangements for CBSA clearance should be done through the CBSA TRC (1-888-226-7277) at least 2 hours prior to landing.

Emergency MEDEVAC flights include transport of a patient where the patient's life is in imminent danger and medical intervention is urgently required. In such cases, the two (2) hours minimum advance notification and the requirement to land at a designated AOE are waived. To ensure that urgent medical care is provided to the patient, the aircraft may land at a site as close to the hospital as required, i.e., the hospital helicopter pad. For MEDEVAC emergency flights the pilot will note the following:

- Contact the TRC as soon as flight particulars are available to provide minimal information such as: destination, airplane registration number, number of passenger and names of passengers, if available;
- Call the TRC at the first opportunity after the aircraft has landed to provide the CBSA with the remaining information and follow any instructions given by the officer.

Aerodromes that are designated as AOEs with customs services available are indicated in the Aerodrome/Facility Directory of the *Canada Flight Supplement* (CFS) or the *Canada Water Aerodrome Supplement* (CWAS).

Additional information on telephone reporting for aircraft is available in Memorandum D2-5-12, *Telephone Reporting for General Aviation and Marine Pleasure Craft* on the Canada Border Services Agency website:

<http://cbsa-asfc.gc.ca/publications/dm-md/d2/d2-5-12-eng.html>

1.2.5 Documentary Requirements for Customs Clearance of Aircraft

1.2.5.1 Entry

Private, business, tourist or military aircraft requiring customs clearance when entering Canada are not required to submit a general declaration. However, they are required to report verbally to customs. Furthermore, the aircraft may be recorded on a specified form supplied by the Canada Border Services Agency (CBSA) to ensure adequate control of the aircraft while it is in Canada.

The general declaration is required for aircraft in the Northwest Territories (north of N60°), where, instead of customs officers, RCMP officers or employees of a Canadian government agency enforce customs procedures.

1.2.5.2 CANPASS

Private or Corporate aircraft that meet the requirements of the CANPASS – Private Aircraft or CANPASS – Corporate Aircraft program can land at any airport of entry any time the site is open, regardless of the hours of operation of the local Canada Border Services Agency (CBSA) office. The aircraft can also land at a designated CANPASS-only airport. The pilot is in charge of the aircraft and he or she must report all passengers and their goods on behalf of the aircraft. Pilots are responsible for reporting themselves, their crew and passengers to a telephone reporting centre (TRC) by calling 1-888-CANPASS (1-888-226-7277) at least 2 hours before but no more than 48 hours prior to the aircraft's estimated time of arrival in Canada.

To have CANPASS – Private Aircraft privileges, the aircraft may not carry more than 15 people (including the crew). The pilot also cannot charge passengers a fee for passage when using CANPASS privileges. All persons aboard the aircraft must be CANPASS members. If there is a traveller aboard who is not a member, the pilot has to follow the procedures for private or corporate aircraft. A person's CANPASS membership does not extend to members of his or her immediate family or to friends travelling with him or her. Each person on the aircraft has to be enrolled in the CANPASS – Private or CANPASS – Corporate Aircraft program.

1.2.5.3 Exit

Private aircraft exiting Canada face the same requirements as exiting commercial flights. For information on the requirements, refer to GEN 1.4.1, “Commercial Aircraft.”

1.2.5.4 Public Health Measures Applied to Aircraft

- Document requirements are the same for commercial and private flights.
- Garbage must be removed from aircraft at the first point of entry unless prior permission is received from the Canadian Food Inspection Agency.
- A permit must be obtained from the Canadian Food Inspection Agency for all animals being transited through Canada. Vaccinations are not required.

GEN 1.3 Entry, Transit and Departure of Passengers and Crew

1.3.1 Passports

An air operator is required to present each passenger seeking entry to Canada to the Canadian Inspection Services at a place designated for that purpose. Failure to do so is an offence and the company is liable to a fine, the amount of which the Canadian Inspection Services will determine for each passenger not presented.

All visitors to Canada require valid passports, including visiting crew members. Exceptions include the following individuals:

- A citizen of the United States;
- A resident of Greenland entering Canada from Greenland;
- A visitor seeking entry from the United States or St-Pierre et Miquelon who has been lawfully admitted to the United States for permanent residence;
- A French citizen who resides permanently in St-Pierre et Miquelon and seeks entry from St-Pierre et Miquelon;
- A member of the armed forces of any designated State entering Canada pursuant to the *Visiting Forces Act*; and
- A visitor who is seeking entry as or in order to become a member of the crew of a marine or airline vehicle, and who is in possession of a seaman’s identity document issued to him or her in accordance with International Labour Organization conventions, or is in possession of an airline flight crew licence or crew member certificate issued to him or her in accordance with ICAO specifications. The flight crew licence holder must be a member of the operating crew.

Certain identity or travel documents may be accepted by immigration authorities. A list of acceptable documents may be obtained from Citizenship and Immigration Canada. See GEN 1.1.4, “Immigration,” for contact information for Citizenship and Immigration Canada.

All immigrants to Canada require valid passports, except refugees under the Convention Relating to the Status of Refugees who are in possession of a valid and subsisting immigrant visa. Any immigrant not in possession of a passport or one of the specified alternatives may be refused entry to Canada and removed at the air operator’s expense.

1.3.2 Visas

Without exception, every immigrant seeking to land in Canada must be in possession of a valid and subsisting immigrant visa.

Successful permanent resident applicants are issued a Confirmation of Permanent Residence (IMM 5292B) from a Canadian consulate or post outside of Canada. This document, combined with a facilitation counterfoil placed in the holder's passport or travel document, replaces the immigrant visa (IMM 1000) issued under the *Immigration Act* (1976). The Confirmation of Permanent Residence contains a photograph of the holder, as well as a box for the holder's signature, which must be completed upon entry to Canada. The document must be presented to an officer at an AOE.

The Confirmation of Permanent Residence by itself is not sufficient in all cases to board an airplane flying to Canada. Persons who are from countries not included in the visa exempt countries listed in Section 190 of the *Immigration and Refugee Protection Regulations* (2002) and who are holding passports or travel documents will be issued a visa counterfoil bearing the coding "IM," meaning "applicant for permanent resident status," to facilitate boarding. Section 190 of the *Immigration and Refugee Protection Regulations* can be found on the Department of Justice Canada website:

<laws-lois.justice.gc.ca/eng/regulations/SOR-2002-227/page-62.html#h-88>

Visitors to Canada are required to obtain a visitor visa prior to their arrival, unless they fall under one of the exempt categories in Section 190 of the *Immigration and Refugee Protection Regulations*. A visitor to Canada who is required to obtain a visa before appearing at an AOE and who is not in possession of a valid visa may be refused admission to Canada and removed at the air operator's expense. Any air operator who carries to Canada a person who is required to obtain a visa before appearing at an AOE and who is not in possession of a valid visa is guilty of an offence and is liable to a fine, the amount of which the Canadian Inspection Services will determine. Contact Canadian immigration authorities for details. See GEN 1.1.4, "Immigration," for contact information for Citizenship and Immigration Canada.

Persons requiring visas to enter Canada must also be in possession of a visa to transit through Canada. Persons who are in transit through Canada on a flight that stops in Canada solely for the purpose of refuelling are exempt from the visitor visa requirement, if they are on a flight bound for the United States and have a valid US visa, or they were lawfully admitted to the United States and are on a flight originating in the United States.

Departure formalities are not required for embarking passengers.

Additional information on entering Canada from abroad is available on the following Government of Canada websites:

Canada Border Services Agency
<www.cbsa-asfc.gc.ca/>

Canadian Food Inspection Agency–Import/Travellers
<www.inspection.gc.ca/english/imp/importe.shtml>

Canada International
<www.canadainternational.gc.ca/>

Citizenship and Immigration Canada
<www.cic.gc.ca/>

Canadian Transportation Agency
<www.cta-otc.gc.ca/>

GEN 1.4 Entry, Transit and Departure of Cargo

1.4.1 Commercial Aircraft

1.4.1.1 Entry

Commercial air operators operating scheduled or non-scheduled international flights entering Canada are not required to submit a general declaration or equivalent document when the deplaning passengers and crew are processed by customs personnel at a customs facility established for that purpose.

All cargo carried on an international commercial flight must be reported on a cargo control document acceptable to the Canada Border Services Agency. An acceptable cargo control document is an International Air Transport Association (IATA) international format air waybill or a Canadian customs cargo control document. Air operators operating “all-cargo flights” are not required to submit a general declaration or equivalent document when such freight is reported on a cargo control document acceptable to the Canada Border Services Agency.

1.4.1.2 Exit

A general declaration or equivalent document is not required for any aircraft departing Canada. However, there may be occasions when a declaration or other document is deemed necessary for presentation at the first AOE. The Canadian Inspection Services may assist the air operator in developing and processing general declaration documents.

1.4.2 Private Flights

For information on private flights, including what constitutes a private flight and requirements for flying over or into Canada, refer to GEN 1.2.3, “Private Flights.”

1.4.3 Transborder Flights

For information on transborder flights, including what constitutes a transborder flight and requirements for flying into Canada refer to GEN 1.2.4, “Transborder Flights.”

1.4.4 Regulations Concerning the Importation of Plants and Animals

Endangered Species

Regulations now prohibit the import or export of over 1,000 endangered species, as well as their recognizable parts and products, without proper permits. The following species and any articles made from them are only some of those which require permits: elephants (ivory); monkeys; all cats, except domestic; alligators; crocodiles; orchids; American cacti; falcons; and the larger sea turtles. For more information, contact the Administrator of, Convention on International Trade in Endangered Species, Canadian Wildlife Service. (See FAL 1.2 for address).

Animals, birds, food, and plants

To guard against the introduction of foreign diseases or parasites into Canada, The Canadian Food Inspection Agency controls the admission of animals, birds, plants, and products derived from them, such as meats. The regulations may change quickly as a result of epidemics in other parts of the world. For import regulations contact:

For Animals	For Plants, Seeds, Etc.
The Canadian Food Inspection Agency Animal Health Division 59 Camelot Drive Nepean ON K1A 0Y9 Tel.: 613-225-2342, ext. 4629 Fax: 613 228-6630	The Canadian Food Inspection Agency Plant Health Division 59 Camelot Drive Nepean ON K1A 0Y9 Tel.: 613-225-2342, ext. 4334 Fax: 613-228-6605

The Canadian Food Inspection Agency has produced a brochure entitled *Don't Bring It Back,* which gives the basic rules about agricultural items whose entry into Canada are controlled. It refers only to non-commercial items that might be brought to Canada for personal use. This pamphlet is available at the following website: <www.cfia-acia.agr.ca>

GEN 1.5 Aircraft Instruments, Equipment and Flight Documents

For information on the rules governing the requirements for aircraft equipment, both generally and for specific types of aircraft and flights, refer to the sections on Transport Canada's CARs website that are listed in Table 1.5, "Aircraft Equipment Requirements."

Table 1.5, Aircraft Equipment Requirements

Section	Title
605.06	Aircraft Equipment Standards and Serviceability
605.07	Minimum Equipment Lists
605.08	Unserviceable and Removed Equipment – General
605.09	Unserviceable and Removed Equipment – Aircraft with a Minimum Equipment List
605.10	Unserviceable and Removed Equipment – Aircraft Without a Minimum Equipment List
605.14	Power-Driven Aircraft – Day VFR (visual flight rules)
605.15	Power-Driven Aircraft – VFR OTT (over the top)

Section	Title
605.16	Power-Driven Aircraft – Night VFR
605.17	Use of Position and Anti-collision Lights
605.18	Power-Driven Aircraft – IFR (instrument flight rules)
605.19	Balloons – Day VFR
605.20	Balloons – Night VFR
605.21	Gliders – Day VFR

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
Part VI – General Operating and Flight Rules
Subpart 5 – Aircraft Requirements
Division I – Aircraft Requirements – General, and
Division II – Aircraft Equipment Requirements

1.5.1 Sparsely Settled Areas

A “sparsely settled area” is no longer a defined area. The pilot or air operator must decide which survival equipment is to be carried on board the aircraft in accordance with the regulations.

For information concerning the survival equipment required for aircraft operations over land in Canada, refer to CARs, section 602.61, “Survival Equipment – Flights over Land,” on Transport Canada’s CARs website:

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
Part VI – General Operating and Flight Rules
Subpart 2 – Operating and Flight Rules
Division II – Operational and Emergency Equipment Requirements

The regulation requires a pilot to carry enough aircraft survival equipment on board to ensure the survival on the ground of each person on board, taking into consideration the geographical area, the season of the year and anticipated seasonal climatic variations. The survival equipment must be able to provide the means for starting a fire, providing shelter, providing or purifying water, and visually signalling distress.

Pilots unfamiliar with the potential dangers and problems associated with navigating an aircraft in sparsely settled areas of Canada tend to underestimate the difficulties involved in surviving on the ground. They assume that operating in a sparsely settled area is no different from operating in more populated areas and fail to plan and prepare properly. As a result, pilots risk exposing themselves, their crew and passengers, and their aircraft to unnecessary risks and loss of life. They also may place considerable strain on limited local resources at stopover or destination aerodromes or cause lengthy and expensive searches that could be avoided.

Sparsely settled areas of Canada require special consideration for aircraft operations since radio aids to navigation, weather information, fuel supplies, aircraft servicing facilities, accommodations and food are usually sparse and sometimes not available at all. To operate in these areas successfully, pilots need to consider four factors.

1. Flight Planning
   - Plan your flight using current aeronautical charts and the latest edition of the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*.
   - Check the NOTAMs and *AIP Canada* Supplements.
   - Familiarize yourself with the nature of the terrain over which the flight is to be conducted.

- If you are not familiar with the area, consult officials with the RCMP, the Department of National Defence or Transport Canada at the appropriate regional offices before departure for advice on the ever-changing supply situation, the location and condition of possible emergency strips, potential hazards and enroute weather conditions.
- Ensure that the fuel, food, accommodations and services you may require at intermediate stops and at your destination will be available.

2. Weather

Compared to more densely populated areas, weather observation stations are scattered. This means that snow or rain showers, thunderstorms, strong winds, fog, cloud or whiteout conditions, and icing may not be observed and, therefore, will remain unreported. Whiteout conditions can be extremely hazardous to visual flight, affecting visibility to the extent that a pilot may have little or no visual reference by which to control his or her aircraft.

- Obtain a thorough weather briefing before departure.
- Get updated information on current weather conditions during the flight using whatever communication facilities are available.

3. Navigation

Flights in sparsely settled areas of Canada are likely to be over longer than average legs with fewer navigation aids. The route may be over terrain that is uniform in appearance with very few distinguishing features to use as reliable checkpoints. For example, the terrain may be covered with lakes, making it difficult for a pilot unfamiliar with the area to distinguish one lake from another; or the route may be over large tracts of unbroken forest or tundra. In the winter, when lakes and tundra are frozen, the problem of identifying terrain features is even more acute.

- Equip aircraft engaged in day visual flight rules (VFR) flying in the Northern Domestic Airspace (NDA) with a good directional gyro and a means of checking heading using the sun or other celestial bodies as reference. For information on determining the true meridian using the sun as reference, refer to the tables in *Finding the Sun's True Bearing* (TP 784E), available from Transport Canada. True meridian information is used to keep the "free" directional gyro in alignment.
  - Charts within the NDA show bearings and headings in degrees true (e.g., 135°T).
  - For purposes of takeoff and landing, surface wind direction information for aerodromes located within the NDA is reported in degrees true.
- If planning to fly instrument flight rules (IFR) or night VFR in the NDA, review the regulations governing such flight. For information on cruising altitudes and cruising flight levels, refer to CARs, section 602.34, "Cruising Altitudes and Cruising Flight Levels," on Transport Canada's CARs website:

  <http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
  Part VI – General Operating and Flight Rules
  Subpart 2 – Operating and Flight Rules
  Division I – General

4. Emergencies

If forced to land in a sparsely settled area of Canada, the survival of the pilot, crew and passengers depends on the preparations the pilot has made for such an eventuality and his or her knowledge of emergency locator transmitter (ELT) search and rescue (SAR) procedures (see GEN 1.5.4, “Emergency Locator Transmitter”). Table 1.5.1, “Survival Equipment,” provides a list of the equipment suggested for flights in sparsely settled areas, including clothing and equipment that will provide protection from insects in the summer and exposure in the other seasons.

Table 1.5.1, Survival Equipment

Rule: Provide Shelter		
Geographic Area	**Season**	**Equipment and Comments**
West coast, British Columbia	All seasons	Survival equipment recommendations: To provide protection from rain, sleet and snow, plus wind, and insulation from wet ground. Keep dry and out of wind to prevent death from hypothermia. Reason: Hypothermia is possible in all seasons if person becomes wet and is unable to get out of the wind. Recommended equipment: 1. **Tent** 2. **Tarpaulin** 8’ × 8’ (could be nylon sheet) ideally, blaze orange colour 3. **Saw** to make shelter from branches, but difficult in wet conditions to make shelter rainproof 4. **Personal rain protection** can be as simple as a garbage bag 5. **Space blankets** (do not use on sleeping bags; sweating will soak person in two hours) use as tarpaulin or for short periods to warm up a person by wrapping around them 6. **Air-inflated mattress or unicell foam pad** 7. **Branches** piled 8” deep and dry (need evergreen trees and saw or axe, plus experience) No. 6 and 7 are for shelter from ground; cold ground sucks heat out of body 8. **Sewing Kit** to repair clothing and so on
	Spring and Summer	Add mosquito head nets and possibly tape for taping jacket wrists and pant bottoms for protection from insects to equipment in above list.
British Columbia interior, mountain country	Winter	Greatest need is for protection from wind and lower temperatures. Most deaths from hypothermia occur well above the freezing temperature.
		Same equipment as for west coast, plus sleeping bag (one for each two persons). Sleeping bags must be dried out each day or they become useless after two days. Never let everyone sleep at the same time.
Prairies below timberline	All seasons	Same equipment as for British Columbia interior. Minimal protection needed during summer since temperature is normally high. In fall and winter, protection is needed from rain, snow, and so on. Threat of hypothermia still exists during these seasons.
Ontario to east coast below timberline	All seasons; higher humidity can be expected	Same equipment as for British Columbia interior. Protection needed from wind in all seasons and any form of wetness.

Rule: Provide Shelter		
Geographic Area	**Season**	**Equipment and Comments**
Newfoundland	All seasons	Same equipment as for British Columbia interior. Protection needed from wind and sea breeze, which can be devastating.
North of tree line	Summer	Same equipment as for British Columbia interior. Wind and insect protection are most important. Days are long. Lots of time to set up shelter.
	Winter	Sleeping bag with wind protection paramount. Usually no fuel for wood fire to provide warmth.

Rule: Make Fire (All Seasons)	
Geographic Area	**Equipment and Comments**
West coast, British Columbia	Making a fire is difficult on wet days and especially in winter when cold weather cools fuel. Fire must be made along with shelter for warmth and protection.
Remaining wooded area of Canada	Same as above, except that starting and keeping fire going using trees branches shrubs, and so on is easier.
Above tree line	Need fuel tablets for heat and cooking if there is something to cook.
Applicable to all	Recommended equipment: 1. **Waterproof matches** (e.g., matches in a waterproof container) 2. **Candle** for starting stubborn fire 3. **Fuel tablets** 4. **Saw** or axe (if knowledgeable) and tools for obtaining dry or burnable material from nature Fuel must be warmed up to get it burning. Training on how to start and keep a fire going is recommended. Fire must be in association with shelter for warmth and protection.

Rule: Signal for Help (All Seasons)	
Geographic Area	**Equipment and Comments**
West coast, British Columbia	Because of trees, signalling is difficult unless near a river, stream or treeless hillside. When the sun shines, the best means is a signal mirror (sometimes called a heliograph). It is effective over 22 miles—far beyond where you can see or hear an aircraft. Fire and smoke are normally ignored by most fly-by aircraft; they are also hard to see. An 8’ × 8’ orange tarpaulin attracts attention and can be seen well before any other signal except the mirror signal.
For all areas of Canada	With a trained person, pyrotechnics can be effective. With a novice, they can reduce chances of survival. Pencil pyrotechnics will not go above a 30-foot tree in winter (cold makes them useless). For night signalling, a good strobe light can be seen on a clear night up to eight miles away. A flashlight is effective for about one-half mile. Use judgment to provide equipment in keeping with the forecast weather.

Rule: Purify Water (All Seasons)	
Geographic Area	**Equipment and Other Items**
For all areas of Canada	To provide safe drinkable water, use water purification tablets or other methods prescribed by a pharmacist. If boiling water is the preferred method, you need a fire and a good container for boiling water (a billy kettle). Training is needed in how to melt snow in a container over a fire.

1.5.2 Single-Engine Aircraft Operating in Northern Canada

Single-engine aircraft flying in northern Canada should carry equipment in addition to the emergency equipment required for flights in sparsely settled areas, depending on the area in which they are flying.

1.5.2.1 Outside the Arctic Archipelago

For flights outside the Arctic Archipelago, single-engine aircraft should also carry the following telecommunications and navigation equipment:

- A high-frequency (HF) radio (with a minimum output of 30 watts) capable of transmitting and receiving on 5,680 kHz;
- A portable emergency transmitter capable of operating on the ground without the aircraft battery and transmitting on a distress frequency used by the Department of National Defence for SAR; and
- A gyro-stabilized magnetic compass; or
- An astro compass, along with knowledge of how to use it and the necessary tables, and a low precession gyroscopic direction indicator.

If Transport Canada is satisfied that a single-engine aircraft is otherwise adequately equipped for emergencies, these additional equipment requirements may be modified for flights outside the Arctic Archipelago.

Frequency 5,680 kHz provides long-range air-to-ground communications coverage in the remote areas of Canada for the provision of flight information service beyond the range of VHF communications. Aircraft must use single sidebands (SSB) when communicating on 5,680 kHz.

Table 1.5.2.1, Controlling ATS Units for Northern Canada Locations

Location	Controlling ATS Unit
Baker Lake, Nunavut	Edmonton FIC
Inuvik, Northwest Territories	Edmonton FIC
Iqaluit, Nunavut	Quebec FIC
Kuujjuaq, Quebec	Quebec FIC
Kuujjuarapik, Quebec	Quebec FIC
Resolute Bay, Nunavut	Edmonton FIC
Roberval, Quebec	Quebec FIC
St. Anthony, Newfoundland & Labrador	London FIC
Thompson, Manitoba	Edmonton FIC
Yellowknife, Northwest Territories	Edmonton FIC

Telecommunications equipment must comply with CARs, section 602.146, "ESCAT (Emergency Security Control of Air Traffic) Plan," on the Transport Canada CARs website:

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
Part VI – General Operating and Flight Rules
Subpart 2 – Operating and Flight Rules
Division IX – Emergency Communications and Security

1.5.2.2 Within the Arctic Archipelago

For flights within the Arctic Archipelago, single-engine aircraft should also carry the following telecommunications and emergency equipment:

- very high frequency (VHF) capable of transmitting and receiving on 121.5 and 126.7 MHz.
- Flares, a small stove or heating device and sleeping bags to accommodate all persons on board the aircraft, in addition to the equipment listed in Table 1.5.1, "Survival Equipment."

According to CARs, Part VII, Commercial Air Services, when pilots are choosing the most suitable route, no single-engine land plane or multi-engine land plane is to operate a commercial air service over water beyond gliding distance from shore, except as authorized in its operator certificate and in compliance with the Commercial Air Service Standards.

1.5.3 Emergency Locator Transmitter

ELTs are required for most general aviation aircraft (see CARs, section 605.38, "ELT," and Table 1.5.3, "Minimum ELT Equipment Required for Aircraft").

Table 1.5.3, Minimum ELT Equipment Required for Aircraft

Aircraft	Area of Operation	Minimum Equipment
1. All aircraft, except gliders, balloons, airships, ultra-light aeroplanes or gyroplanes	Over land	One ELT of type AD, AF, AP, A, or F
2. Large multi-engine turbojet aeroplanes engaged in an air transport service carrying passengers	Over water at a distance from land that requires the carriage of life raft in accordance with CARs, section 602.63, "Life Rafts and Survival Equipment – Flights over Water"	Two ELTs of type W or S or one of each
3. All aircraft that require an ELT other than those described in number 2	Over water at a distance from land that requires the carriage of life raft in accordance with CARs, section 602.63, "Life Rafts and Survival Equipment – Flights over Water"	One ELT of type W or S

Note: The five categories of ELTs are as follows:

1. Type A or AD – Automatic Ejectable or Automatic Deployable: This type of ELT automatically ejects from the aircraft and is set in operation by inertia sensors when the aircraft is subjected to a crash deceleration force acting through the aircraft's flight axis. This type is expensive and is seldom used in general aviation.
2. Type F or AF – Fixed (not ejectable) or Automatic Fixed: This type of ELT is automatically set in operation by an inertia switch when the aircraft is subjected to crash deceleration forces acting in the aircraft's flight axis. The transmitter can be manually activated or deactivated and in some cases may be remotely controlled from the cockpit. Provision may also be made for recharging the batteries from the aircraft's electrical supply. An additional antenna may be provided for portable use of the ELT. Most general aviation

aircraft use this type of ELT, which must have the function switch placed to the “ARM” position for the unit to function automatically in a crash.

3. Type AP – Automatic Portable: This type of ELT is similar to Type F or AF except that the antenna is integral to the unit for portable operation.

4. Type P – Personnel: This type of ELT has no fixed mounting and does not transmit automatically. A manual switch is used to start or stop the transmitter.

5. Type W or S – Water-Activated or Survival: This type of ELT transmits automatically when immersed in water. It is waterproof, floats and operates on the surface of the water. It has no fixed mounting. It should be tethered to survivors, or life rafts.

GEN 1.6 Summary of National Regulations and International Agreements and Conventions

1.6.1 National Regulations

Civil aviation in Canada is regulated by the *Aeronautics Act* and the CARs. The *Aeronautics Act* is available on the Department of Justice website:

<laws-lois.justice.gc.ca/eng/acts/A-2/>

The CARs are available on Transport Canada’s CARs website:

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>

GEN 1.7 Differences from ICAO Standards, Recommended Practices and Procedures

Table 1.7, “Differences from ICAO Standards,” identifies the specific sections in the eighteen annexes that comprise ICAO’s *International Standards and Recommended Practices* from which practice in Canada differs. An asterisk (*) beside a section number means that it contains a recommended practice.

Table 1.7, Differences from ICAO Standards

Annex 1, Personnel Licensing	
Chapter 1	**General Rules Concerning Licences**
1.2 Note 2 a)	Canada does not issue flight navigator licences.
1.2 Note 2 b)	Canada does not issue flight operations officer/flight dispatcher or aeronautical station operator licences.
1.2.4 Note 2	Canada issues Category 1,2.3 and 4 medical certificates to satisfy licensing requirements of medical fitness.
1.2.4.1	Canada issues the following medical certificates: ▪ Category 1–equivalent to ICAO Class 1 Medical Assessment; includes flight engineer licence. ▪ Category 2– equivalent to ICAO Class 3 Medical Assessment. ▪ Category 3–equivalent to ICAO Class 2 Medical Assessment; excludes flight engineer licence and glider pilot licence. ▪ Category 4–non-ICAO, valid only in Canadian Airspace; applies to glider pilot licences, recreational pilot permits, and ultra-light aeroplane permits.
1.2.4.3	Canada calculates the period of validity of a Medical Assessment from the first day of the month following the date the medical examination was performed. For example, medical examination done on 13 June will have the validity period calculated from 1 July.

Annex 1, Personnel Licensing	
1.2.4.3.1	Canada may extend the period of validity period of a Medical Assessment by up to 60 days.
1.2.5.2	Canada has determined that the validity period of a Medical Assessment for the holder of an Air Traffic Controller Licence shall not be greater than 24 months.
Appendix 1	**Attachment A**
1.2.9.4	Canada annotates the holder's licence with a language proficiency rating in English, French or both, once the applicant has been assessed at an "Expert" or "Operational" level. ▪ "Expert" level corresponds to ICAO level 6 and requires no further testing. ▪ "Operational" level corresponds to ICAO levels 4 and 5 and requires retesting every 5 years.
Chapter 2	**Licences and Ratings for Pilots**
2.1.3.1.1*	Canada does not have a class rating for helicopters.
2.1.10	Canada does not restrict the privileges of pilots who have attained their 60th birthday or curtail the privileges of pilots who have attained their 65th birthday.
2.3.3.1.1 and 2.3.4.1.1	Canada requires that private pilot licence (PPL) applicants complete no less than 45 hours of flight time, 5 hours of which must be instrument time.
2.4.3.1.1.1 c) and 2.4.4.1.1.1 c)	Canada requires that commercial pilot licence (CPL) applicants complete 20 hours of dual instrument flight time, 10 hours of which may be completed in a flight simulation training device (FSTD).
2.4.3.1.1.1 d) and 2.4.4.1.1.1 d)	Canada requires that CPL applicants complete 5 hours dual night flight time and 5 hours solo night flight time. Solo time includes 10 takeoffs and 10 landings.
2.6.1.3.1	Canada does not require that airline transport pilot licence—aeroplane (ATPL-A) applicants complete the skill requirement using an aeroplane that must be operated with a co-pilot.
2.6.3.1.1.1 a) and 2.6.4.1.1.1 a)	Canada credits 50% of pilot-in-command under supervision flight time towards the ATPL-A and/or the airline transport pilot licence—helicopter (ATPL-H). The maximum credit for ATPL-A is 100 hours, while the maximum for ATPL-H is 150 hours.
2.7.1.3.1	Canada does not require a PPL holder with an instrument rating to hold a Category 1 (Class 1) Medical Assessment for hearing acuity.
2.7.1.3.2*	Canada does not require a holder of an instrument rating to hold a Category 1 (Class 1) Medical Assessment.
2.10.1.1	Canada requires balloon pilot licence (BPL) applicants to be a minimum of 17 years of age.

Annex 2, Rules of the Air	
Chapter 1	**Definitions**
Definitions	**Advisory airspace:** Advisory airspace refers to Class F special use airspace within which an activity occurs of which non-participating pilots should be aware.
	Advisory route: Not used in Canada.
	Aerodrome: Canada's definition clarifies that the frozen surface of an area of water, or any supporting structure could be an aerodrome and includes servicing of aircraft as a possible intended use.
	Aerodrome control service: The term "airport air traffic control service" is used instead and provides more detail about the nature of the services provided.
	Aerodrome control tower: The term "air traffic control tower" is used instead.
	Aerodrome traffic zone: In Canada, for controlled airports, the term "control zone" is used. For uncontrolled aerodromes, the term "mandatory frequency area" is used.

Annex 2, Rules of the Air	
	Airborne collision avoidance system (ACAS): Canada's definition is more encompassing in that it recognizes that any transponder signal (not just SSR) can be used.
	Aircraft: Canada's definition does not exclude reactions of the air against the earth's surface and explicitly includes rockets.
	Air-taxiing: Canada defines air-taxiing as movement of a helicopter above the surface of an aerodrome, but normally not above 100 ft AGL. The aircraft may proceed via either hover taxi or flight at speeds more than 20 knots.
	Air traffic advisory service: Advisory service refers to the provision of flight information to both instrument flight rules (IFR) and visual flight rules (VFR) aircraft.
	Approach control service: Terminal control service is used in lieu of approach control service and associated terms.
	Approach control unit: Canada's definition specifies that the service is provided to IFR flights operating within a terminal control area.
	Flight level: In Canada, defined as an altitude expressed in hundreds of feet, indicated on an altimeter set to 29.92 inches of mercury, or 1013.2 millibars.
	Remote pilot station: In Canada, this is referred to as a control station.
	Remotely piloted aircraft (RPA): The Canadian definition is a navigable aircraft, other than a balloon, rocket or kite, that is operated by a pilot who is not on board.
	Remotely piloted aircraft system (RPAS): The Canadian definition refers to only a single remote pilot station and encompasses system elements required during flight operations.
Chapter 3	**General Rules**
3.1.8 c)	A distance of 1 nautical mile (NM) laterally and longitudinally shall be maintained from the flight leader.
3.6.2.2	The current Canadian Aviation Regulation (CAR) 602.76 states: (1) The pilot-in-command of an aircraft for which an IFR flight plan or an IFR flight itinerary has been filed shall follow the procedure set out in subsection (2) where the pilot-in-command intends to make any change in the plan or itinerary in respect of: (a) the cruising altitude or cruising flight level; (b) the route of flight; (c) the destination aerodrome; (d) in the case of a flight plan, the true airspeed at the cruising altitude or cruising flight level, where the change intended is five per cent or more of the true airspeed specified in the IFR flight plan; or (e) the Mach number, where the change intended is .01 or more of the Mach number that has been included in the air traffic control clearance. (2) A pilot-in-command of an aircraft who intends to make any of the changes in the IFR flight plan or the IFR flight itinerary that are referred to in subsection (1) shall: (a) notify as soon as practicable an air traffic control unit or the responsible person, as the case may be, of the intended change; and (b) where the flight is being conducted in controlled airspace, receive an air traffic control clearance before making the intended change.

Annex 2, Rules of the Air	
3.9	In Canada, the VMC specified for controlled airspace (A, B, C, D and E) require a flight visibility of 3 statute miles (SM) with a distance from cloud of 1 SM horizontal and 500 ft vertical. A rotorcraft requires a visibility of 1.5 SM and clear of cloud when operating at such a reduced air speed as will give the pilot-in-command adequate opportunity to see other aircraft or obstructions in time to avoid a collision. Class F may be controlled or uncontrolled airspace - appropriate VFR will apply. Class G uncontrolled airspace above 700 ft. AGL requires a flight visibility of 1SM and a distance from cloud of 2,000 ft. horizontal and 500ft vertical; below 700 ft. AGL requires 1SM visibility and operation clear of cloud. VFR flight in all classes of airspace requires that the pilot maintain visual reference to the surface of the earth at all times. Also, in the case of an aircraft other than a rotorcraft, the aircraft is to be operated at not less than 500 ft AGL.
Chapter 4	**Visual Flight rules**
4.2 a)	Canada makes no reference to ceilings.
4.4	Canada's prohibition of VFR flight relates to airspace classification rather than specific altitudes or speeds.
4.6 b)	VFR flight is authorized over unpopulated areas or open water at less than 500 ft AGL provided there is no hazard to persons or property and the aircraft is flown at not less than 500 ft from any person, vessel, vehicle, or structure.
4.8 a)	The requirement also applies to VFR flights operated within Class E.

Annex 3, Meteorological Service for International Air Navigation	
Chapter 2	**General Provisions**
2.1.5	Employees or contractors of air navigation service providers provide meteorological observations and reports. These personnel may not fully meet the pre-requisite knowledge and training qualifications specified by the World Meteorological Organization (WMO) for meteorological personnel. Upon request, the service provider must demonstrate to the state meteorological authority that observer personnel are competent to make aviation weather observations accurately to WMO/ICAO specifications.
Chapter 4	**Meteorological Observations and Reports**
4.1.3	SPECI are not issued upon changes RVR.
4.1.5	Real time wind, QNH and RVR information is available from automated displays. Updated information related to the current aerodrome representative values of the other weather elements, from the METAR / SPECI is available upon request.
4.3.2	Local routine and special reports are not issued. The term "LWIS" or Limited Weather Information System, in a report, refers to automated stations that report temperature, dewpoint, wind direction and speed, and altimeter setting in the same order and with the same content, coding and formatting as for METAR.
4.4.2 b)	METAR are issued upon the hour and SPECI shall be issued as required.
4.4.3	Most aerodromes in Canada are operational at all times. The hours of METAR / SPECI are determined individually for each aerodrome in consultation with users.
4.6.2.1	Canada reports visibility in units of statute miles (SM) and fractions. Increments are of 1/8 mile up to ¾ of a mile; ¼ mile to 2 ½ miles and 1 mile from 3 to 20 miles then by 5 miles.
4.6.3.3	Canada reports RVR in units of feet (ft).
4.6.4.1	AWOS reports drizzle as rain and freezing drizzle as freezing rain.

Annex 3, Meteorological Service for International Air Navigation	
4.6.7	Canada reports altimeter setting in units of hundredths of inches of mercury. QFE is not available.
Chapter 5	**Aircraft Observations and Reports**
5.5	Reports of runway braking conditions are not included in meteorological reports.
Chapter 6	**Forecasts**
6.2.3	Canada includes a remark at the end of each aerodrome forecast (TAF) preceded by "RMK" and followed by the scheduled issue time of the next regular TAF in abbreviated English. For TAFs based on automated weather observation systems, the additional remark "FCST BASED ON AUTO OBS" will be included, along with appropriate remarks in abbreviated English, as necessary, to indicate if automated sensors are providing non-representative information. Further details can be found in the *Aeronautical Information Manual* (AIM).
6.3.1	Landing forecasts are not provided.
6.3.2	Please refer to 6.3.1
6.3.3	
6.4.1	Take-off forecasts are not provided.
6.5.2	GAMET area forecasts are not issued in Canada. Area forecasts are provided by graphic area forecasts (GFA).
Note:	Graphic area forecasts (GFA) are issued, in accordance with a domestic standard, for seven regional areas which comprise the entirety of Canada, from surface to FL 240, and are issued at approximately 0530Z, 1130Z, 1730Z, and 2330Z. Each GFA includes 6 charts consisting of clouds and weather and icing and turbulence, for each of the issue time and 6 and 12 hours after the issue time. These depictions include all the mandatory content and features required of an area forecast. AIRMET and SIGMET amend any corresponding GFA.
Chapter 7	**SIGMET and AIRMET information, Aerodrome warnings and Wind shear warnings and Alerts**
7.2.1	AIRMET may describe conditions up to 24,000 ft and, in the case of convective cloud, the tops may be specified without limitation.
7.2.2	Please refer to 7.2.1
7.2.3	
7.3.1	Aerodrome warnings are not issued.
7.4.1	Wind shear warnings are not issued. A wind shear group is included in the TAF when significant wind shear is observed or forecast. SIGMET may also be issued for widespread wind shear.
Note:	The wind shear group in the TAF consists of WS hhh/dddffKT where: ▪ WS indicates the start of the windshear group; ▪ hhh is the height of the wind shear layer in hundreds of feet; ▪ ddd is the direction of the wind at level hhh; and ▪ ffKT is the wind speed in knots (KT) at level hhh. If the wind speed is 100 knots or greater, then a three figure windspeed group, fff is used.
7.4.3	Please refer to 7.4.1

Annex 3, Meteorological Service for International Air Navigation	
Chapter 9	**Service for operators and Flight Crew members**
9.1.3	Meteorological information provided to operators and flight crew members shall include: upper air winds and upper-air temperatures; significant enroute phenomena; volcanic ash, radioactive cloud, space weather, and tropical cyclone advisory information (as necessary); METAR and SPECI; TAF; SIGMET; special air reports (PIREPS); and AIRMET, all of which are available and are relevant to the planned flight operations. Weather radar, weather satellite imagery, and lightning detection information, or interpretive descriptions of them, are provided for Canadian airspace, when and where available.
9.1.6	WAFC products are provided as available; however, alternative products may also be used.
9.1.7	Please refer to 9.1.3 and 9.1.6
9.1.9	Airline dispatch organizations may provide centrally prepared preflight briefing material, on a global basis, to their respective aircrew.
9.2.2	Meteorological information is provided as per State Difference to 9.1.3.
9.3.1	Meteorological information is provided commensurate with the availability of such information and requirements for the flight as stated by the aircrew, regardless of the planned duration of the flight. It is ultimately the responsibility of the pilot-in-command to ensure that sufficient information has been obtained to support the intended flight.
9.3.2	Updated information is provided, with minimal delay, whenever practicable to do so. However, it is the responsibility of the pilot-in-command, before commencing a flight, to ensure familiarity with all necessary weather information that is appropriate for the intended flight.
9.3.4	The meteorological service providers retain the information provided to operators for at least 30 days or indefinitely if the information relates to an accident or occurrence.
Appendix 3	**Technical specifications related to meteorological observations and reports**
2.1.2	Canadian reports may include information regarding RVR variations. If the one-minute runway visual range values during the 10-minute period vary from the mean value by more than 150 ft or 20 per cent of the mean value, whichever is greater, the one-minute mean maximum values are reported instead of the 10-minute mean value.
2.2	The use of the term ceiling and visibility OK (CAVOK) is not permitted in METAR/SPECI.
2.3.1 d)	Information contained in SPECI is representative of the aerodrome and do not normally contain specific information concerning the approach and climb-out areas.
2.3.1 e)	SPECI are not issued for noise abatement procedures.
2.3.2 b) and c)	SPECI are issued for wind speed increases only and when speed (two-minute mean) increases suddenly to at least double the previously reported value and exceeds 30 knots.
2.3.3 h)	SPECI are issued for significant wind shear when it is observed or reported.
3.2	Local routine and special reports are not issued.
4.1.3 b)	Wind speed averaging period for METAR/SPECI is 2 minutes.
4.1.5.2	Winds of less than 2 knots mean speed may be reported as calm. Gusts are reported when the gust exceeds a mean wind speed of at least 10 knots by 5 knots or more.
4.2.4.1	Visibility reports are provided in units of statute miles (SM) and fractions. Increments are of 1/8 mile up to ¾ of a mile; ¼ mile to 2 ½ miles and 1 mile from 3 to 20 miles then by 5 miles.

Annex 3, Meteorological Service for International Air Navigation	
4.3.3.1	RVR is automatically inserted within METAR/SPECI without need for human intervention and may include information for inactive or unfavourable runways. RVR is displayed in air traffic service units and meteorological offices. Automatic transfer switch (ATS) units display a one-minute mean and meteorological offices display a 10-minute mean.
4.3.6.1	RVR is reported in units of feet (ft).
4.3.6.6 b)	When the RVR values vary by more than 20 per cent or 150 ft from the mean value, whichever is greater, during the previous 10 minutes, the one-minute mean minimum and the one-minute mean maximum values **shall** be given in that order in the form VRVRVRVR**V**VRVRVRVR**FT**/i instead of the 10-minute mean. **Example:** …1000V2400FT…
4.4.2.3	IC refers to ice crystals, precipitation that falls from a clear sky as very small ice crystals, often so tiny that they appear to be suspended in the air.
4.4.2.6	SHPL is used to refer to pellets of snow encased in a thin layer of ice that has formed from the freezing; either of droplets intercepted by the pellets, or of water resulting from the partial melting of the pellets; that comprise of transparent or translucent pellets of ice that are spherical or irregular, rarely conical, having a diameter of five millimetres or less.
4.5.4.3	SKC refers to clear skies. CLR is used by automated stations to report that no cloud has been detected.
4.5.4.4	Rounding for cloud base reporting from human observing sites may be to the nearest, rather than the next lowest, reportable level, with rounding downward used from the half-way point.
4.7.3	Altimeter setting is reported in units of hundredths of inches of mercury and is preceded by an “A” designator. QFE is not available.
Table A3-2	The identification of corrections to METAR/SPECI are indicated by the use of the code CCX, rather than COR, where the X is A for the first correction, B for the second correction and so on. SHPL refers to ice pellet showers. IC refers to ice crystals. SKC is used to refer to clear skies. CLR is used by automated stations to report that no cloud has been detected. Cloud layers are reported inclusive of the summation amount of all cloud at the reported level and below. METAR/SPECI reports from automated stations do not include the cloud type group and the abbreviations NCD and NDV are not used. The abbreviation CLR is used to denote that no cloud has been detected. RVR tendency is preceded by a ‘/’, with no spaces, immediately following the FT measurement units designator in the RVR report. The term “LWIS” or Limited Weather Information System, in a report, refers to automated stations that report temperature, dewpoint, wind direction and speed, and altimeter setting in the same order and with the same content, coding, and formatting as for METAR.
Appendix 5	**Technical Specifications related to aircraft observations and reports**
1.2.3	SHPL refers to forecast of ice pellet showers as defined in the difference to Appendix 3, 4.4.2.6. IC refers to ice crystals.
1.2.4	SKC is used to refer to clear skies. CLR is used by automated stations to report that no cloud has been detected.
2	Trend forecasts are not provided.
4	See difference to 6.5.2
Table A5-1	Corrected or cancelled TAFs are issued as amendments. SHPL, IC, and SKC may be forecast.

Annex 3, Meteorological Service for International Air Navigation				
Appendix 6	**Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts**			
1.1.4	SIGMETs may also be issued for low level wind shear, tornadoes, and waterspouts and these may also be forecast in combination with other phenomena. FRQ refers to greater than 50 per cent coverage.			
2.1.4	AIRMET for cloud and visibility phenomena may be combined in a single bulletin.			
4.2.1	ISOLD refers to spatial coverage of 25 per cent or less. OCNL refers to 26 to 50 per cent spatial coverage.			
Table A6-1A	SIGMET may extend across two or more flight information regions. In such cases, separate SIGMET are issued for each affected flight information region (FIR). Spatial areas may be described by use of a line and distances either on side from it. The following abbreviations are used:			
		ISOLD	for	ISOL
		LLWS	for	LOW LVL WS
		MDT	for	MOD
		SQLN	for	SQL
		QS	for	STNR
		WTN	for	WI
		WKNG	for	WKN
		WND SPD	for	WSPD
		ICG	for	ICE
		CNCL	for	CNL
Appendix 8	**Technical specifications related to service for operators and flight crew members**			
4.1.1	Alternative methods of presenting information may be used.			
4.2.1.2	Alternative methods of presenting wind information may be used.			

Annex 4, Aeronautical Charts	
Chapter 1	**Definitions, Applicability and Availability**
	Aerodrome: Canada's definition clarifies that the frozen surface of an area of water, or any supporting structure could be an aerodrome and includes servicing of aircraft as a possible intended use.
Chapter 2	**General Specifications**
2.2	The Area Chart (Annex 4, Chapter 8) is identified as the Terminal Area Chart. The Aerodrome Ground Movement Chart (Annex 4, Chapter 14) is identified as the Taxi Chart. The Aircraft Parking/Docking Chart (Annex 4, Chapter 15) is identified as Parking Areas.
2.5.4	Linear dimensions are shown in feet.
2.5.7	A conversion scale (metres/feet) is not provided for each chart on which elevations or altitudes are shown.

Annex 4, Aeronautical Charts	
2.13	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, “advisory airspace” means Class F airspace.
2.18.1.1	Canada uses the North American Datum 1983 (NAD 83) as the geodetic reference datum.
Remark:	North American Datum 1983 (NAD83) is equivalent to the World Geodetic System — 1984 (WGS 84) for aeronautical purposes.
2.18.2.2	Geoid undulation is not published.
Chapter 3	**Aerodrome Obstacle Chart – ICAO Type A (Operating Limitations)**
3.3.2	Linear dimensions are shown in feet.
3.8.2.2	This information is not included on the aerodrome chart.
Chapter 4	**Aerodrome Obstacle Chart – ICAO Type B**
4.2.1*	The Aerodrome Obstacle Chart — ICAO Type B is not produced.
Chapter 6	**Precision Approach Terrain Chart – ICAO**
6.2.1	The Precision Approach Terrain Chart – ICAO is not produced. However, “Terrain Profile Views” are provided on CAT II and III Instrument Approach Charts.
Chapter 7	**Enroute Chart – ICAO**
7.9.2	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, “advisory airspace” means Class F airspace.
7.9.3.1.1 b)	Canada does not publish the elevation of the DME transmitting antenna on Enroute Charts
Chapter 8	**Chapter 8 Area Chart – ICAO**
8.9.2	In Canada restricted, danger and advisory areas are used. **Note:** In Canada, “advisory airspace” means Class F airspace.
8.9.4.1.1 b)	DME antenna elevations are not shown on Terminal Area Charts
8.9.4.1.1 d)	Vertical limits are not indicated on Terminal Area Charts; however, they are referred to in the sheet legend.
8.9.4.1.1 h) 2)	Bearings are depicted to the nearest degree and the distance to the nearest nautical mile on Terminal Area Charts.
8.9.4.1.1 m)	Minimum Vectoring Altitudes are not shown on Terminal Area Charts
Chapter 9	**Standard Departure chart – Instrument (SID) – ICAO**
9.9.2	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, “advisory airspace” means Class F airspace.
9.9.3.2	Area minimum altitude is not published on the Standard Departure Chart.
9.9.3.1	Minimum sector altitude is not published on the Standard Departure Chart. Minimum sector altitude is published on the Instrument Approach Chart.
9.9.4.1.1 b) 1) vi)	Canada does not publish the elevation of the DME transmitting antenna on Standard Instrument Departure Charts.
9.9.4.1.1 c) 1) iii)	Bearings are depicted to the nearest degree on Standard Departure Charts
Chapter 10	**Standard Arrival Chart – Instrument (STAR) – ICAO**
10.9.2	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, “advisory airspace” means Class F airspace.
10.9.3.1	Minimum sector altitude is not published on the Standard Arrival Chart.
10.9.3.2	Area minimum altitude is not published on the Standard Arrival Chart.
10.9.4.1.1 b) 1)	Canada does not publish the elevation of the DME transmitting antenna on Standard Arrival Charts.

Annex 4, Aeronautical Charts	
10.9.4.1.1 c) 1) ii)	Geographic coordinates are not shown on conventional STARs when there exists an FMS STAR using the same route.
10.9.4.1.1 c) 1 iii)	Bearings are depicted to the nearest degree on Standard Arrival Charts.
Chapter 11	**Instrument Approach Chart – ICAO**
11.3.3.1	Canada does not indicate such a distance circle on instrument approach charts.
11.10.3	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, "advisory airspace" means Class F airspace.
11.10.6.3 h)	Intermediate approach fixes will not be shown in the profile view when multiple intermediate segments exist.
11.10.8.2	For instrument approaches requiring the use of DME in the final approach segment, Canada does not publish a DME table depicting altitudes for each 1 NM.
11.10.8.5	Final approach descent gradients to the nearest one-tenth of a per cent are not shown, however, a rate of descent for a specified ground speed is provided.
Chapter 12	**Visual Approach Chart – ICAO**
12.10.3	In Canada, restricted, danger and advisory areas are used. **Notes:** In Canada, "advisory airspace" means Class F airspace.
Chapter 13	**Aerodrome/Heliport Chart – ICAO**
13.6.1 d)	Bearing strengths are not published on Aerodrome/Heliport charts; this information is provided in the Canada Flight Supplement.
13.6.1 i)	Canada does not depict coordinates of taxiway centreline and aircraft stands on Aerodrome/Heliport Charts.
13.6.1 k)	The boundaries of the air traffic control services are not shown on Aerodrome Charts.
Chapter 14	**Aerodrome Ground Movement Chart – ICAO**
14.1	These are published as Taxi Charts in Canada.
14.6 a)	Canada does not depict apron elevations on Taxi Charts.
14.6 c)	Geographical coordinates for aircraft stands are not depicted on Taxi Charts.
14.6 d)	Bearing strengths are not published.
14.6 g)	Geographical coordinates for taxiway centreline points are not depicted on Taxi Charts.
14.6 h)	Boundaries of the air traffic control services are not shown.
Chapter 15	**Aircraft Parking/Docking Chart – ICAO**
15.1	These are published as Parking Areas Charts in Canada.
15.6 a)	Apron elevation is not shown.
15.6 g)	Boundaries of the air traffic control services are not shown.
Chapter 16	**World Aeronautical Chart – ICAO 1:1 000 000**
16.1	Canada does not publish World Aeronautical charts (WACs). The required full Canadian coverage is provided by the VFR Navigation charts on a 1:500,000 scale.
Chapter 17	**Aeronautical Chart – ICAO 1:500 000**
17.7.9.1	In the VFR Navigation Chart (VNC) (1:500 000) chart series, spot elevations are not always shown on lakes.

17.8.1	Canada does not publish isogonic lines north of 77 degrees north.
17.9.4	In Canada, restricted, danger and advisory areas are used. **Note:** In Canada, "advisory airspace" means Class F airspace.
17.9.5.1	In Canada, the class of airspace is not depicted within areas of the 1:500 000 VFR Navigation Chart (VNC) that are depicted on the 1:250 000 VFR Terminal Area (VTA) chart.
Chapter 18	**Aeronautical Navigation Chart – ICAO Small Scale**
18.2*	The Aeronautical Navigation Chart — ICAO Small Scale is not produced.
Chapter 20	**Electronic Aeronautical Chart Display - ICAO**
20.2.1	The Electronic Aeronautical Chart Display - ICAO is not produced.
Chapter 21	**ATC Surveillance Minimum Altitude Chart – ICAO**
21.1.2	Canada does not publish ATS Surveillance Minimum Vectoring Altitude Charts and does not provide information about minimum vectoring altitudes on any chart.

Annex 5, Units of Measurement to Be Used in Air and Ground Operations			
Chapter 3	**Standard application of units of measurement**		
3.3 Table 3–4	**Ref. No.**	**Quantity**	**Unit Used by Canada**
	1.4	distance (short)[1]	ft
	1.12	runway length[1]	ft
	1.13	runway visual range	ft
	1.16	visibility[2]	statute miles and fractions
	1.18	wind direction for purposes of landing and take-off at aerodromes in northern domestic airspace only	degrees true
	2.12	Mass (weight)[2]	kg (pound)
	3.2	altimeter setting	inches of mercury
	Notes: 1. Short distances such as runway lengths will be given in both feet and metres in aeronautical publications when there is an operational requirement to do so. 2. Weight of an aircraft is expressed in kilos and/or pounds.		
Chapter 4	**Termination of use of non SI alternative units**		
4.1 Table 4–1	We do not support the establishment of dates, for planning purposes, for termination of the use of knot, nautical mile or foot.		

Annex 6, Operation of Aircraft	
Part I	**International Commercial Air Transport — Aeroplanes**
Chapter 1	**Definitions**
Definitions	**Advance Aircraft:** Canada does not currently have this definition, and there is currently no plan to implement this definition.
	Basic Aircraft: Canada does not currently have this definition, and there is currently no plan to implement this definition.
	Flight operations officer/flight dispatcher: This term is not defined in the CARs.

Annex 6, Operation of Aircraft	
	Safety programme: This term is not defined in the CARs.
	Cabin crew member: Referred to as a "flight attendant." A flight attendant is defined as a "crew member," other than a flight crew member, who has been assigned duties to be performed in the interest of the passengers in a passenger-carrying aircraft.
	The Canadian definition includes persons placed onboard in the interest of the safety of passengers, as well as persons placed onboard for service-related duties. Each "flight attendant" is trained in accordance with the Transport Canada *Flight Attendant Training Standard* (TP 12296), regardless of their duties onboard the aircraft.
Remarks	This definition ensures that all persons assigned to duties in the interest of passengers are trained to the same safety standard. The definition also avoids confusion during an emergency situation where a passenger may not be able to distinguish between cabin crew members trained to evacuate the aircraft and those carried for the purpose of providing service-related functions.
	EDTO Critical Fuel: Canada currently has a definition of critical fuel reserves within the ETOPS/EDTO guidance material. Although the terminology isn't fully aligned, the intent of this definition is maintained. *Addition of text in the note. SARP not applicable to TP 6327.*
Remarks	Canada currently has a definition of critical fuel reserves within the ETOPS/EDTO guidance material. Although the terminology isn't fully aligned, the intent of this definition is maintained.
	Operational Credit: Canada does not allow any operational credits or deviations from minimum aerodrome operating visibility. Operational credit based on the performance of onboard aircraft systems is only granted towards approach visibility
	Performance based aerodrome operating minima (PBAOM): Canada does not currently have this definition, and there is no plan to implement this. Furthermore, Canada's current operating rules regarding aerodrome operating visibility are more stringent and do not permit lower minima based on performance capabilities of aircraft with on-board systems such as EVS, SVS, CVS, HUD, or autoland.
Chapter 3	**General**
3.2.2.2.2 Note	Canada is currently in the process of revising its TP6327 – *Safety Criteria for Approval of ETOPS that will be published in September 2025 as Safety Criteria for Approval of EDTO.*
3.4 Note 1	This requirement is covered under the *Transportation of Dangerous Goods Act* (1992) and the *Transportation of Dangerous Goods Regulations* (TDGR).
3.5.3, note 3	The training requirements of PANS-OPS, Vol III, Section 10 are not a part of the required training program under CAR 725.124(21) of the CASS (Flight Dispatcher Training)
Remarks	No regulatory initiative currently exists to address this requirement. Compliance with these training requirements will remain voluntary until a regulatory initiative can be put in place.
Chapter 4	**Flight Operations**
4.2.1.5 d) and e)	The following elements are not yet specified in the regulatory framework or guidance material: the name and title of the authority representative shown on the air operator certificate (AOC), and the location where the contact details of operational management can be found.
4.2.1.7	This requirement is not specified in the regulatory framework or guidance material.
4.2.7	Visibility values, other than RVR, are advisory only. Minimum visibilities have not been specified.
4.2.8.1.1	Canada does not use the "advanced aircraft" terminology. Additionally, no operational credit or specific approval is provided for aerodrome operating visibility.
4.2.8.1.2	Canadian guidance on SA s is contained in individual Advisory Circulars specific to each SA or in TP4711 – Manual of Air Operator Certification. This is with the exception of CAT II/III operations which has guidance in TP1490 – Manual of All-Weather Operations.

Annex 6, Operation of Aircraft	
4.2.8.1.3	Canadian guidance on SAs is contained in individual Advisory Circulars specific to each SA or in TP4711. This is with the exception of CAT II/III operations which has guidance in TP1490 (Manual of All-Weather Operations).
4.3.6.3 Note 2	Canada is currently in the process of revising its TP6327 – *Safety Criteria for Approval of ETOPS that will be published in September 2025 as Safety Criteria for Approval of EDTO*
4.4.1.2	Visibility values, other than RVR, are advisory only. Minimum visibilities have not been specified.
4.7.1.1 Note	Canada is currently in the process of revising its TP6327 – *Safety Criteria for Approval of ETOPS that will be published in September 2025 as Safety Criteria for Approval of EDTO*
4.7.2.2 note	Canada is not using the “EDTO maximum diversion time” terminology.
4.7.2.3	The TP 6327 nor the Commercial Air Service Standards highlight this requirement.
Chapter 5	**Aeroplane Performance Operating Limitations**
5.1.2	Requirements pertaining to the conditions that permit a safe forced landing are not as restrictive.
5.4.1	Non-passenger flights in single-engine (non-turbine) aeroplanes are allowed at night or in IFR under certain conditions, as described in CAR 703 and its associated standard, CAR 723.
5.4.2	Automatic trend monitoring is not required.
Chapter 6	**Aeroplane Instruments, Equipment and Flight Documents**
6.1.3	Minimum equipment lists (MELs) are not required for single-engine aircraft or multi-engine aircraft configured with 9 or less passenger seats.
6.2.2	In addition, a transmit button is required on the control column.
6.15	A forward looking terrain avoidance (FLTA) function and an altitude accuracy function to ensure optimal terrain awareness and warning system (TAWS) function through all phases of flight and atmospheric conditions will be required for operations with: CAR 703 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with 10 to 19 passenger seats; and CAR 705 aeroplanes.
	A terrain awareness display (TAD) will be required for operations with: CAR 704 aeroplanes with 10 to 19 passenger seats; and CAR 705 aeroplanes.
	Piston-engine aeroplanes operating under CAR 704 with 10 to 19 passenger seats and piston-engine aeroplanes operating under CAR 705 will require a ground proximity warning system (GPWS) referred to in 6.15.1.
6.15.2	Under CAR 704, turbojet-powered aeroplanes with a maximum certificated take-off mass in excess of 15,000 kg will not require a GPWS referred to in 6.15.2, unless they are configured with 10 or more passenger seats.
	A TAD and an altitude accuracy function to ensure optimal TAWS function through all phases of flight and atmospheric conditions will be required for operations with: CAR 703 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with 10 to 19 seats; and CAR 705 aeroplanes.
	Piston-engine aeroplanes with a maximum certificated take-off mass in excess of 15,000 kg or more than 30 passenger seats operating under CAR 705 will require a GPWS referred to in 6.15.2.

Annex 6, Operation of Aircraft	
6.15.3	Aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg operating under CARs 703 and 704, and carrying 6 to 9 passengers will not require a GPWS referred to in 6.15.3.
	A TAD will be required for operations with: CAR 704 aeroplanes with 10 to 19 passenger seats; and CAR 705 aeroplanes.
	An altitude accuracy function to ensure optimal TAWS function through all phases of flight and atmospheric conditions will be required for operations with: CAR 703 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 6 to 9 passenger seats; CAR 704 aeroplanes with 10 to 19 passenger seats; and CAR 705 aeroplanes.
	Piston-engine aeroplanes with a maximum certificated take-off mass in excess of 5,700 kg and 10 to 19 passenger seats operating under CAR 704 and piston-engine aeroplanes operating under CAR 705 will require a GPWS with a FLTA function referred to in 6.15.3.
6.15.4	See 6.15.3.
6.15.6	See 6.15.3. All Category A differences in 6.15.3 apply. A GPWS that provides all of the warnings of 6.15.8, a TAD and an altitude accuracy function to ensure optimal TAWS function through all phases of flight and atmospheric conditions will be required for operations with: CAR 704 piston-engine aeroplanes with 10 to 19 passenger seats; and CAR 705 piston-engine aeroplanes.
6.18.1	Canada intends to implement this requirement in regulation no sooner than 1 January 2025; in the interim, voluntary compliance is encouraged
6.18.2 Recommendation	Canada is considering implementing this requirement in regulation no sooner than 1 January 2025; at present, voluntary compliance is encouraged
6.18.3	In current practice, operators make position information of a flight in distress available to Air Navigation Service Providers (ANSPs) and Search and Rescue (SAR) authorities as required, without a specific regulation
6.18.3 Note 2	No regulatory initiative currently exists to address this requirement. Compliance with these training requirements will remain voluntary until a regulatory initiative can be put in place.
6.24 note	Regarding the note, information regarding the use of onboard systems such as Autoland, HUD, EVS, SVS, CVS is contained in individual SAs. The manual of all-weather operations only contains information on CAT II/III operations.
6.26.1	No regulatory initiative currently exists to require ROASS installation on turbine aeroplanes.
Chapter 7	**Aeroplane communication and navigation equipment**
7.4	The onus is on the manufacturer to ensure data is accurate.
Chapter 9	**Aeroplane flight crew**
9.3.1	This requirement is already covered under the *Transportation of Dangerous Goods Act* (1992), and the *Transportation of Dangerous Goods Regulations* (TDGR).
	Crew resource management (CRM) is not a component of CARs 703 and 704 training program requirements.
9.4.1	Where a type rating is not required, recency requirements for take-off and landing are grouped by category and class of aeroplane.
9.4.3	Route and aerodrome qualifications for air taxi and commuter operations are not required; however, “routes” are referred to rather than “areas” and aerodrome qualifications are more detailed.

Annex 6, Operation of Aircraft	
9.4.4	CAR 703.91(1) states that the validity period of a pilot proficiency check expires on the first day of the thirteenth month following the month in which the pilot proficiency check was completed.
	CAR 704.111(1) states that the validity period of a pilot proficiency check expires on the first day of the thirteenth month following the month in which the proficiency check was completed
	CAR 705.113(2) states that the validity period of a pilot proficiency check expires (a) on the first day of the seventh month following the month in which the check was completed; (b) on the first day of the thirteenth month following the month in which the check was completed, where the pilot successfully completes the six-month recurrency training that has been approved by the Minister, in accordance with the Commercial Air Service Standards, as a substitute for the pilot proficiency check and that is identified in the company operations manual; or (c) at the end of the validation period, where the air operator has an operations specification authorizing an advanced qualification program in accordance with the Commercial Air Service Standards and the pilot completes a proficiency evaluation within the evaluation period authorized for the air operator in the operations specification.
9.4.5.2	More experience, but less recency, is required by the pilot-in-command.
Chapter 12	**Cabin crew**
12.4 e)	This requirement is already covered under the *Transportation of Dangerous Goods Act* (1992), and the *Transportation of Dangerous Goods Regulations* (TDGR).
12.5	No flight and duty time limitations for flight attendants. While regulations for flight and duty time limitations have existed for flight crew members since 1987, there is currently no similar clause in the CARs that limits flight attendant flight and duty times. Flight attendant hours of work are governed by the *Canada Labour Code* and by collective agreements with the individual employer, where they exist. Regulatory action implementing flight and duty time limitations requiring fatigue risk management systems within Part V (Airworthiness) of the CARs are pending with the Department of Justice. Following a successful implementation of these requirements, it is expected that regulations will be developed regarding flight attendant flight and duty time requirements.
Chapter 13	**Security**
13.2	The Canadian regulation and standard do not require the door to be capable of being locked and unlocked from either pilot station if the minimum required flight crew is more than two flight crew members. The Canadian regulation requires the door to be capable of being locked and unlocked from each flight crew position in the case of an aeroplane for which the minimum flight crew has been established as two; or from at least one flight crew member position in the case of an aeroplane for which the minimum flight crew has been established as more than two.
Appendix 2	**Organisation and contents of operations manual**
2.1.27	Visibility values, other than RVR, are advisory only. Minimum visibilities have not been specified.
2.3.3	Visibility values, other than RVR, are advisory only. Minimum visibilities have not been specified.
2.3.4	Visibility values, other than RVR, are advisory only. Minimum visibilities have not been specified.

Annex 6, Operation of Aircraft	
2.3.5	Operational credit is only available for approach visibility and not aerodrome operating visibility.
Appendix 3	**Additional requirements for approved operations by single- engine turbine- powered aeroplanes at night and/or in Instrument Meteorological Conditions (IMC)**
1.1	The standard when transporting passengers in a single-engine aeroplane under IFR or VFR at night includes only factory-built turbine types, which must have a proven mean time between failure (MTBF) of .01/1,000 or less, established over 100,000 hours in service. Canada does not permit air operators to operate single-engine land aircraft beyond gliding distance from shore except for take-off, approach, and landing.
1.3	Automatic trend monitoring is not required.
6	There is no specific safe forced landing requirement. The requirements refer only to the types of survival equipment required in the event of forced landings.
7	A descent to a forced landing at night or in instrument meteorological conditions (IMC) is not mandated, but may be included in training.
Appendix 6	**Air operator certificate**
2	This requirement is not yet specified in the regulatory framework or guidance material.
3.1	The following elements are not yet specified in the regulatory framework or guidance material: identifying make, model and series of aircraft using the Commercial Aviation Safety Team/ICAO taxonomy, issuing authority contact details, and types and area of operations.
3.2	This requirement is not specified in the regulatory framework or guidance material.
Attachment D	Air Operator Certification and Validation – Canada is not using the “advanced aircraft” terminology.
Part II	**International General Aviation — Aeroplanes**
Section I, Chapter 1	**Definitions**
	Advance Aircraft: Canada does not currently have this definition, and there is currently no plan to implement this definition.
	Basic Aircraft: Canada does not currently have this definition, and there is currently no plan to implement this definition.
	Operational Credit: Canada does not allow any operational credits or deviations from minimum aerodrome operating visibility. Operational credit based on the performance of onboard aircraft systems is only granted towards approach visibility.
	Performance based aerodrome operating minima (PBAOM): Canada does not currently have this definition, and there is no plan to implement this. Furthermore, Canada’s current operating rules regarding aerodrome operating visibility are more stringent and do not permit lower minima based on performance capabilities of aircraft with on-board systems such as EVS, SVS, CVS, HUD, or autoland.
Section I, Chapter 2	Flight Operations
2.2.2.2.1.1	Canada does not use the “advanced aircraft” terminology. Additionally, no operational credit or specific approval is provided for aerodrome operating visibility.
Part III	International Operations — Helicopters
Section I,	**General**
Chapter 1	**Definitions**

Annex 6, Operation of Aircraft	
	Advance Aircraft: Canada does not currently have this definition, and there is currently no plan to implement this definition.
	Basic Aircraft: Canada does not currently have this definition, and there is currently no plan to implement this definition.
	COMAT: Canada does not currently have this definition; Canada has basic requirements requiring pilots to train for handling of DG.
	Operational Credit: Canada does not allow any operational credits or deviations from minimum aerodrome operating visibility. Operational credit based on the performance of onboard aircraft systems is only granted towards approach visibility.
	Performance based aerodrome operating minima (PBAOM): Canada does not currently have this definition, and there is no plan to implement this. Furthermore, Canada's current operating rules regarding aerodrome operating visibility are more stringent and do not permit lower minima based on performance capabilities of aircraft with on-board systems such as EVS, SVS, CVS, HUD, or autoland.
Section I Chapter 2	**Applicability**
2.2.1.5 d) and e)	The following elements are not yet specified in the regulatory framework or guidance material: the name and title of the authority representative shown on the AOC and the location where the contact details of operational management can be found.
2.2.1.7	This requirement is not specified in the regulatory framework or guidance material.
Section II	**International Commercial Air Transport – Helicopter**
Chapter 2	Flight Operations
2.3.4	Alternate heliports: Canadian regulations govern the use of alternates for all aerodromes and does not provide separate guidance for heliports. Guidance allows for No Alternate Aerodrome – IFR Flight – Helicopters contained in SA in TP4711 for offshore operations.
Chapter 4	**Helicopter instruments, equipment and flight documents**
4.16	Helicopter Equipped with Automatic Landing System, a Heads-Up Display (HUD) or Equivalent Displays, enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and /or Combined Vision Systems (CVS) Canadian credit and SA for the use of onboard systems such as Autoland, HUD, EVS, SVS, CVS is contained in an individual SA that currently only applies to aeroplanes.
Appendix 3	**Air operator certificate**
2	This requirement is not yet specified in the regulatory framework or guidance material.
3.1	The following elements are not yet specified in the regulatory framework or guidance material: identifying make, model and series of helicopter using the Commercial Aviation Safety Team/ICAO taxonomy, issuing authority contact details, and types and area of operations.
3.2	This requirement is not specified in the regulatory framework or guidance material.
Appendix 8	Contents of an Operations Manual *Supplementary to Section II, Chapter 2, 2.2.3.1*
2.3.5	Operational credit is only available for approach visibility and not aerodrome operating minima.
Attachment C	Air Operator Certification and Validation *Supplementary to Section II, Chapter 2, 2.2.1*

Annex 6, Operation of Aircraft	
3.1.2	Canadian guidance on SAs is contained in individual Advisory Circulars specific to each SA or in TP4711 – *Manual of Air Operator Certification,* with the exception of CAT II/III operations, that has guidance in TP1490 – *Manual of All-Weather Operations*.
3.1.2a)	Canada does not use the “advanced aircraft” terminology.

Annex 7, Aircraft Nationality and Registration Marks	
4.1.2	The launching of unmanned free balloons, other than weather balloons, is currently permitted for high altitude scientific research only. Since these balloons are used only once, Canada sees no purpose in their registration.

4.2.2	The minimum height of all the marks on heavier-than-air aircraft shall be 15 cm (6 in) except for those in the wing surfaces which shall be 50 cm (20 in) and those on the bottom surface shall be four-fifths as high as the width of the fuselage or cabin or 50 cm (20 in) whichever is less.
Note:	The height of marks on wing surfaces conforms with the Standard specified in 4.2.1.
5.2	The width of the letter “I” shall be one-sixth of its height and the width of letters “M” and “W” shall not be more than their height.

Annex 8, Airworthiness of Aircraft	
Part IIIB	**Aeroplanes over 5700kg for which the application for certification was submitted on or after 2 March 2004**
Sub-part D	
D.2 f)	Partially compliant. Canadian standards do not address delay in the occurrence of flashover in the cabin.
D.2 g)	Partially compliant. Canadian standards do not address a sudden and extensive fire such as the one caused by explosive or incendiary devices.
D.2 h)	Partially compliant. Canadian standards do not address smoke or other toxic gases especially caused by explosive or incendiary devices.
Sub-part F	
F.4.2	Partially compliant. Canadian standards do not address harmful dazzle to persons outside the aeroplane.
Sub-part K	
K.1	Non-compliant with this provision.
K.2	Partially compliant. Canadian standards do not address protection of the flight crew compartment bulkhead.
K.3	Non-compliant with this provision.
Part IV	**Helicopters**
Chapter 7	**Instruments and Equipment**
7.4.2	Partially compliant. Canadian standards do not address harmful dazzle to persons outside the helicopter.

Annex 9, Facilitation	
Chapter 2	**Entry and departure of aircraft**
2.13	Canadian customs regulations require that all air carriers report cargo either on an IATA standard format air waybill or the official national customs cargo control document.

Annex 9, Facilitation	
2.32	Operators of commercial non-scheduled (charter) flights must either notify and/or seek prior authorization from the Canadian Transportation Agency. Flight authorization must also be sought from Transport Canada.
2.34	It is the air carrier's responsibility to provide border inspection agencies notice of intended landing.
2.36	A fee of CDN $100 is payable when an operator makes the required application for flight authority validation.
2.37*	Canada also requires notification of dangerous goods and agricultural products when applying for a flight authorization. In the case of foreign state aircraft, the Minister of Transport may request a copy of the equivalent operations specification(s) issued by the regulating authority, and any other document the Minister deems necessary to ensure that the intended operation will be conducted safely.
Chapter 3	**Entry and departure of persons and their baggage**
3.18*	Canada reserves the right to require visitor visa applicants to appear at a Canadian Consulate for an interview.
3.19	Some visitors may be issued single entry visas valid for less than six months.
3.35	Most passengers are authorized to enter Canada following a single examination. Some passengers are sent for a secondary immigration examination, in which case they will be required to present their identity documents again. Canada reserves the right to examine identity documents at any time following arrival until the passenger exits the airport.
3.36	Canadian customs require a written declaration of any goods acquired abroad or purchased in a Canadian duty-free shop that are contained in baggage whether or not they are dutiable or restricted.
3.45	Canada allows persons to transit without a visa only where a carrier has a memorandum of understanding (MOU) with the Department of Citizenship and Immigration to allow foreign nationals from specific countries to transit Canada. Where no MOU exists, passengers from countries requiring a visa need to obtain a visa in order to transit through Canada. One exception is refuelling stops, providing certain conditions are met.
3.47	If mishandled baggage includes baggage which was delivered to the owner and not reported to customs by the air carrier, national legislation in Canada provides for the assessment of penalties in such cases.
3.59.1*	Canada's practice is to notify transit and destination States only in the following situations: ▪ escorted removals; ▪ non-escorted persons who could be contentious, potentially sensitive or possibly troublesome; or ▪ removals which involve criminality or security concerns. However, when notification is provided, information contained in the notice exceeds what is suggested in the note.
3.65	Canada may require an operator to transport a crew member from Canada even if the crew member was legally authorized to enter Canada.
3.67	Canada's practice is to notify transit and destination States only in the following situations: ▪ escorted removals; ▪ non-escorted persons who could be contentious, potentially sensitive or possibly troublesome; or ▪ removals that involve criminality or security concerns.

Annex 9, Facilitation	
Chapter 4	**Entry and departure of cargo and other articles**
4.2*	Although the regulations pertaining to both air and surface transportation are the same, the procedures differ. As an example, air freight that travels solely by air may be reported to customs at the airport of final destination. Freight that is covered by an air waybill but is trucked across the border must be reported to customs at the border crossing before it can be moved to the airport of destination.
4.39*	Machinery and equipment imported into Canada for use exclusively in servicing aircraft registered in a foreign country while at international airports in Canada are duty-free provided the foreign country in which the aircraft is registered grants a similar privilege to aircraft registered in Canada. Goods and Services Tax is payable on the value of the equipment.
Chapter 8	**Other facilitation provisions**
8.1*	Pursuant to Canadian legislation, operators are required to meet the specific financial security requirements of various statutes. Given these varied requirements, it is not considered practical to have a single bond to cover an operator's financial liabilities.
8.3	Canada has granted visa and employment authorization waivers to accepted representatives and their advisers who are participants in accident or incident investigations. However, salvage and repair have been excluded from these exemptions.
8.4	There is provision in national legislation for the temporary importation of goods for a search or rescue operation. However, there is no provision which would allow duty- or tax-free entry of the articles mentioned for the accident investigation, repair or salvage aspects. The goods in this case would be subject to the provisions of the *Customs Tariff and Excise Tax Acts*.

Annex 10, Aeronautical Telecommunications	
Volume I	**Radio Navigation Aids**
Chapter 2	**General Provisions for Radio Navigation Aids**
2.2.1	NDBs are not subject to periodic flight tests.
Chapter 3	**Specifications for Radio Navigation Aids**
3.1.3.3.1	Canada does not periodically verify by means of flight inspection the localizer performance on public localizers beyond +/-10 degrees from the course line. This is stated in AIP CANADA AD 2.19 and AD 3.18.
3.1.3.3.2	Please refer to 3.1.3.3.1
3.1.3.3.2.2	
3.1.3.3.2.2	
3.1.3.3.2.3	
3.1.3.3.4	
3.1.3.7.4	The localizer will meet the minimum depth of modulation (DDM) required from the course line up to an angle of 10 degrees either side of the course line.
3.1.4.1	Receivers are not required to meet this Standard in Canada because the frequency requirements are engineered using a system of prediction techniques, coordination procedures and controls of FM station operating parameters to eliminate interference problems and ensure that aviation operations can be conducted safely without the need for this requirement.
3.1.4.2	Please refer to 3.1.4.1

Annex 10, Aeronautical Telecommunications	
3.1.5.1.5*	This specification is followed for new instrument landing systems (ILS), but for some existing ones the height of the reference datum may be as low as 40 ft.
3.1.5.3.1	Some glide paths may not meet the full extent of coverage sector requirements. In such cases, approach procedure design will assure aircraft remain within areas of adequate signal coverage. Any operational restrictions will be duly annotated on the approach plate.
3.1.5.3.2	Please refer to 3.1.5.3.1
3.1.7	ILS and localizer installations do not have VHF marker beacons. NDB, DME, GNSS, or other suitable means will provide for the function marker beacons previously fulfilled. Such information will be duly noted on the approach plate. Note: Requirements relating to marker beacons apply only when one or more marker beacons are installed.
3.3.7.1	Certain VOR/DME used solely for enroute navigation do not provide an indication at a control point. These facilities will be annotated as “unmonitored” on the navigation charts.
3.3.8.1	Receivers are not required to meet this Standard in Canada because the frequency requirements are engineered using a system of prediction techniques, coordination procedures and controls of FM station operating parameters to eliminate interference problems and ensure that aviation operations can be conducted safely without the need for this requirement.
3.3.8.2	Please refer to 3.3.8.1
3.4.8.1	Certain NDB do not provide an indication at a control point. These facilities will be annotated as “unmonitored” on the aeronautical publications.
3.4.8.3	Please refer to 3.4.8.1
3.5.4.7.2.1	Certain VOR/DME used solely for enroute navigation do not provide an indication at a control point. These facilities will be annotated as “unmonitored” on the navigation charts.
3.5.4.7.2.2	Please refer to 3.5.4.7.2.1
3.5.4.7.2.5	
Volume II	**Communication Procedures including those with PANS status**
Chapter 5	**Aeronautical Mobile Service — Voice Communications**
5.4.2.1.4.1.2	In Canada, including for flight levels in whole hundreds, all digits of all flight levels are pronounced separately.
Volume III	**Communications Systems**
Part I	**Digital Data Communication Systems**
	Nil.
Part II	**Voice Communication Systems**
Chapter 2	**Aeronautical Mobile service**
2.3.3.1	Receivers are not required to meet this Standard in Canada because the frequency requirements are engineered using a system of prediction techniques, coordination procedures and controls of FM station operating parameters, to eliminate interference problems and ensure that aviation operations can be conducted safely without the need for this requirement.
2.3.3.2	Please refer to 2.3.3.1
2.3.3.3	
Chapter 3	**SELCAL System**

Annex 10, Aeronautical Telecommunications	
3.1	Canada will not be able to transmit any combination of the new 16 SELCAL tones as of the applicability date on 3 November 2022. Canada should be ready for SELCAL32 by the summer 2023.
3.2	Please refer to 3.1
Remark:	Canada has been working diligently to ensure compliance, but our systems will not be certified by the applicability date set out in the State Letter (3 November 2022).
All paragraphs related to Annex 10, Volume III Amendment 91	Canada should be ready for SELCAL32 by the summer 2023.
Volume IV	**Surveillance Radar and Collision Avoidance Systems**
Chapter 1	**Definitions**
	Airborne collision avoidance system (ACAS): Canada's definition is more encompassing in that it recognizes that any transponder signal (not just SSR) can be used.
Chapter 3	**SELCAL system**
3.1.2.5.2.1.2.2	If Mode S interrogation is used on a sector basis, more than two interrogator identifier codes may be used in areas with a high concentration of interrogators. This is done with close coordination between users of code assignments.
Remark:	More than two interrogator identifier codes may be required in areas such as along the Canada/US border. This will be done in close coordination between users for code assignments.
Volume V	**Aeronautical Radio Frequency Spectrum Utilization**
Chapter 1	**Definitions**
	Remote pilot station (RPS): In Canada, this is referred to as a control station.
	Remotely piloted aircraft (RPA): The Canadian definition is a navigable aircraft, other than a balloon, rocket or kite, that is operated by a pilot who is not on board.
	Remotely piloted aircraft system (RPAS): The Canadian definition refers to only a single remote pilot station and encompasses system elements required during flight operations.

Annex 11, Air Traffic Services	
Chapter 1	**Definitions**
	Accident: Canada’s definition differs in that it does not define a timeframe during which an event would be considered an accident and does not distinguish between manned and to unmanned aircraft.
	Advisory airspace: Advisory airspace refers to Class F special use airspace within which an activity occurs of which non-participating pilots should be aware.
	Advisory route: not used in Canada.
	Aerodrome: Canada's definition clarifies that the frozen surface of an area of water, or any supporting structure could be an aerodrome and includes servicing of aircraft as a possible intended use.
	Aerodrome control service: The term "airport air traffic control service" is used instead and provides more detail about the nature of the services provided.
	Aerodrome control tower: The term "air traffic control tower" is used instead.
	Airborne collision avoidance system (ACAS): Canada's definition is more encompassing in that it recognizes that any transponder signal (not just SSR) can be used.

Annex 11, Air Traffic Services	
	Aircraft: Canada's definition does not exclude reactions of the air against the earth's surface and explicitly includes rockets.
	Air-taxiing: Canada defines air-taxiing as movement of a helicopter above the surface of an aerodrome, but normally not above 100 ft AGL. The aircraft may proceed via either hover taxi or flight at speeds more than 20 knots.
	Air traffic advisory service: Advisory service refers to the provision of flight information.
	Approach control service: Terminal control service is used in lieu of approach control service and associated terms.
	Approach control unit: Canada's definition specifies that the service is provided to IFR flights operating within a terminal control area.
	Apron management service: Not regulated in Canada.
	Flight level: In Canada, defined as an altitude expressed in hundreds of feet, indicated on an altimeter set to 29.92 inches of mercury, or 1013.2 millibars, is used.
	INCERFA: Code word not used.
Chapter 2	**General**
2.6.1	**Class C:** In Canada, in addition to the provisions of this paragraph, separation is provided between VFR aircraft at pilot request.
	Class D: In Canada, workload and equipment permitting, these services are provided between IFR and VFR aircraft and between VFR aircraft at pilot request.
	Class E: In Canada, some control zones are designated as Class E.
	Class F: In Canada, Class F refers to special use airspace identified as restricted or advisory.
2.6.2	Please refer to 2.6.1
2.6.3	
2.11.5.2	Canada does not dictate minimum lateral limits for control zones.
2.13.5	In Canada the route indicator for RNAV Standard Arrival Routes and Standard Instrument Departures is the runway number vice a letter of the alphabet. The route indicator is not published in the coded designator but the runway number and route information are contained in the text portion of the STAR or SID.
2.20.2	Canada’s compliancy to the PANS-AIM specifications is limited to AIS and ATM system adaptation only with respect to our CAATS system and with any data that is contained in ADMS and transferred to an ATM system via an AIXM data file.
Remark:	The CAATS system in currently in the process of being transitioned from a legacy data source to an AIXM data file that is compliant with PANS-AIM 2.2.2.
2.28.1	Canada has not established fatigue management regulations for ATS personnel.
2.28.2	Please refer to 2.28.1
2.28.3	Please refer to 2.28.1
2.28.4	Please refer to 2.28.1
Chapter 3	**Air Traffic Control Service**
3.7.3.1 c)	In Canada, pilots are not required to read back runway-in-use, altimeter settings or SSR codes. Transition levels are not issued.
Chapter 4	**Flight Information Service**
4.2.2 b)	Collision hazards not provided in Class F.

Annex 11, Air Traffic Services	
4.3.7	ATIS messages are not given in the order as listed and the information elements of cloud below 1,500 m (5,000 ft) or below the highest minimum sector altitude and trend-type landing forecasts are not used.
4.3.8	Please see 4.3.7
4.3.9	
Chapter 5	**Alerting Service**
5.2.1 a) 2)	In Canada, an aircraft enters the Uncertainty Phase if it has: (a) a filed flight plan and an arrival report is not received within 60 minutes after the latest ETA or arrival time estimated by the controller, whichever is later; (b) filed a flight itinerary and an arrival report is not received within 24 hours after the latest ETA or arrival time estimated by the controller, whichever is later; or (c) specified a search and rescue time on its flight plan or flight itinerary and an arrival report is not received by that specified time.
Chapter 7	**Air traffic services requirements for Information**
7.1.3.6	Canada may provide this information, if known, through PIREP, AIRMET, SIGMET and TAF.

Annex 12, Search and Rescue	
Chapter 2	**Organisation**
2.6.8*	The airdrop of survival equipment requires qualified personnel who are available only at aerodromes where SAR aircraft are based; hence, survival equipment for air dropping is not provided elsewhere.
Appendix	**Search and rescue signals**
2.1	In addition to the five international ground-air visual signal codes outlined, four additional signals are required for use within Canada **only**: ▪ LL — All is well ▪ F — Require food and water ▪ L — Require fuel and oil ▪ W — Need repairs

Annex 13, Aircraft Accident and Incident Investigation	
Chapter 1	**Definitions**
Preliminary Report	ASIS Daily Notifications are used in lieu of Preliminary Reports.
Chapter 5	**Investigation**
5.1	The TSB investigates those occurrences which are likely to produce safety action.
5.1.1*	The TSB investigates those occurrences which are likely to produce safety action.
5.2*	The TSB does not discriminate between contracting and non-contracting States.
5.16	Analysis would be conducted in Canada. An Accredited Rep would be appointed and then Manual of Investigation (MOI) 2-4 page 54 applies.
5.21	When neither the State of Design nor the State of Manufacture appoint an accredited representative, the State conducting the investigation should invite the organizations responsible for the type design and the final assembly of the aircraft to participate, subject to the procedures of the State conducting the investigation.

Annex 13, Aircraft Accident and Incident Investigation	
Chapter 6	**Final Report**
6.3	The Transportation Safety Board of Canada (TSB) provides States with 30 days to comment on a draft final investigation report. TSB's process has provisions to extend this review period for complex investigations, or upon a receipt of reasonable request for an extension.
6.3.2*	The TSB of Canada provides States with 30 days to comment on a draft final investigation report. TSB's process has provisions to extend this review period for complex investigations, or upon a receipt of reasonable request for an extension.
Chapter 7	**ADREP Reporting**
7.1	ASIS Information is sent on a routine daily basis to most of the affected states.
7.2	ASIS Information is sent on a routine daily basis to most of the affected states.
7.4	ASIS Information is sent on a routine daily basis to most of the affected states.
7.5	Electronic data reports are sent to ICAO on a regular basis.
7.7	Electronic data reports are sent to ICAO on a regular basis.

Annex 14, Aerodromes	
Volume 1	**Aerodrome Design and Operations**
Chapter 1	**General**
1.3	Transport Canada certifies aerodromes receiving scheduled passenger carrying operations and a number of other aerodromes in accordance with State standards, which are similar to those contained in Annex 14, Volume I, Third Edition.
Remark:	Transport Canada is currently conducting a review of the certification standards for airports with the objective of having airports, which receive international operations other than to or from the United States of America, to comply with standards of similar nature as to those of Annex 14, Volume I, Third Edition, except for those standards to which Canada will maintain a difference on file. Certification standards for other aerodromes not meeting the above-mentioned criterion for international operations would be based on the activity level and type of aircraft at the aerodrome in an effort to provide flexibility to the airport operator. It is anticipated that this review will be completed by the fall 2004 and will include reference to code letter F specifications.
1.3.1	Canada uses NAD83 as the reference datum for airports.
Remark:	WGS 84 provisions will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
1.4	Canada does not include reference to code letter F in the current Standards.
Remark:	Code letter F provisions will be introduced as part of the ongoing review of the certification Standards for aerodromes.
1.4.1	Transport Canada certifies aerodromes receiving scheduled passenger-carrying operations and a number of other aerodromes in accordance with State standards, which are similar to those contained in Annex 14, Volume I, Fourth Edition.
Remark:	Difference Category B.
1.6	Canada does not require that the construction or design of airport facilities take into consideration the civil aviation security measures as part of airport certification requirements.
Remark:	Conformance to this standard is normally achieved as part of consultation between Transport Canada Safety and Security Group, which oversees the CARs, and the various stakeholders at an airport prior to any construction changes. Difference Category B.

Annex 14, Aerodromes	
1.7	Canada does not include reference to code letter F in the current standards.
Remark:	Code letter F provisions will be introduced as part of the ongoing review of aerodrome certification standards. In the interim, the relevant Annex 14 specifications have been provided to aerodrome operators as guidance. Difference Category B.
Chapter 2	**Aerodrome data**
2.1.2	Canada does not have specifications relating to data integrity within the aerodrome certification document.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
2.1.5	Canada provides aerodrome data using the NAD83 reference datum.
Remark:	WGS 84 provisions will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
2.5.2	Canada provides geographical coordinates for the threshold to an accuracy of 1/10th of a second.
Remark:	The resolution will be adjusted as part of the ongoing review of aerodrome certification standards. Difference Category C.
2.5.3	Canada does not provide geographical coordinates for the taxiway centreline.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
2.5.4	Canada provides geographical coordinates for aircraft stands to an accuracy of 1/10th of a second.
Remark:	The resolution will be adjusted as part of the ongoing review of aerodrome certification standards. Difference Category B.
2.6.2	Canada only provides aircraft classification number—pavement classification number (ACN-PCN) information for designated international airports.
Remark:	Difference Category B.
2.6.8	Canada does not require the provision of pavement bearing strength for areas intended to serve aircraft of a mass equal to or less than 5,700 kg. This is addressed as a recommendation.
Remark:	Difference Category B.
2.7	Canada does not provide pre-flight altimeter check locations.
Remark:	Difference Category C.
2.9.3	Canada does not mandate the minimum frequency of inspection.
Remark:	The aerodrome operator has to satisfy the regulatory requirements of ongoing monitoring and reporting on the condition of the movement area, and establishes the frequency accordingly. Difference Category B.
2.12 d)	Canada publishes the nominal approach angle when it is different than the standard three degrees.
Remark:	Difference Category B.
2.12 e)	Canada does not provide the minimum eye height over the threshold (MEHT).
Remark:	The provision of MEHT information will be reviewed as part of the ongoing review of aerodrome certification standards. Difference Category C.

Annex 14, Aerodromes	
Chapter 3	**Physical characteristics**
3.3	Canada does not have specifications with respect to runway turn pads. The majority of Canada's large airports have runway widths of 60 metres.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
3.3.7	Canada does not have specific distance requirements for frangible objects with respect to code letter F type aircraft operations.
Remark:	Code letter E is currently listed as the largest aircraft.
3.4	Canada does not require runway end safety areas.
Remark:	The applicability is a recommendation, and where provided, the characteristics meet ICAO requirements.
3.4.7 a)	Canada does not have specific distance requirements for frangible objects with respect to code letter F type aircraft operations.
Remark:	Code letter E is currently listed as the largest aircraft. Code letter F provisions will be introduced as part of the ongoing review of aerodrome certification standards. In the interim, the relevant Annex 14 specifications have been provided to aerodrome operators as guidance. Difference Category B.
3.5	Canada does not require runway end safety areas.
Remark:	Runway end safety areas are a recommendation only. However, where provided, the characteristics of the runway end safety area meet ICAO requirements. Harmonization with the current ICAO applicability will be considered as part of the ongoing review of aerodrome certification standards. Difference Category C.
Chapter 4	**Obstacle restriction and removal**
4.1	Canada does not use conical and inner horizontal surfaces as described; an outer horizontal surface is established at an elevation of 45 m and with a radius of 4,000 m. Canada does not establish an outer horizontal surface at non-instrument runways, except when there is a published circling procedure. Canada does not use inner approach, inner transitional, or balked landing surfaces. Canada does not apply take-off and approach surfaces as individual elements; these surfaces are applied as a single take-off/approach surface using the approach slope requirements.
Remark:	Difference Category B.
Table 4–1	Canada applies a constant slope to the take-off/approach surface throughout the entire specified distance.
Remark:	In Canada, the take-off/approach slope for non-precision runways where the code number is 3 or 4 is established at 2.5 per cent. Difference Category B.
Chapter 5	**Visual aids for navigation**
5.1.2	Canada does not use landing direction indicators.
Remark:	Difference Category C.
5.1.3	Canada does not require signalling lamps in control towers as part of airport certification requirements.
Remark:	NAV CANADA provides air traffic control service in Canada. It is NAV CANADA's practice to have signalling lamps located in control towers and flight service stations. Difference Category B.

Annex 14, Aerodromes	
5.2.1.6	Canada does not specify that the apron safety lines be of a contrasting colour with that used for the aircraft stand markings, but recommends that parking area boundaries, vehicles corridors, and pedestrian walkways be white.
Remark:	The vast majority of Canadian airports are capable of complying with Standard 5.2.1.6. Difference Category B.
5.2.2.4	Runways within Canadian Northern Domestic Airspace are designated with reference to the true azimuth because magnetic compasses are unreliable in the area.
Remark:	Difference Category B.
5.2.5.2	Canada only requires aiming point marking for runways where the code number is 3 or 4.
Remark:	Difference Category B.
5.2.5.4	In Canada, the positioning of the aiming point marking is based on runway code rather than landing distance available. Canada does not specify that the markings be coincident with the visual approach system, where provided.
Remark:	Pending an amendment to the regulatory requirements, an exemption is in place to permit the positioning of the aiming point marking based on landing distance available. Difference Category B.
5.2.6	Canada only requires touchdown zone markings for runways where the code number is 3 or 4.
Remark:	Difference Category C.
5.2.8.5, 5.2.8.9, 5.2.8.11	Canada does not have specifications for enhanced taxiway centreline markings.
Remark:	Pending an amendment to the regulatory requirements, an exemption is in place to permit the positioning of the enhanced taxiway centreline marking. Difference Category C
5.2.9	Canada does not have specifications with respect to runway turn pad markings.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.2.10	Canada refers to intermediate holding position marking as taxiway intersection holding positions and addresses distance requirements for the location of taxiway/taxiway holding positions as a recommendation.
5.2.11	Canada refers to the intermediate hold position as the taxiway intersection hold position and addresses distance requirements for the location of taxiway/taxiway hold positions as a recommendation.
Remark:	Difference Category B.
5.2.12	Canada does not use VOR aerodrome checkpoint markings.
Remark:	Difference Category C.
5.2.15	Canada does not use mandatory instruction markings.
5.2.16	Canada does not use mandatory instruction markings.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.2.16.1	Canada does not require the installation of information markings where it is impractical to install information signs.
Remark:	The applicability for these markings is a recommendation in Canada.

Annex 14, Aerodromes	
5.2.17.1	Canada does not require the installation of information markings where it is impractical to install information signs. These markings are a recommendation in Canada. However, where provided, they meet ICAO requirements.
Remark:	Difference Category B.
5.3.3.8	Canada does not use identification beacons.
Remark:	Difference Category C.
5.3.4.1 B	Canada does not require simple approach lighting to support a non-precision approach.
Remark:	The use of these light systems on non-precision approaches is a recommendation in Canada. Difference Category C.
5.3.4.2 to 5.3.4.9	Canada does not use the simple approach lighting system as described; an omnidirectional approach lighting system (ODALS) is used consisting of omnidirectional strobe lights located at 90-metre intervals and extending out to 450 m from the runway threshold.
Remark:	Difference Category B.
5.3.4.10	The length of the Category (CAT) I approach lighting system in Canada is 720 m and primarily constitutes simplified short approach lighting systems with runway alignment indicator lights (SSALR).
Remark:	Difference Category B.
5.3.4.22	The length of the CAT II or III approach lighting system in Canada is 720 m and the standard system is the approach lighting system with sequenced flashing lights configuration 2 (ALSF-2).
Remark:	Difference Category B.
5.3.5.1	Canada does not require a visual approach slope indicator system if the runway is served by an electronic precision approach system, such as an ILS.
Remark:	Difference Category C.
5.3.5.2 a)	Canada does not use T visual approach slope indicator systems (T-VASIS) or T abbreviated visual approach slope indicator systems (AT-VASIS).
Remark:	Difference Category C.
5.3.5.32	Canada does not require intensity control of the precision approach path indicator (PAPI) or abbreviated precision approach path indicator (APAPI).
Remark:	However, the majority of PAPI/APAPI installations are capable of complying with Standard 5.3.5.32. Difference Category C.
5.3.8	Canada refers to this type of lighting as runway identification lights and sites the units at a distance laterally of 12 m from the edge of the runway, and up to 30 m in front of the threshold.
Remark:	Difference Category C.
5.3.9.7 a)	Canada uses blue edge lights in the approach direction of displaced areas.
Remark:	Harmonization with the international colour coding (red) will be considered as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.3.10.8	Canada requires each wing bar to have: three lights for runways 30 m wide or less; four lights for runways 30 m to 45 m wide; and five lights for runways greater than 45 m.
Remark:	Difference Category B.
5.3.14	Canada does not use rapid exit taxiway indicator lights.
Remark:	Difference Category C.

Annex 14, Aerodromes	
5.3.16.1	Canada requires that taxiway centreline lights provide guidance between the runway centreline and the point on the apron where aircraft commence manoeuvring for parking.
Remark:	Difference Category B.
5.3.17.2	Canada requires stop bars in operating conditions less than 400 m.
5.3.18	Canada does not have specifications with respect to runway turn pad lights.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.3.18.1	Canada refers to intermediate holding position lights as taxiway intersection lights. The applicability for these lights is currently a recommendation in Canada.
5.3.19	Canada requires stop bars in operating conditions less than 400 m.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category B.
5.3.20.1	Canada refers to intermediate holding position lights as taxiway intersection lights.
Remark:	Use of these lights is currently a recommendation in Canada. Difference Category C.
5.3.22.1	The applicability of visual docking guidance systems is a recommendation in Canada.
5.3.22.14	The positioning requirements of the stopping position indicator is addressed as a recommendation in Canada.
5.3.24.1	The use of visual docking guidance systems is a recommendation in Canada.
Remark:	Difference Category B.
5.3.24.14	The positioning requirement of the stopping position indicator is addressed as a recommendation in Canada.
Remark:	Difference Category B.
5.3.25	Canada does not have specifications with respect to advanced visual docking guidance systems.
Remark:	Difference Category C.
5.4.1.7 a)	Canada requires that signs be illuminated when intended for operations below 400 m.
Remark:	Difference Category B.
5.4.1.9 to 5.4.1.10	Canada does not provide variable message signs.
Remark:	Difference Category C.
5.4.2.8	Canada requires a runway designation sign to be located on each side of a taxiway associated with a precision approach runway, on each side of a taxiway where the taxiway is greater than 45 m wide, and on at least the left side of a taxiway associated with a non-precision or non-instrument runway.
Remark:	Specifications will be reviewed as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.4.2.16	The practice in Canada is to sign these holding positions with the mandatory runway designation sign.
5.4.3.2	Canada does not provide runway vacated signs or intersection take-off signs.
Remark:	Specifications will be introduced as part of the ongoing review of aerodrome certification standards. Difference Category C.
5.4.4	Canada does not provide VOR aerodrome checkpoint signs or markings.
Remark:	Difference Category C.

Annex 14, Aerodromes	
Chapter 6	**Visual aids for denoting obstacles**
6.1.3	Canada does not require the marking/lighting of a fixed obstacle that extends above a take-off/approach surface. Obstacles that extend above a take-off/approach surface would result in the displacement of the threshold and the associated take-off/approach surface. It is also the practice in Canada that any significant obstacle in the vicinity of the airport be marked and lighted.
Remark:	Difference Category B.
6.3.5, 6.3.26, 6.3.27	Canada does not have specific characteristics for the type of obstacle lights required for follow-me vehicles.
Remark:	Obstacle lights for follow-me vehicles are the same as those used for other vehicles. Difference Category C.
6.3.25	In Canada, vehicles associated with an emergency display flashing red lights, or flashing red and yellow lights.
Remark:	Difference Category B.
Chapter 7	**Visual aids for denoting restricted use areas**
	Nil

Chapter 8	**Electrical systems**
8.1.6	Canada does not specify that the secondary power supply be automatically connected. However, a switchover time consistent with this standard, which can only be achieved by automatic means, is required.
Remark:	Difference Category B.
8.1.7	Canada requires secondary power supply for operations below an RVR of 400 m.
Remark:	Difference Category B.
8.1.8	Canada does not specify that the secondary power supply be automatically connected but requires a switchover time consistent with this Standard, which can only be achieved by automatic means.
8.1.9	Canada requires secondary power supply for operations below an RVR of 400 m.
8.6	Canada does not require that the construction or design of airport facilities take into consideration the civil aviation security measures as part of airport certification requirements.
Remark:	Conformance to this Standard is normally achieved as part of the consultation between the Transport Canada Security Group, which oversees the Canadian Aviation Security Regulations, and the various stakeholders at an airport prior to any construction changes.
8.7.2	Canada requires frangibility of equipment or installations required for precision approach runways. Frangibility is addressed as a recommendation for other runway types.
Remark:	However, it is the practice in Canada that visual aids located in this area be frangible. The capability to comply with the Standard 8.7.2 exists at the vast majority of Canadian airports. Transport Canada plans to review this requirement in view of amending the current requirement. It is anticipated that the result of this review will be published by the fall 2004.

Annex 14, Aerodromes	
8.7.5	Canada does not require that equipment or installations beyond the end of a precision approach runway strip (240 m) to be limited to air navigation purposes only.
Remark:	However, it is the practice in Canada that visual aids located in this area be frangible. Transport Canada plans to review this requirement in view of amending the current requirement. It is anticipated that the results of this review will be published by the fall 2004.
8.7.6	Canada does not have specific frangibility requirements of equipment or installations along the runway centreline relating to code letter F aircraft operations. Canada does not specify frangibility requirements beyond the end of the strip (240 m), other than the frangibility requirements related to visual aids. Canada does not provide inner approach, inner transitional or balked surfaces.
Remark:	The capability to comply with the Standard 8.7.6 exists at the vast majority of Canadian airports. Transport Canada plans to review this requirement in view of amending the current requirement. It is anticipated that the results of this review will be published by the fall 2004.
8.9.1	Canada requires a surface movement guidance and control system be provided for operations below an RVR of 400 m.
Chapter 9	**Aerodrome operational services, equipment and installations**
9.1.13	Canada requires full-scale testing of the plan to be conducted at intervals not exceeding three years.
Remark:	Consultation with the stakeholders has been carried out on the revision of the Emergency Response Planning regulations and standards. A new regulation is currently being finalized to comply with the Standard and should be enacted by the spring 2004.
9.1.13 a)	
9.2.1	The Canadian Aviation Regulations requires that Aircraft Rescue and Fire Fighting (ARFF) protection be provided at airports where the total number of passengers that are emplaned and the number of passengers that are deplaned is more than 180,000 per year.
Remark:	The provision of ARFF was subjected to a risk analysis that determined that this value covered 94% of air travelers.
Remark:	Regulation is now enacted complying with the standard.
9.2.21	Canada requires the response time testing to be carried out to the midpoint of the farthest runway serving commercial passenger-carrying aircraft.
Remark:	The capability to comply with the Standard 9.2.21 exists at the vast majority of Canadian airports. Transport Canada plans to consult in view of amending the current test requirements from midpoint to the most demanding distance of the farthest runway. It is anticipated that the results of this consultation will be published by the fall 2004.
9.2.23	Canada requires that the response testing be carried out to the mid-point of the farthest runway serving commercial, passenger-carrying aircraft.
Remark:	The vast majority of Canadian airports are capable of complying with Standard 9.2.23. Transport Canada plans to consult with stakeholders and airports in view of amending the current test requirements. Difference Category B.
9.2.39	
Remark:	The CARs now contain human factor training requirements.

Annex 14, Aerodromes	
9.4.5	Canada requires the measurement of runway friction to be conducted on runways serving turbojet aeroplanes.
Remark:	Transport Canada plans to review this requirement in view of amending the current requirement. It is anticipated that the results of this review will be published by the fall of 2004.
9.4.10	The requirement for winter maintenance of runway surface is addressed as a recommendation in Canada.
Remark:	The capability to comply with the Standard 9.4.10 exists at the vast majority of Canadian airports. Consultation with the stakeholders has been carried out on the revision of the Winter Maintenance and Planning regulations and standards and should be enacted in 2004.
9.4.16 b)	Canada requires that the slope of a temporary ramp be no greater than 1.0 per cent.
9.4.20	Canada specifies the serviceability level of light units based solely on 50 per cent of the average intensity specified in Appendix 2. Design value is not considered in the assessment.
9.4.26 to 9.4.31	Canada does not specify the objective of preventive maintenance for visual aids. These are addressed as recommendations.
9.5	Canada does not require bird hazard reduction at airports.
Remark:	The capability to comply with Standard 9.5 exists at the vast majority of Canadian airports. Consultation with the stakeholders has been carried out for the introduction of the Wildlife Management regulations and standards. This regulation is currently being finalized and should be enacted in 2004.
9.8.1	Canada requires that a surface movement and guidance control system be provided for operations below an RVR of 400 m.
Remark:	Difference Category B.

9.9.2	Canada requires frangibility of equipment or installations required for precision approach runways.
Remark:	Frangibility is addressed as a recommendation for other runway types. However, it is the practice in Canada that visual aids located in this area be frangible. The vast majority of Canadian airports are capable of complying with Standard 9.9.2. Transport Canada is reviewing this specification in view of amending the current requirement. Difference Category C.
9.9.5	Canada does not require that equipment or installations beyond the end of a precision approach runway strip (240 m) be limited to air navigation purposes only.
Remark:	Transport Canada is reviewing this specification in view of amending the current requirement. Difference Category C.
9.9.6	Canada does not have specific frangibility requirements for equipment or installations along the runway centreline relating to code letter F aircraft operations. Canada does not specify frangibility requirements beyond the end of the strip (240 m), other than the frangibility requirements related to visual aids. Canada does not provide inner approach, inner transitional, or balked surfaces.
Remark:	Transport Canada is reviewing this specification in view of amending the current requirement. In the interim, the relevant Annex 14 specifications have been provided to aerodrome operators as guidance. Difference Category B.

Annex 14, Aerodromes	
9.10.1, 9.10.2, 9.10.4	Canada does not mandate the use of safety fencing for the purposes of controlling trespass by animals or unauthorized persons.
Remark:	Fencing is but one method of ensuring that the movement area is free from animals, persons, or other unauthorized trespass during operational use. In accordance with Annex 14, Section 2.10, the focus is on monitoring and reporting hazards on the movement area during operational use. Difference Category B.
Chapter 10	**Aerodrome maintenance**
10.2.1	Canada does not require that pavement surfaces be clear of loose stones or other objects.
Remark:	Canada requires a pavement maintenance program to maintain facilities in a condition that does not impair safety, regularity, or efficiency of air navigation, in conjunction with similar monitoring and reporting obligations under Annex 14, Section 2.10. Difference Category B.
10.2.2	Canada does not require that pavement be maintained in a condition to prevent harmful irregularities.
Remark:	Canada requires a pavement maintenance program to maintain facilities in a condition that does not impair safety, regularity, or efficiency of air navigation, in conjunction with similar monitoring and reporting obligations under Annex 14, Section 2.10. Difference Category B.
10.2.3	Canada requires the measurement of runway friction to be conducted on runways serving turbojet aeroplanes.
Remark:	Difference Category B.
10.2.8	In Canada, the requirement for winter maintenance of runway surfaces is addressed as a recommendation.
Remark:	The vast majority of Canadian airports are capable of complying with Standard 10.2.8. Consultation with stakeholders has been carried out on the revision of the winter maintenance and planning regulations and standards. The revision will be enacted in the near future. Difference Category C.
10.3.1 b)	Canada requires that the slope of a temporary ramp be no greater than 1.0 percent.
Remark:	Difference Category B.
10.4.1	Canada specifies the serviceability level of light units based solely on 50 per cent of the average intensity specified in Appendix 2.
Remark:	Design value is not considered in the assessment. Difference Category B.
10.4.7–10.4.12	Canada has addressed these specifications as recommendations for the preventive maintenance of visual aids.
Remark:	Difference Category B.
Volume II	**Heliports**
Chapter 3	**Physical characteristics**
3.1.37	The minimum clearance between a helicopter stand and an object or other aircraft stand may be reduced to 3 metres in Canada.
3.2.1	Canada makes provision for performance class 3 helicopter operations at elevated heliports. The dimensions of the FATO at elevated heliports for performance class 3 helicopters is the same as that used for performance class 2 helicopters.
3.2.2 b)	Canada makes provision for performance class 3 helicopter operations at elevated heliports. The dimensions of the FATO at elevated heliports for performance class 3 helicopters is the same as that used for performance class 2 helicopters.
3.2.5	Canada does not require a safety area around the FATO of elevated heliports.

Annex 14, Aerodromes	
3.3.2	The FATO for single main rotor helicopters operating on helidecks within the inland waters of Canada shall be of sufficient size to contain a circle of a diameter not less than the main rotor diameter of the design helicopter.
3.4.1	The Canadian standards for the size of a FATO located at the bow or stern of a vessel for a single main rotor helicopter requires the FATO to be of sufficient size to contain a circle with a diameter not less than the main rotor diameter of the design helicopter.
Chapter 5	**Visual aids**
5.2.3.3	Canada indicates the maximum allowable mass markings in thousands of pounds on the touchdown and lift-off area of elevated heliports and helidecks.
5.3.6.2 b)	Canada requires a minimum of five lights to mark a circular FATO.
5.3.8.13	Canada permits the use of retro-reflective markers as the minimum lighting requirements at remote heliports where it is impractical to provide lighting.

Annex 15, Aeronautical Information Services	
Chapter 1	**General**
1.2.1.1	Canada uses the North American Datum (NAD 83) as a geodetic reference datum. **Remark:** North American Datum 1983 (NAD 83) is equivalent to the World Geodetic System - 1984 (WGS 84) for Aeronautical purposes.
1.2.2.2	Canada uses the Canadian Geodetic Vertical Datum of 1928 and 2013 (CGVD28 and CGVD2013).
1.2.2.3	Canada uses the Canadian Geodetic Vertical Datum of 1928 and 2013 (CGVD28 and CGVD2013). Canada does not provide a description of the models used, including the parameters required for height transformation between the models and EGM-96, in the Aeronautical Information Publication (AIP).
Chapter 2	**Responsibilities and Functions**
2.1.5	Canada has not established formal arrangements with all aeronautical data and aeronautical information originators.
2.3.10	AIXM is used for some exchanges, but not with all states.
Chapter 3	**Aeronautical Information Management**
3.4.1	Basic data error detection techniques are used but not all aeronautical data is encompassed.
3.5.1	The management of aeronautical information and data is not fully automated.
3.6.1	Please refer to 3.5.1
Chapter 4	**Scope of Aeronautical Data**
4.2.2	Not all PANS-AIM requirements are met, however data integrity and traceability are assured.
Chapter 5	**Aeronautical Information Products and Services**
5.2.1	Aeronautical information products don't always conform to the specified formats.
5.2.3	Monthly printed plain-language list of valid NOTAM are not published. **Remarks:** A list of valid AIP Supplements is available on the web and updated every 28 days. The latest AIP Supplement issued is included in the monthly NOTAM checklist.
5.2.5.1 h)	ATC Surveillance Minimum Altitude Charts are not published.
5.3.3	Terrain and obstacle information does not currently match all the specifications of Annex 15, section 5.3.3.

Annex 15, Aeronautical Information Services	
5.3.3.3.1	Terrain and obstacle information does not currently match all the specifications detailed in the PANS-AIM (Doc 10066). **Remarks:** There exists a mature, effective system to provide terrain and obstacle data that satisfies operational requirements for aeronautical information. Its form and content are not the same as that specified in the PANS-AIM.
5.3.3.3.2	Please refer to 5.3.3.3.1
5.3.3.3.3	
5.3.3.3.8	
5.3.3.4.1	
5.3.3.4.4	
5.3.3.4.5	
Chapter 6	**Aeronautical Information Updates**
6.3.2.1	Trigger NOTAM to provide notice of AIP Amendments or AIP Supplement issued in accordance with the AIRAC Procedures are not systematically issued. Trigger NOTAM remains valid until the AIP Amendment or Supplement is no longer required.
Remark:	NOTAMs are issued for exceptional AIP Supplements containing information that is normally disseminated as a NOTAM but contains graphics or extensive text. These NOTAMs come into force on the same date and time as the supplement and remain valid until the supplement is revoked.

Annex 16, Environmental Protection	
Volume I	**Aircraft Noise**
General	The applicable noise emission standards of Annex 16, Chapters 2, 3, 5, 6, 8 and 10 apply: 1. in respect to issuing new or amended type approvals (type certifications) for aeroplanes after 31 December 1985 and in respect of applying for new or amended type approvals for helicopters after 31 December 1988; or 2. for aeroplanes that were first registered on the Canadian Register after 31 December 1985 and for helicopters that were registered after 31 December 1988, in both cases where they are type designs that had previously been noise tested and found in compliance.
Part II	**Aircraft noise certification**
Chapter 3	1. Subsonic jet aeroplanes — Application for Type Certificate submitted on or after 6 October 1977 and before 1 January 2006 2. Propeller-driven aeroplanes over 8 618 kg — Application for Type Certificate submitted on or after 1 January 1985 and before 1 January 2006
3.1.1 c)	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Chapter 4	Not adopted.
Chapter 6	Propeller-driven aeroplanes not exceeding 8 618 kg — Application for Type Certificate submitted before 17 November 1988
6.1.1 6.3.1	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Chapter 7	Not adopted.
Chapter 9	Not adopted.

Annex 16, Environmental Protection	
Chapter 10	
10.1.1 10.4	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Appendix 2	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Appendix 3	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Appendix 6	Maximum certificated takeoff mass for propeller-driven aircraft is reduced from 9,000 kg to 8,618 kg (19,000 lb).
Volume II	**Aircraft Engine Emissions**
	Nil

Annex 17, Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference	
	Nil

Annex 18, The Safe Transport of Dangerous Goods by Air	
	Nil

*Recommended Practice

1.7.1 Procedures for Air Navigation Services—Aircraft Operations (PANS OPS)

Canada does not use ICAO's *Procedures for Air Navigation Services—Aircraft Operations* (PANS OPS). Instead, Canada uses the *Criteria for the Development of Instrument Procedures* (TP 308), which is a document developed and produced by Transport Canada, Flight Standards.

Note: Effective 2022, there will be new PANS OPS titling convention changes: "RNAV (GNSS) RWY XX" to "RNP RWY XX" and "RNAV (RNP) RWY XX" to "RNP RWY XX (AR)". Canada does not title PBN instrument approach procedures as described in PANS OPS, but instead maintains the chart titles "RNAV (GNSS) RWY XX" and "RNAV (RNP) RWY XX".

1.7.2 Procedures for Air Navigation Services—Air Traffic Management (PANS-ATM)

Doc 4444, Procedures for Air Navigation Services-Air Traffic Management (PANS-ATM)	
Chapter 5	**Separation methods and minima**
5.4.2.3.4.2	Longitudinal separation minimum for aircraft on reciprocal tracks is 5 NM.
5.4.2.6.2.2	CPDLC as the sole means of DCPC is not permitted in the application of these distance-based longitudinal separations.
5.4.2.6.3	Longitudinal distance-based separation minimum in an RNPC environment using direct voice communication is 30 NM.
Chapter 6	**Separation in the Vicinity of Aerodromes**
6.3.2.4	The phraseology CLIMB VIA SID is not used. Aircraft will be assigned a SID by having the procedure name included in their initial clearance followed by the word DEPARTURE. If the assigned altitude is different from the SID altitude, the aircraft will be notified using the phraseology CLIMB TO AMENDED ALTITUDE (*altitude or flight level*).

Doc 4444, Procedures for Air Navigation Services-Air Traffic Management (PANS-ATM)	
6.5.2.4.1	The phraseology DESCEND VIA STAR is not used. Aircraft are assigned a specified STAR as part of their route clearance and will be cleared to appropriate altitudes in the descent and approach phases of flight.
Chapter 8	**ATS Surveillance Services**
8.7.3.4	The wake turbulence ATS Surveillance separation minimum for a MEDIUM preceding aircraft and a LIGHT succeeding aircraft is 4 NM.
Chapter 12	**Phraseologies**
12.3.1.8	Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).
12.3.1.13	GNSS service status phraseology is not used.
12.3.4.6	Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).
12.3.4.7	Taxi procedures phraseology does not use “HOLDING POSITION/POINT.”
12.3.4.13	Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).
12.3.4.20	Standard runway vacating phraseology is not used. Plain language is used instead.
12.6.1.1	Altimeter settings are issued using the phraseology ALTIMETER (*setting*). Altimeter settings are issued in QNH (height above sea level).
Chapter 15	**Procedures related to emergencies, communication failure and contingencies**
15.3.3	The aircraft having the communication failure is expected to maintain the route and altitude assigned in the last ATC clearance that was received and acknowledged, unless operating below the published minimum IFR altitude. Two-way communications failure procedures are published in the *Canada Flight Supplement*.

1.7.3 Procedures for Air Navigation Services—Aeronautical Information Management (PANS-AIM)

Doc 10066, Procedures for Air Navigation Services—Aeronautical Information Management (PANS-AIM)	
Chapter 4	**Aeronautical Data Requirements**
ENR 4.1, 1)	Magnetic variation and station declination used for the technical line-up of the navigation aid is “0” in the Northern Domestic Airspace (NDA) of Canada; the term (True) will be referenced.
Remark:	Radio navigation aids, enroute magnetic variation, and station declination are provided, except in the NDA of Canada, where reference to magnetic north is impractical due to erratic magnetic compass indications. True tracks are used in the NDA based on NAVAIDs referencing True North.
4.1.5	Geoid undulation is not published.
Chapter 5	**Aeronautical Information Products and Services**
5.2.1.2.5	Canada’s AIP does not conform to the format specified in Appendix 2.
5.2.1.4.4	A list of valid AIP Supplements is available on the web and updated every 28 days. The latest AIP Supplement issued is included in the monthly NOTAM checklist.
5.2.2.2	Snow plans are not published.
Chapter 6	**Aeronautical Information Updates**
6.1.4.3	It may not always be possible to give seven days of advance notice of the intended activity.

Doc 10066, Procedures for Air Navigation Services—Aeronautical Information Management (PANS-AIM)	
6.1.4.4	Within three months from issuing a permanent NOTAM, it may not be possible for the information contained in the NOTAM to be included in the aeronautical product that is affected.
6.1.4.5	Within three months from issuing a temporary NOTAM of long duration, it may not be possible for the information contained in the NOTAM to be included in the AIP Supplement.
6.1.4.6	When a NOTAM with the estimated end of validity unexpectedly exceeds the three-month period, and is replaced for a period of more than three months, it may not be possible for the information contained in the NOTAM to be included in the AIP Supplement.
Appendix 2	**Contents of the Aeronautical Information Publication**
ENR 3.3, 3)	Area Navigation Routes detailed description includes geodesic distance to the nearest nautical mile between defined end points and distance between each successive designated significant point.
ENR 4.1, 1)	Magnetic variation and station declination used for the technical line-up of the navigation aid is “0” in the Northern Domestic Airspace (NDA) of Canada; the term (True) will be referenced.
Remark:	Radio navigation aids, enroute magnetic variation, and station declination are provided, except in the NDA of Canada, where reference to magnetic north is impractical due to erratic magnetic compass indications. True tracks are used in the NDA based on NAVAIDs referencing True North.
AD 2.2, 5)	Canada does not publish the annual rate of change of magnetic variation in the *Canada Flight Supplement* (CFS), which is an element of the AIP.
AD 2.12, 2)	Magnetic bearings for runways are provided, except in the Northern Domestic Airspace of Canada, where true bearings are provided.
AD 2.16, 4)	Magnetic bearings for final approach and take-off (FATO) areas are provided, except in the Northern Domestic Airspace of Canada, where true bearings are provided.
AD 2.19, 6)	For SBAS, the ellipsoid height of the landing threshold point (LTP) or the fictitious threshold point (FTP) is published as part of the Final Approach Segment (FAS) data block information in the AIRAC Canada document.
AD 3.2, 5)	Canada does not publish the annual rate of change of magnetic variation in the *Canada Flight Supplement* (CFS), which is an element of the AIP.
AD 3.12, 3)	Magnetic bearings for final approach and take-off (FATO) areas are provided, except in the Northern Domestic Airspace of Canada, where true bearings are provided.
AD 3.18, 1)	Magnetic variation and station declination used for the technical line-up of the navigation aid is “0” in the Northern Domestic Airspace (NDA) of Canada; the term (True) will be referenced.
Remark:	Radio navigation aids, enroute magnetic variation, and station declination are provided, except in the NDA of Canada, where reference to magnetic north is impractical due to erratic magnetic compass indications. True tracks are used in the NDA based on NAVAIDs referencing true north.
Appendix 3	**NOTAM Format**
5. Item B)	In the case of NOTAMR, item B) is the date-time group at which the NOTAM is in force, which may be in the future.

GEN 2. TABLES AND CODES

GEN 2.1 Measuring System, Aircraft Markings, Holidays

2.1.1 Units of Measurement

The imperial system of measurement is used for all information contained on aeronautical charts and publications. Table 2.1.1, "Units of Measurement" lists other units of measurement and the specific situations to which they apply.

Table 2.1.1, Units of Measurement

Measurement	Units	Symbols
Altimeter setting	inches of mercury	in. Hg
Altitudes, elevations and heights	feet	ft
Distance used in navigation	nautical miles	NM
Horizontal speed	knots	kt
Relatively short distances	feet	ft
Runway visual range (RVR)	feet	ft
Temperature	degrees celsius	°C
Tire pressure	pounds per square inch megapascals	psi MPa
Vertical speed	feet per minute	ft/min
Visibility	statute miles	SM
Weight	pounds kilograms kilo-newtons	lb kg kN
Wind direction, except for landing and takeoff	degrees true	°True
Wind direction observations for landing and takeoff (Degrees true in the NDA)	degrees magnetic	°Mag
Wind speed	knots	kt

2.1.2 Temporal Reference System

Coordinated Universal Time, abbreviated UTC, Zulu (Z) or spoken Universal, is used in Canadian aviation operations. UTC is given to the nearest minute. Time checks are given to the nearest 15 seconds. The day begins at 0000 hours and ends at 2359 hours. The Gregorian calendar is used in Canada.

Date and time are indicated by a date-time group, which is a combination of the date and time in a single six-figure group. When used in a NOTAM, the date-time group is composed of ten figures, for example, 0510271200. The first two digits indicate the year; the second two digits indicate the month; the third two digits indicate the day; and the last four digits indicate the hour and the minutes.

Where Daylight Saving Time (DT) is observed in Canada, clocks are advanced one hour. DT is in effect from 0200 local time on the second Sunday in March to 0200 local time on the first Sunday in November. Locations that observe DT are listed in the *Canada Water Aerodrome Supplement* and in the *Canada Flight Supplement*, Section B, "Aerodrome/Facility Directory," under the subheading REF (references).

Table 2.1.2, Time Zone Conversions

Time Zone	To Obtain Local Time
Newfoundland	UTC minus 3 ½ hours (2 ½ DT)
Atlantic	UTC minus 4 hours (3 DT)
Eastern	UTC minus 5 hours (4 DT)
Central	UTC minus 6 hours (5 DT)
Mountain	UTC minus 7 hours (6 DT)
Pacific	UTC minus 8 hours (7 DT)

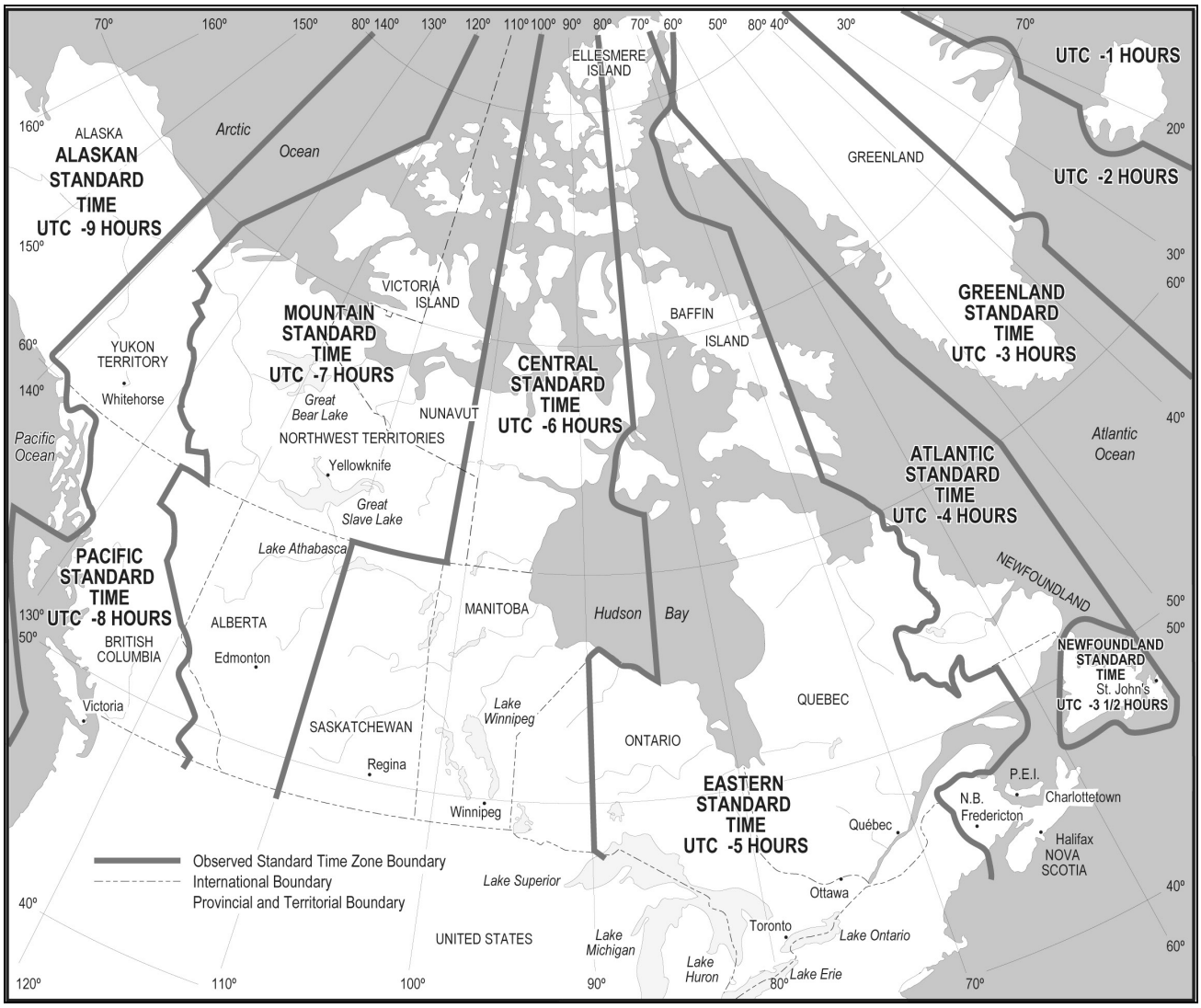

Figure 2.1.2, Time Zones

2.1.3 Horizontal Reference System

Canada uses the North American Datum of 1983 (NAD83) as its horizontal reference system to mathematically describe any position on the earth's surface in degrees of latitude and longitude. NAD83 uses the Geodetic Reference System of 1980 (GRS80) ellipsoid. Canada considers NAD83 to be equivalent to the World Geodetic System 1984 (WGS-84) for aviation purposes.

Various projections are used in Canada; refer to each individual map index for the projection used.

The area of application of NAD83 coincides with the geographic area of responsibility of Aeronautical Information Services (see GEN 3.1.2, “Area of Responsibility”).

2.1.4 Vertical Reference System

Canada uses the Canadian Geodetic Vertical Datum 1928 (CGVD28) as its vertical reference system. The Canadian Gravimetric Geoid 2000 (CGG2000) is the scientific model of the geoid for North America.

2.1.5 Aircraft Nationality and Registration Marks

The nationality mark of a Canadian aircraft is the letter “C” and the registration mark of the aircraft is a combination of four letters specified by the Minister of Transport.

If an aircraft was registered in Canada before 1 January 1974 or is a vintage aircraft, the nationality mark of the aircraft is the letters “CF” and the registration mark is a combination of three letters specified by the Minister.

2.1.6 Public Holidays

An up-to-date listing of all public holidays in Canada is available on the Canada Revenue Agency website:

<http://www.cra-arc.gc.ca/tx/hldys/menu-eng.html>

Aviation services will continue to operate as for normal weekend activities during public holidays.

GEN 2.2 Abbreviations Used in AIS Publications

2.2.1 Abbreviations in *AIP Canada*

Acronyms and initialisms appearing in *AIP Canada* are provided in Table 2.2.1, “Abbreviations in *AIP Canada*.”

Table 2.2.1, Abbreviations in *AIP Canada*

Acronym	Term
AAE	Above aerodrome elevation
AAS	Airport advisory service
ACA	Arctic Control Area
ACC	Area control centre
ACS	Airport control service
ADCUS	Advise customs
ADF	Automatic direction finder
ADIZ	Air defence identification zone
ADS	Automatic dependent surveillance
AES	Atmospheric Environment Service
AFTN	Aeronautical fixed telecommunications network
AGL	Above ground level
AIC	Aeronautical Information Circular

Acronym	Term
AIM	Aeronautical Information Manual
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIRMET	Short-term meteorological information
AIS	Aeronautical information service
AMA	Area minimum altitude
ANS	Air Navigation Services
ANSP	Air navigation service provider
AOC	Air operator certificate
AOE	Airport of entry
ARFF	Aircraft rescue and firefighting
ARO	ATS reporting office
ASDE	Airport surface detection equipment
ASEPS	Advanced surveillance-enabled procedural separation
ASL	Above sea level
ATC	Air traffic control
ATCO	Air traffic control officer
ATFM	Air traffic flow management
ATIS	Automatic terminal information service
ATM	Air traffic management
ATS	Air traffic service
AU	Approach UNICOM
AVASIS	Abbreviated visual approach slope indicator system
AWOS	Automated weather observation system
C	Celsius
CADORS	Civil Aviation Daily Occurrence Reporting System
CAP	*Canada Air Pilot*
CARs	*Canadian Aviation Regulations*
CAT I, II, III	Category I, II, III
CAVOK	Ceiling and visibility OK
CDA	Canadian Domestic Airspace
CFB	Canadian Forces Base
CFS	*Canada Flight Supplement*
CGG2000	Canadian Gravimetric Geoid 2000
CGVD28	Canadian Geodetic Vertical Datum 1928
CLA	Clearance acknowledgement

Acronym	Term
CMNPS	Canadian minimum navigation performance specifications
CNS	Communication navigation surveillance
CRC	Cyclic redundancy check
CRFI	Canadian Runway Friction Index
CRM	Crew resource management
CTA	Control area
CVFR	Controlled VFR
CWAS	*Canada Water Aerodrome Supplement*. CWAS has the same meaning as WAS (*Water Aerodrome Supplement*)
CWO	Contract weather office
DAH	*Designated Airspace Handbook* (TP 1820E)
DDM	Depth of modulation
DME	Distance measuring equipment
DT	Daylight saving time
E	East
eAPIS	Electronic Advance Passenger Information System
EGNOS	European Geostationary Navigation Overlay Service
ELT	Emergency locator transmitter
ESA	European Space Agency
ESCAT	Emergency Security Control of Air Traffic
ETA	Estimated time of arrival
FAA	Federal Aviation Administration (US)
FACN	Area forecasts
FANS 1/A	Future Air Navigation System 1/A
FAOC	Foreign Air Operator Certificate
FATO	Final approach and takeoff
FIC	Flight Information Centre
FIR	Flight information region
FIS	Flight information service
FL	Flight level
FLTA	Forward looking terrain avoidance
FM	Frequency modulation
FP	Flight plan
FQT	Frequent
FSS	Flight service station
GASA	Geographic area safe altitude
GEO	WAAS geostationary satellite

Acronym	Term
GFA	Graphic area forecast
GHz	Gigahertz
GNSS	Global navigation satellite system
GPS	Global positioning system
GRS80	Geodetic Reference System of 1980
GST	Goods and Services Tax
H	Hour
HF	High frequency
HLA	High level airspace
HTML	Hypertext markup language
Hz	Hertz
IAS	Indicated airspeed
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument flight rules
ILS	Instrument landing system
KIAS	Knots indicated airspeed
km	Kilometre
lb	Pound
LNAV	Lateral navigation
LORAN	Long-range air navigation
LPV	Localizer performance with vertical guidance
MEDEVAC	Medical evacuation flight
MEL	Minimum equipment list
METAR	Aviation Routine Weather Report
MF	Mandatory frequency
MHA	Minimum holding altitude
MHz	Megahertz
MNPS	Minimum navigation performance specifications
MOU	Memorandum of Understanding
MSA	Minimum sector altitude
MTBF	Mean time between failure
N	North
NAD83	North American Datum of 1983
NAM	North American
NAT	North Atlantic

Acronym	Term
NAVAID	Navigation aid
NCA	Northern Control Area
NDA	Northern Domestic Airspace
NDB	Non-directional beacon
NM	Nautical mile
NMRS	Numerous
NOTAMR	Replacing NOTAM
NPA	Non-precision approach
OCA	Oceanic control area
OCC	Obstacle clearance circle
OCD	Oceanic clearance delivery
OCP	Oceanic clearance processor
OEP	Oceanic entry points
OTS	Organized track system
OTT	Over the top
PANS-ATM	Procedures for Air Navigation Services—Air Traffic Management
PAR	Precision approach radar
PCO	Programme coordination office
PDF	Portable document format
PPR	Prior permission required
PSR	Primary surveillance radar
QFE	Atmospheric pressure at aerodrome elevation (or runway threshold)
QNH	Altimeter sub-scale setting to obtain elevation when on the ground
RAAS	Remote aerodrome advisory service
RCC	Rescue Coordination Centre
RCL	Request for clearance
RCMP	Royal Canadian Mounted Police
RCP	Required communication performance
RCR	Runway condition report
RNAV	Area navigation
RNP	Required navigation performance
RNP 4	Required navigation performance 4
RNPC	Required navigation performance capability
ROFOR	Route forecasts

Acronym	Term
RVSM	Reduced vertical separation minimum
RVR	Runway visual range
S	South
SAR	Search and rescue
SARSAT	Search and rescue satellite-aided tracking
SBAS	Satellite-based augmentation system
SCA	Southern Control Area
SCT	Scattered
SDA	Southern Domestic Airspace
SID	Standard instrument departure
SIGMET	Significant meteorological information
SM	Statute miles
SPECI	Aviation Special Weather Report
SSB	Single sideband
SSR	Secondary surveillance radar
STAR	Standard terminal arrival
TACAN	Tactical air navigation aid
TAD	Terrain awareness display
TAF	Aerodrome forecast
TAWS	Terrain awareness and warning system
TC	Transport Canada
TCA	Terminal control area
TCU	Terminal control unit
TLOF	Touchdown and liftoff
TP	Transport Canada publication
TSB	Transportation Safety Board of Canada
TSO	Technical standard order
TSR	Terminal surveillance radar
UHF	Ultra-high frequency
UIR	Upper flight information region
UTC	Coordinated Universal Time
VASIS	Visual approach slope indicator system
VFR	Visual flight rules
VGM	Voice generator module
VHF	Very high frequency
VMC	Visual meteorological conditions

Acronym	Term
VNAV	Vertical navigation
VNC	VFR navigation chart
VOLMET	In-flight meteorological information
VOR	VHF omnidirectional range
VORTAC	Combination of VOR and TACAN
VTA	VFR terminal area chart
W	West
WAAS	Wide Area Augmentation System
WAC	World aeronautical chart
WAS	*Water Aerodrome Supplement*. WAS has the same meaning as CWAS (*Canada Water Aerodrome Supplement*).
WDI	Wind direction indicator
WGS-84	World Geodetic System 1984
WMO	World Meteorological Organization
WS	Wind shear
Zulu (Z)	Coordinated Universal Time

2.2.2 Abbreviations Used in *Canada Air Pilot* and *Restricted Canada Air Pilot*

For acronyms and initialisms appearing in *Canada Air Pilot*, refer to the *Canada Air Pilot*, General, "Abbreviations and Acronyms"; for the *Restricted Canada Air Pilot*, refer to the *Restricted Canada Air Pilot*, RCAP GEN, "Abbreviations and Acronyms."

2.2.3 Abbreviations Used in *Canada Flight Supplement* and *Canada Water Aerodrome Supplement*

For acronyms and initialisms appearing in the *Canada Flight Supplement* and *Canada Water Aerodrome Supplement*, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, "General – Abbreviations and Acronyms."

2.2.4 Terms used in *AIP Canada*

Table 2.2.4, "Terms in *AIP Canada*," lists some of the terms appearing in *AIP Canada*, along with their definitions.

Table 2.2.4, Terms in *AIP Canada*

Term	Definition
Aerodrome	Any area of land, water (including the frozen surface of the water) or other supporting surface that is used or designed, prepared, equipped or set apart for use, either in whole or in part, for the arrival and departure, movement or servicing of aircraft, including any buildings, installations and equipment in connection therewith.
Air defence identification zone	Airspace of defined dimensions extending upwards from the surface of the earth within which certain rules for the security control of air traffic apply.
Airport	An aerodrome in respect of which a Canadian aviation document is in force.

Term	Definition
Air traffic	All aircraft in flight, as well as aircraft operating on the manoeuvring area of an aerodrome.
Air traffic control clearance	Authorization by an ATC unit for an aircraft to proceed within controlled airspace under specified conditions.
Air traffic control instruction	A directive issued by an ATC unit for ATC purposes.
Air traffic control service	Services, other than flight information services, provided for the following reasons: 1. To prevent collisions between ▪ aircraft, ▪ aircraft and obstructions, and ▪ aircraft and vehicles on the manoeuvring area; and 2. To expedite and maintain an orderly flow of air traffic.
Air traffic control unit	An ATC unit refers to one of the following, depending on the circumstances: ▪ An area control centre (ACC) established to provide ATC service to IFR flights and controlled VFR (CVFR) flights; ▪ A terminal control unit established to provide ATC service to IFR flights and CVFR flights operating within a terminal control area; or ▪ An airport control tower unit established to provide ATC service to airport traffic.
Apron	That part of an aerodrome, other than the manoeuvring area, intended to accommodate the following activities: 1. Loading and unloading of passengers and cargo; 2. Refuelling, servicing, maintenance and parking of aircraft; and 3. Any movement of aircraft, vehicles and pedestrians necessary for such purposes.
Arctic Control Area	That airspace designated and defined in the *Designated Airspace Handbook* (TP 1820E) as controlled airspace within the NDA.
Area minimum altitude	The lowest altitude to be used under instrument meteorological conditions (IMC) that will provide a minimum vertical clearance of 1,000 ft, or in designated mountainous terrain, 2,000 ft above all obstacles located in the area specified, rounded up to the nearest 100 foot increment.
Area navigation	A method of navigation that permits aircraft to operate on any desired flight path within the coverage provided by station-referenced navigation aids, or within the limits of the capability of self-contained aids, or a combination of these.
Canadian Domestic Airspace	That airspace that is designated and defined in the *Designated Airspace Handbook* (TP 1820E) as navigable airspace of Canada.
Civil twilight	In the morning, civil twilight begins when the centre of the sun's disc is 6° below the horizon and is ascending, and ends at sunrise, approximately 25 minutes later. In the evening, civil twilight begins at sunset, and ends when the centre of the sun's disc is 6° below the horizon and is descending, approximately 25 minutes later. The number of minutes varies depending on the latitude and the time of year.
Control zone	Controlled airspace of defined dimensions extending upwards from the surface of the earth up to and including 3,000 ft above aerodrome elevation (AAE) unless otherwise specified.
Controlled airspace	Airspace of defined dimensions within which air traffic control service is provided.

Term	Definition
Controlled VFR flight	A flight conducted under VFR within Class B airspace and in accordance with an ATC clearance.
Cruising altitude	An altitude, as shown by a constant altimeter indication in relation to a fixed and defined datum, that is maintained during a flight or a portion of it.
Day or daylight	The time between the beginning of morning civil twilight and the end of evening civil twilight.
Final approach	That segment of an instrument approach between the final approach fix or point and the runway, airport or missed approach point, whichever is encountered last, wherein alignment and descent for landing are accomplished.
Flight information region	Airspace of defined dimensions extending upwards from the surface of the earth within which flight information service (FIS) and alerting service are provided.
Flight level	An altitude expressed in hundreds of feet indicated on an altimeter set to 29.92 inches of mercury or 1013.2 millibars.
Flight service station	An aeronautical facility providing mobile and fixed communications, flight information, SAR alerting, and weather services to pilots and other users.
Flight visibility	At any given time, the average range of visibility forward from the cockpit of an aircraft in flight.
Flow control	Measures designed to adjust the flow of traffic into a given airspace, along a givenroute, or bound for a given aerodrome so as to ensure the most effective use of the airspace.
Heading	The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).
High-level airway	In controlled high-level airspace, a prescribed track between specified radio aids to navigation.
Instrument approach procedure	A series of predetermined manoeuvres made by reference to flight instruments with specified protection from obstacles from the initial approach fix or, where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and, if a landing is not completed, to a position at which holding or enroute obstacle clearance criteria apply.
Intersection	1. A point on the surface of the earth over which two or more position lines intersect. The position lines may be true bearings from NDBs (magnetic bearings shown on chart for pilot use), radials from VHF/ultra-high frequency (UHF) aids, centre lines of airways, fixed area navigation (RNAV) routes, air routes, localizers and DME distances. 2. The point where two runways, a runway and a taxiway, or two taxiways cross or meet.
Low-level air route	Within low-level airspace, a route extending upwards from the surface of the earth and for which ATC is not provided.
Low-level airway	Within low-level airspace, a route extending upwards from 2,200 ft above the surface of the earth up to, but not including, 18,000 ft above sea level (ASL), and for which ATC is provided.
Manoeuvring area	That part of an aerodrome intended to be used for the taking off and landing of aircraft and for the movement of aircraft associated with takeoff and landing, excluding aprons.

Term	Definition
MEDEVAC	A term used to request ATS priority handling for a medical evacuation flight based on a medical emergency, usually the transport of patients, organ donors, organs, or other urgently needed life-saving medical material. The term is to be used on flight plans and in radiotelephony communications if a pilot determines that a priority is required.
Minimum holding altitude	The lowest altitude prescribed for a holding pattern that ensures navigational signal coverage, and communications, and meets obstacle clearance requirements.
Minimum sector altitude	The lowest altitude that will provide a minimum clearance of 1,000 ft above all objects located in an area contained within a sector of a circle of 25 NM radius centred on a radio aid to navigation.
Mountainous region	An area of defined lateral dimensions above which special rules concerning minimum enroute altitudes apply.
Movement area	That part of an aerodrome intended to be used for the surface movement of aircraft, including the manoeuvring area and aprons.
Navigation aid	Any visual or electronic device, airborne or on the surface of the earth, that provides point-to-point guidance information or position data to aircraft in flight.
Night	The time between the end of evening civil twilight and the beginning of morning civil twilight.
Non-precision approach	An instrument approach in which only electronic azimuth information is provided. No electronic glide path information is provided and obstacle assessment in the final segment is based on minimum descent altitude.
Northern Control Area	That airspace designated and defined in the *Designated Airspace Handbook* (TP 1820E) as controlled airspace within the NDA.
Northern Domestic Airspace	That airspace designated and defined in the *Designated Airspace Handbook* (TP 1820E) as NDA within the Canadian Domestic Airspace (CDA).
NOTAM	A notice containing information about the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.
Obstacle	An existing object, object of natural growth, or terrain at a fixed geographical location or that may be expected at a fixed location within a prescribed area which necessitates the provision of vertical clearance during flight operations.
Precision approach radar	A high-definition, short-range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy to assist the pilot in executing an approach and landing. This form of navigational assistance is termed precision approach radar.
Procedure turn	A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.
Radial	A magnetic bearing from a VOR, tactical air navigation aid (TACAN), or combination of VOR and TACACN (VORTAC) facility, except for facilities in the NDA that may be oriented on true or grid North.

Term	Definition
Secondary surveillance radar	A radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on a transponder-generated signal rather than a signal reflected from the aircraft, as in primary radar, it offers significant operational advantages such as increased range and positive indication.
Southern Control Area	That airspace designated and defined in the *Designated Airspace Handbook* (TP 1820E) as controlled airspace within the SDA.
Southern Domestic Airspace	That airspace designated and defined in the *Designated Airspace Handbook* (TP 1820E) as SDA airspace within the CDA.
Standard instrument departure	A pre-planned IFR ATC departure procedure, published in graphic and textual form, for the use of pilots and controllers. Standard instrument departures (SIDs) provide transition from runways to the appropriate enroute structure.
Standard terminal arrival	A pre-planned IFR ATC arrival procedure, published in graphic and textual form, for the use of pilots and controllers. Standard terminal arrivals (STARs) provide published route links between the enroute structure and a published instrument approach procedure.
Terminal control area	Controlled airspace of defined dimensions designated to serve arriving, departing and enroute aircraft.
Threshold	The beginning of that portion of the runway usable for landing.
Touchdown zone	The first 3,000 feet of the runway or the first third of the runway, whichever is less, measured from the threshold in the direction of landing.
Track	The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from north (true, magnetic or grid).
Transition	1. The general term that describes the change from one phase of flight or flight conditions to another; for example, transition from enroute flight to the approach or transition from instrument flight to visual flight. 2. A published procedure providing navigation information from the enroute structure to the instrument approach procedure. Also includes SID/STAR transitions.
Visual approach	A visual approach is an approach in which an aircraft on an IFR flight plan, operating in visual meteorological conditions (VMC) under the control of ATC and having ATC authorization, may proceed to the airport of destination.
Visual meteorological conditions	Meteorological conditions equal to or greater than the minima prescribed in the CARs, Part VI, "General Operating and Flight Rules," Subpart 2, "Operating and Flight Rules," Division VI, "Visual Flight Rules," expressed in terms of visibility and distance from cloud.
Wind shear	A change in wind speed or wind direction or both in a short distance resulting in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

GEN 2.3 Chart Symbols

Aeronautical Information Services of NAV CANADA publish a list of chart symbols used in the charts included in the publication to assist the reader. For information about the chart symbols used, refer to the chart legend or map index in the general section of the publication.

GEN 2.4 Location Indicators

For an alphabetical list of aerodrome and heliport location indicators, as well as location indicators used in NOTAMs for facilities that are not aerodromes, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, "General – Cross Reference of Aerodrome Location Indicator & Name" and "Location Indicators (Other Than A/D) Used in NOTAM," and the *Canada Flight Supplement*, Section A, "General – Cross Reference of Heliport Names."

GEN 2.5 List of Radio Navigation Aids

For a list of radio navigation facilities, arranged alphabetically by the name of the station, refer to the *Canada Flight Supplement*, Section D, "Radio Navigation and Communications – Radio Navigation Aids by Location." For a list of radio navigation facilities arranged alphabetically by the indicator, refer to *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section D, "Radio Navigation and Communications – Radio Navigation Aids by Indicator."

GEN 2.6 Conversion Tables

2.6.1 Converting Nautical Miles and Kilometres

Tables 2.6.1, "Converting Nautical Miles and Kilometres," provides information on converting nautical miles to kilometres and vice versa.

Table 2.6.1, Converting Nautical Miles and Kilometres

Converting Nautical Miles to Kilometres and Kilometres to Nautical Miles			
1 NM = 1.852 KM		1 KM = 0.540 NM	
NM	KM	KM	NM
0.1	0.1852	0.1	0.054
0.2	0.3704	0.2	0.108
0.3	0.5556	0.3	0.162
0.4	0.7408	0.4	0.216
0.5	0.9260	0.5	0.270
0.6	1.1112	0.6	0.324
0.7	1.2964	0.7	0.378
0.8	1.4816	0.8	0.432
0.9	1.6668	0.9	0.486
1	1.852	1	0.54
2	3.704	2	1.08
3	5.556	3	1.62
4	7.408	4	2.16
5	9.260	5	2.70
6	11.112	6	3.24
7	12.964	7	3.78
8	14.816	8	4.32

Converting Nautical Miles to Kilometres and Kilometres to Nautical Miles			
1 NM = 1.852 KM		1 KM = 0.540 NM	
NM	KM	KM	NM
9	16.668	9	4.86
10	18.52	10	5.4
20	37.04	20	10.8
30	55.56	30	16.2
40	74.08	40	21.6
50	92.60	50	27.0
60	111.12	60	32.4
70	129.64	70	37.8
80	148.16	80	43.2
90	166.68	90	48.6
100	185.2	100	54
200	370.4	200	108
300	555.6	300	162
400	740.8	400	216
500	926.0	500	270
600	1111.2	600	324
700	1296.4	700	378
800	1481.6	800	432
900	1666.8	900	486
1000	1852.0	1000	540

2.6.2 Converting Feet and Metres

Table 2.6.2, “Converting Feet and Metres,” provides information on converting feet into metres and vice versa.

Table 2.6.2, Converting Feet and Metres

Converting Feet to Metres and Metres to Feet			
1 Foot = 0.3048 M		1 M = 3.281 FT	
FT	M	M	FT
0.1	0.03048	0.1	0.3281
0.2	0.0607	0.2	0.6562
0.3	0.0914	0.3	0.9843
0.4	0.1219	0.4	1.3124
0.5	0.1524	0.5	1.6405
0.6	0.1823	0.6	1.9686
0.7	0.2134	0.7	2.2967
0.8	0.2438	0.8	2.6248

Converting Feet to Metres and Metres to Feet			
1 Foot = 0.3048 M		1 M = 3.281 FT	
FT	M	M	FT
0.9	0.2743	0.9	2.9529
1	0.3048	1	3.281
2	0.6096	2	6.562
3	0.9144	3	9.843
4	1.2192	4	13.124
5	1.524	5	16.405
6	1.8288	6	19.686
7	2.1336	7	22.967
8	2.4384	8	26.248
9	2.7432	9	29.529
10	3.048	10	32.81
20	6.096	20	65.62
30	9.144	30	98.43
40	12.192	40	131.24
50	15.24	50	164.05
60	18.288	60	196.86
70	21.336	70	229.67
80	24.384	80	262.48
90	27.432	90	295.29
100	30.48	100	328.1
200	60.96	200	656.2
300	91.44	300	984.3
400	121.92	400	1312.4
500	152.4	500	1640.5
1000	304.8	1000	3281
2000	609.6	2000	6562
3000	914.4	3000	9843
4000	1219.2	4000	13124
5000	1524	5000	16405

2.6.3 Converting Decimal Minutes of Arc and Seconds of Arc

Table 2.6.3, “Converting Decimal Minutes of Arc and Seconds of Arc,” provides information on converting decimal minutes of arc to seconds of arc and vice versa.

Table 2.6.3, Converting Decimal Minutes of Arc and Seconds of Arc

Converting Decimal Minutes of Arc to Seconds of Arc and Seconds of Arc to Decimal Minutes of Arc																				
Seconds			Hundredths of a Minute			Seconds			Hundredths of a Minute			Seconds			Hundredths of a Minute					
0.000	–	0.299	=	0.00								39.900	–	40.499	=	0.67				
0.300	–	0.899	=	0.01	20.100	–	20.699	=	0.34			40.500	–	41.099	=	0.68				
0.900	–	1.499	=	0.02	20.700	–	21.299	=	0.35			41.100	–	41.699	=	0.69				
1.500	–	2.099	=	0.03	21.300	–	21.899	=	0.36			41.700	–	42.299	=	0.70				
2.100	–	2.699	=	0.04	21.900	–	22.499	=	0.37			42.300	–	42.899	=	0.71				
2.700	–	3.299	=	0.05	22.500	–	23.099	=	0.38			42.900	–	43.499	=	0.72				
3.300	–	3.899	=	0.06	23.100	–	23.699	=	0.39			43.500	–	44.099	=	0.73				
3.900	–	4.499	=	0.07	23.700	–	24.299	=	0.40			44.100	–	44.699	=	0.74				
4.500	–	5.099	=	0.08	24.300	–	24.899	=	0.41			44.700	–	45.299	=	0.75				
5.100	–	5.699	=	0.09	24.900	–	25.499	=	0.42			45.300	–	45.899	=	0.76				
5.700	–	6.299	=	0.10	25.500	–	26.099	=	0.43			45.900	–	46.499	=	0.77				
6.300	–	6.899	=	0.11	26.100	–	26.699	=	0.44			46.500	–	47.099	=	0.78				
6.900	–	7.499	=	0.12	26.700	–	27.299	=	0.45			47.100	–	47.699	=	0.79				
7.500	–	8.099	=	0.13	27.300	–	27.899	=	0.46			47.700	–	48.299	=	0.80				
8.100	–	8.699	=	0.14	27.900	–	28.499	=	0.47			48.300	–	48.899	=	0.81				
8.700	–	9.299	=	0.15	28.500	–	29.099	=	0.48			48.900	–	49.499	=	0.82				
9.300	–	9.899	=	0.16	29.100	–	29.699	=	0.49			49.500	–	50.099	=	0.83				
9.900	–	10.499	=	0.17	29.700	–	30.299	=	0.50			50.100	–	50.699	=	0.84				
10.500	–	11.099	=	0.18	30.300	–	30.899	=	0.51			50.700	–	51.299	=	0.85				
11.100	–	11.699	=	0.19	30.900	–	31.499	=	0.52			51.300	–	51.899	=	0.86				
11.700	–	12.299	=	0.20	31.500	–	32.099	=	0.53			51.900	–	52.499	=	0.87				
12.300	–	12.899	=	0.21	32.100	–	32.699	=	0.54			52.500	–	53.099	=	0.88				
12.900	–	13.499	=	0.22	32.700	–	33.299	=	0.55			53.100	–	53.699	=	0.89				
13.500	–	14.099	=	0.23	33.300	–	33.899	=	0.56			53.700	–	54.299	=	0.90				
14.100	–	14.699	=	0.24	33.900	–	34.499	=	0.57			54.300	–	54.899	=	0.91				
14.700	–	15.299	=	0.25	34.500	–	35.099	=	0.58			54.900	–	55.499	=	0.92				
15.300	–	15.899	=	0.26	35.100	–	35.699	=	0.59			55.500	–	56.099	=	0.93				
15.900	–	16.499	=	0.27	35.700	–	36.299	=	0.60			56.100	–	56.699	=	0.94				
16.500	–	17.099	=	0.28	36.300	–	36.899	=	0.61			56.700	–	57.299	=	0.95				
17.100	–	17.699	=	0.29	36.900	–	37.499	=	0.62			57.300	–	57.899	=	0.96				
17.700	–	18.299	=	0.30	37.500	–	38.099	=	0.63			57.900	–	58.499	=	0.97				
18.300	–	18.899	=	0.31	38.100	–	38.699	=	0.64			58.500	–	59.099	=	0.98				
18.900	–	19.499	=	0.32	38.700	–	39.299	=	0.65			59.100	–	59.699	=	0.99				
19.500	–	20.099	=	0.33	39.300	–	39.899	=	0.66			59.700	–	59.999	=	1.00				

2.6.4 Runway Visual Range Scale of Comparison

Table 2.6.4, “Runway Visual Range Comparative Scale – Feet to Metres,” provides a visual comparison of specific distances in feet with the same distance in metres.

Table 2.6.4, Runway Visual Range Comparative Scale – Feet to Metres

RVR – Feet	RVR – Metres
500	150
600	175
700	200
1000	300
1200	350
1400	400
2600	800
4000	1200
5000	1500

See also the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, “General – Conversion Tables.”

GEN 2.7 Sunrise and Sunset Tables

2.7.1 Morning and Evening Twilight Charts

In the morning, twilight begins when the sun is ascending and is 6° below the horizon and ends at sunrise, approximately 25 minutes later. In the evening, twilight begins at sunset and ends when the sun is descending and is 6° below the horizon, approximately 25 minutes later.

In the *Canada Flight Supplement* and the *Canada Water Aerodrome Supplement*, Section B, “Aerodrome/Facility Directory,” the table for each aerodrome contains the station name and the ICAO location indicator. The subheading REF contains the aerodrome’s geographical coordinates.

To determine the start of morning twilight, refer to Figure 2.7.1–1, “Sunrise Table,” and apply steps 1 to 3 to the table. Follow the same instructions to determine the start of evening twilight using Figure 2.7.1–2, “Sunset Table.”

1. Start at the top or bottom of the scale at the appropriate date and move vertically, up or down, to the curve of the observer’s latitude.
2. From the intersection move horizontally and read the local time.
3. To find the exact zone or standard time, **add** four minutes for each degree west of the standard meridian, or **subtract** four minutes for each degree east of the standard meridian.

The standard meridians in Canada for each time zone are as follows:

- Atlantic Standard Time: W60°
- Eastern Standard Time: W75°
- Central Standard Time: W90°
- Mountain Standard Time: W105°
- Pacific Standard Time: W120°

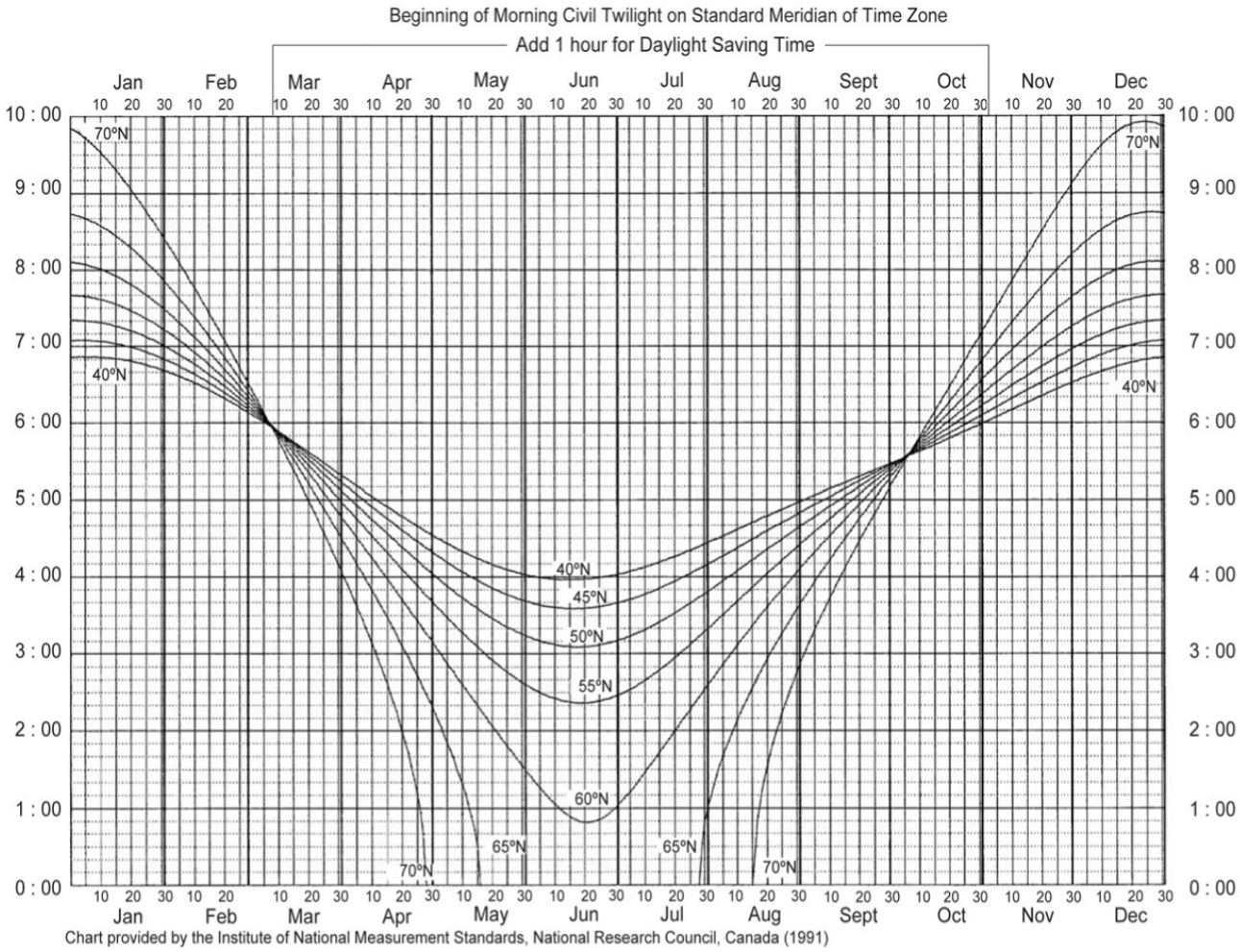

Figure 2.7.1–1, Sunrise Table

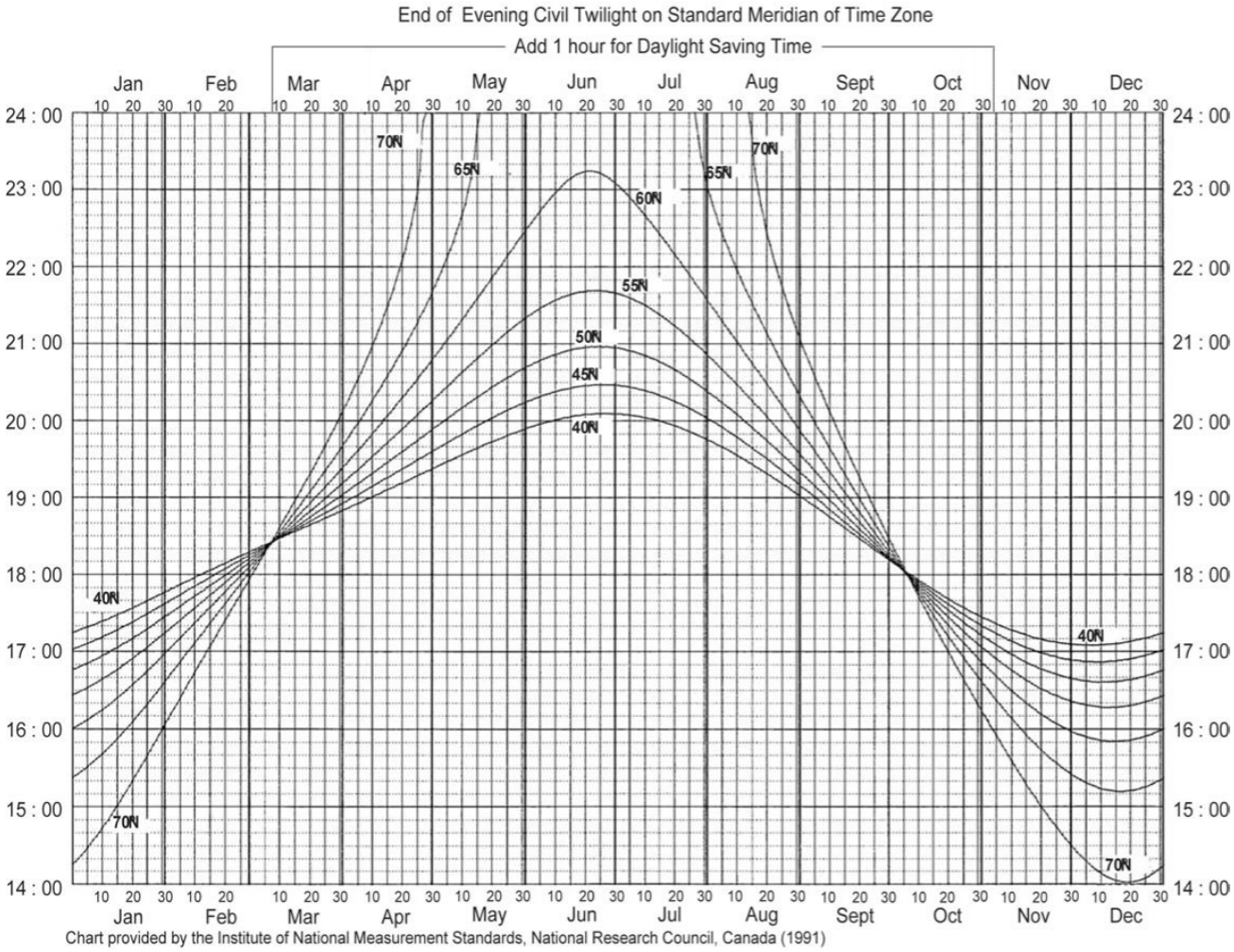

Figure 2.7.1–2, Sunset Table

GEN 3. SERVICES

GEN 3.1 Aeronautical Information Services

3.1.1 Responsible Service

In accordance with the *Civil Air Navigation Services Commercialization Act*, NAV CANADA is responsible for providing AIS that comply with the standards set out in ICAO Annex 4, "Aeronautical Charts," and Annex 15, "Aeronautical Information Services." Any differences are listed in GEN 1.7, "Differences from ICAO Standards, Recommended Practices and Procedures."

Aeronautical Information Services of NAV CANADA operate during normal business hours. For contact information on the national and regional Aeronautical Information Services offices, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, "General – Corrections (Civil)."

The International NOTAM Office is available 24 hours a day. It is located in Ottawa at the following address:

NAV CANADA
International NOTAM Office
Combined ANS Facility
1601 Tom Roberts Avenue
Ottawa, ON K1V 1E5
Canada

Tel.: +1 613-248-4000
Fax: +1 613-248-4001

3.1.2 Area of Responsibility

The Aeronautical Information Services is responsible for the area within the CDA and international airspace assigned to Canadian control.

3.1.3 Aeronautical Publications

The Aeronautical Information Services publishes a set of Aeronautical Information Products that are available on the Aeronautical Information section of the NAV CANADA website.

<www.navcanada.ca>
Aeronautical Information

The Aeronautical Publications include the following publications:

- *AIP Canada* including Amendments and Supplements,
- Aeronautical Information Circulars (AIC)
- Aeronautical Charts
- NOTAMs

3.1.3.1 *AIP Canada* and Related Amendment Service

AIP Canada, published in one volume, is the basic aeronautical information document published for Canada. It contains information of a lasting character that is essential to air navigation. Aeronautical charts and publications produced by NAV CANADA are referenced throughout the *AIP Canada*. These charts and publications are available for purchase from NAV CANADA's Aeronautical Publications, Sales and Distribution Unit. For contact information, refer to GEN 3.2.3, "Purchase Arrangements." For any required aeronautical information or data not contained in this publication or the associated aeronautical information products and charts listed herein, contact NAV CANADA at the following address to ascertain the availability of the required aeronautical information or data:

NAV CANADA
Aeronautical Information Services
AIP Coordinator
151 Slater Street
Suite 120
Ottawa, ON K1P 5H3

E-mail: aipcoord@navcanada.ca

Amendments to *AIP Canada* are published every 56 days (see GEN 0.2, "Record of *AIP Canada* Amendments," for a list of the amendments). A vertical line is inserted in the page margin to indicate a textual change. Any changes made to *AIP Canada* that are operationally significant are published in accordance with Aeronautical Information Regulation and Control (AIRAC) procedures.

3.1.3.2 *AIP Canada* Supplements

Temporary changes, lasting three months or longer, and operational changes containing extensive text are published as *AIP Canada* Supplements (see GEN 0.3, "Record of *AIP Canada* Supplements").

3.1.3.3 Aeronautical Information Circulars

Aeronautical Information Circulars contain information of general interest and information on administration matters that would be inappropriate as an *AIP Canada* Amendment or *AIP Canada* Supplement.

3.1.3.4 NOTAMs

In addition to being disseminated over the aeronautical fixed service (AFS), Canadian NOTAM are also available online at <https://plan.navcanada.ca/wxrecall/>.

NOTAM series are based on selective dissemination categories and NOTAM regions. There are three NOTAM regions (Western, Central and Eastern) and six different series per region for a total of 18 series: C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, U, V.

Refer to the AIP Canada – Current and Next Issues section of the NAV CANADA website for the following NOTAM series files:

- Aerodrome NOTAM Series
- Designated Airspace (Class F) NOTAM Series
- NAVAIDS NOTAM Series

Service providers and users of NOTAM should avoid limiting their series subscriptions to only one NOTAM Region or, should avoid filtering by NOTAM Region only, as there is always a possibility that the area of influence of a NOTAM extends to an adjacent NOTAM Region.

Dissemination Categories

There are three (3) dissemination categories, each containing six (6) series:

- **International:** disseminated to International stakeholders, to the USA, and within Canada;
  - Specific Aerodromes
  - Specific NAVAIDs, Designated Airspace, Airspace warnings and communication
- **International – USA:** disseminated to the USA and within Canada; and
  - Specific Aerodromes
  - Specific NAVAIDs, Designated Airspace, Airspace warnings and communication
- **National:** disseminated within Canada only.
  - Specific Aerodromes
  - All obstacles and light outages beyond 5 nautical miles of any aerodrome.

Note: The dissemination category of an aerodrome also determines the Series by which a NOTAM on runway surface conditions (RSC NOTAM) is disseminated. For RSC NOTAM Series information refer to GEN 3.1.3.5, "NOTAM Concerning Runway Surface Conditions."

Dissemination Category "International" (disseminated Internationally, to United States of America and to Canada)		
Series	**Dissemination within Region**	**Description of Series**
C	Western	Hazards, unavailability, and outages associated with aerodromes within the International category. Includes, lighting facilities, movement and landing areas, facilities and services, aerodrome air traffic procedures (scope A or AE), instrument landing systems, and obstacles to air navigation within 5 NM of the aerodrome.
D	Central	
E	Eastern	
F	Western	NAVAIDs, airspace warnings, communication and surveillance, GNSS, Terminal and Enroute navigation facilities, airspace organization, air traffic and VOLMET services, Enroute Air Traffic Procedures, ADIZ procedures, Navigation warnings, airspace restrictions, and group of obstacles with an area of influence intersecting the 5 NM radius circle of more than one aerodrome. At least one airport belongs to the "International" dissemination category.
G	Central	
H	Eastern	

Dissemination Category "International - USA" (disseminated to United States of America and to Canada)		
Series	**Dissemination within Region**	**Description of Series**
I	Western	Hazards, unavailability, and outages associated with aerodromes within the International-USA category. Includes, lighting facilities, movement and landing areas, facilities and services, aerodrome air traffic procedures (scope A or AE), instrument landing systems, and obstacles to air navigation within 5 NM of the aerodrome.
J	Central	
K	Eastern	
L	Western	NAVAIDs, airspace warnings, communication and surveillance, GNSS, Terminal and Enroute navigation facilities, airspace organization, air traffic and VOLMET services, Air Traffic Procedures, Navigation warnings, airspace restrictions, group of obstacles with an area of influence intersecting the 5NM radius circle of more than one aerodrome. At least one airport belongs to the "International-USA" dissemination category.
M	Central	
N	Eastern	

Dissemination Category "National" (disseminated to Canada only)		
Series	**Dissemination within Region**	**Description of Series**
O	Western	Hazards, unavailability, and outages associated with aerodromes within the National category. Includes, lighting facilities, movement and landing areas, facilities and services, aerodrome air traffic procedures (scope A or AE), instrument landing systems, and obstacles to air navigation within 5 NM of the aerodrome in this category.
P	Central	
Q	Eastern	
R	Western	Obstacles (cranes, antennas, pylons, etc.) beyond 5 NM of any aerodrome and all obstacle light outages
U	Central	
V	Eastern	

NOTAM Regions

There are three (3) dissemination categories, each containing six (6) series:

Western Region:	The Western Region consists of the Vancouver and Edmonton FIRs. NOTAM Series C, F, I, L, O and R.
Central Region:	The Central Region consists of the Winnipeg and Toronto FIRs except for three locations where services are available in English and French: CNC9-Perth (Great War Mem Hosp) (Heli), CTA4-St-Bruno-de-Guigues, CSR8-La Sarre. NOTAM Series D, G, J, M, P and U.
Eastern Region:	The Eastern Region consists of Montreal, Moncton and Gander FIRs in addition to the three locations in Toronto FIR where services are available in English and French: CNC9-Perth (Great War Mem Hosp) (Heli), CTA4-St-Bruno-de-Guigues, CSR8-La Sarre. NOTAM Series E, H, K, N, Q and V.

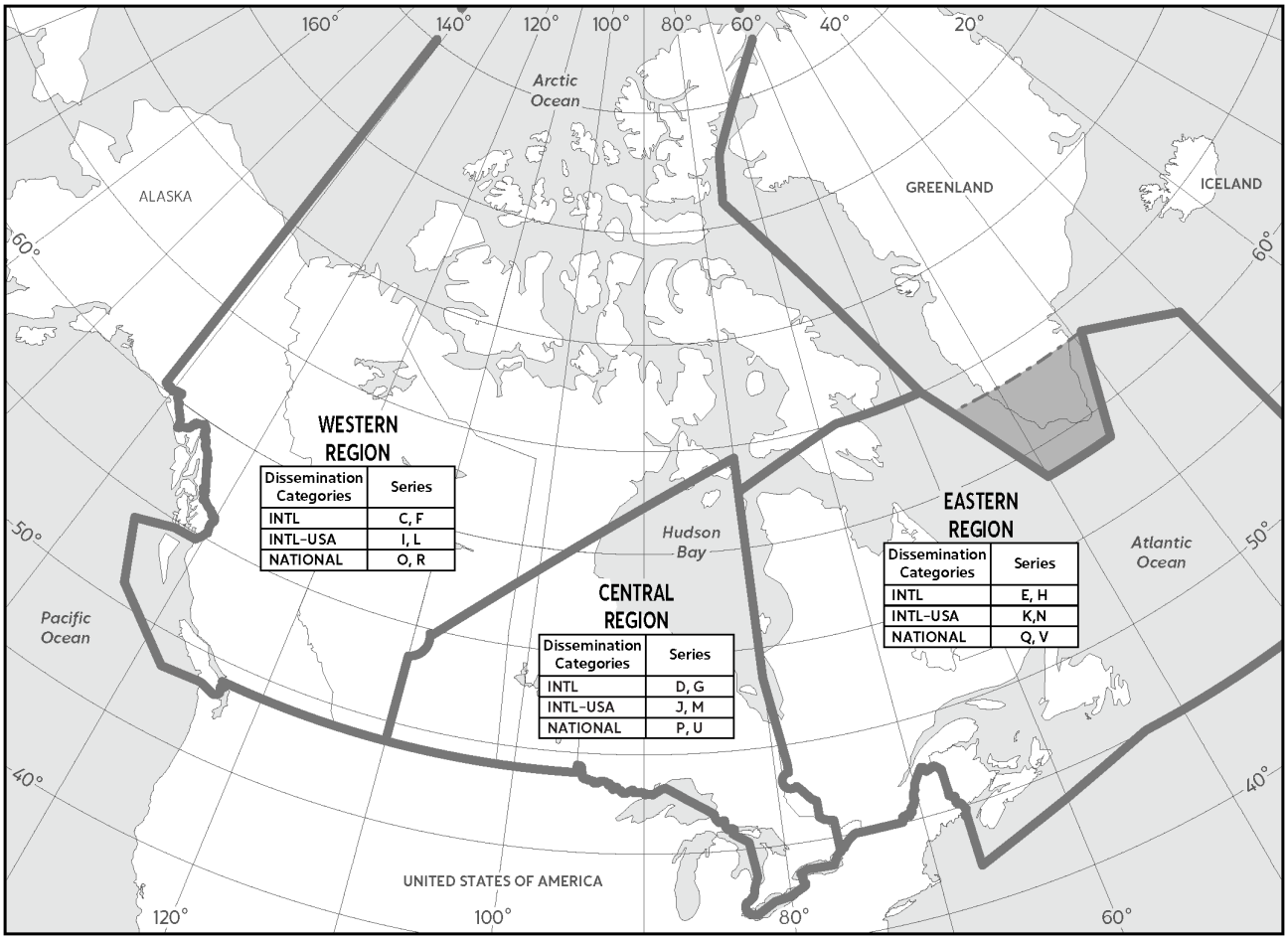

Figure 3.1.3.4, Geographical Layout of NOTAM Regions and Series

In regions where NOTAM are available in English and French, the French text follows the English text in item E).

Automatic Query/Response of the Canadian Database

Canadian NOTAMs in all 18 Series are available by automatic query/response via the AFS to Canadian and international users. Foreign NOTAM are not stored in the Canadian NOTAM database but are available by automatic query response via the AFS through the European AIS Databased (EAD).

The Canadian database can be queried for one or multiple NOTAM numbers or for a list of valid NOTAM numbers. Series and year of issuance can be mixed but the number of NOTAM within a single request must not exceed one hundred (100).

The queries for NOTAM and impromptu checklists and their responses are identified by 3–letter designators:

Queries for NOTAM designator:	RQN
Queries for a list of valid NOTAM designator:	RQL
Response to queries designator:	RQR

Contrary to “NOTAM” messages, brackets are not used to transmit a “Query NOTAM” message. The following characters are used in queries:

- “ – “ (hyphen) is used to indicate “TO” or “FROM-TO”
- “ “ (blank) is used to indicate “AND”
- “=” (equal) is used in queries to receive French text

Queries

All queries must be addressed to CYHQYNYX. The nationality indicator must be CYHQ for all Canadian NOTAM.

- Request for a Single NOTAM:

  ```
  RQN CYHQ C0123/19
  ```

- Request for Multiple NOTAM within a range:

  ```
  RQN CYHQ C0200/19-C0203/19
  ```

- Request for Multiple NOTAM by non-sequential numbers:

  ```
  RQN CYHQ C0400/19 C0410/19 C0421/19 C0425/19 C0525/19
  ```

- Request for French text of NOTAM (where bilingual NOTAM are issued only). The letter “C” stands for “combination” of English and French:

  ```
  RQN CYHQ E0123/19 E0128/19 E0133/19, LANG=C
  ```

- Request for a list of valid NOTAM with a series:

  ```
  RQL CYHQ H
  ```

- Request for multiple lists of valid NOTAM:

  ```
  RQL CYHQ D G
  ```

Responses

When requesting NOTAM numbers (RQN), the response will contain all the NOTAM requested:

```
GG LFFAYNYX
281035 CYHQYNYX
RQR CYHQ C0200/19
(C0200/19 NOTAMN
Q) .../..../.... etc.)
```

When requesting the French text of NOTAM numbers (RQN) (where issued), the response will contain each NOTAM with item E) in both language:

```
RQR CYHQ E0123/19
(E0123/19 NOTAMN
Q) .../..../.... etc.)

….
E) English text

FR :
E) French text
```

When requesting a NOTAM list (RQL), the response will list the NOTAM by year in ascending order:

```
GG LFFAYNYX
281055 CYHQYNYX
RQR CYHQ C
YEAR=2018 0322 0452
YEAR=2019 0001 0006 0010 0015 0016
0021 0035 0039
```

When requesting multiple NOTAM lists, the response will present the NOTAM in each list separately. For example, if requesting lists for series E, G and H:

```
GG LIIAYNYX
310850 CYHQYNYX
RQR CYHQ E
YEAR=2018 1678 1789
YEAR=2019 0012 0022 0056 0057 0058
0123 0124 0125

GG LIIAYNYX
310850 CYHQYNYX
RQR CYHQ G
YEAR=2019 0003 0145 0234 0777 0779

GG LIIAYNYX
310850 CYHQYNYX
RQR CYHQ H
YEAR=2018 4455 4973 5567 9976
YEAR=2019 0012
```

Responses may also contain messages if NOTAM are not available as requested or if the query message contained an error. All of the expressions are in English and French:

Expression	Usage/meaning
NOTAM EXPIRED/NOTAM EXPIRE	The requested NOTAM item C) was reached.
NOTAM CANCELLED BY/NOTAM ANNULE PAR C1324/19	The requested NOTAM was cancelled with a NOTAMC.
NOTAM REPLACED BY/NOTAM REMPLACE PAR C1324/19	The requested NOTAM was replaced with a NOTAMR.
NOTAM NO LONGER IN DATABASE/NOTAM N'EST PLUS DISPONIBLE EN BASE DE DONNEES	The requested NOTAM has either expired, been replaced, or cancelled more than 3 months ago and has been removed from the database.
NOTAM NOT ISSUED/NOTAM NON EMIS	The requested NOTAM has not been issued.
NO VALID NOTAM IN DATABASE/PAS DE NOTAM DISPONIBLE EN BASE DE DONNEES	For checklist query only (RQL), when no valid NOTAM is available.
INCORRECT REQ MSG FORMAT PLEASE CORRECT AND REPEAT/FORMAT MSG REQ INCORRECT VEUILLEZ CORRIGER ET REPETER	The requested received contains a syntax error.
REQUESTED NOF OR SERIES NOT MANAGED/NOF OU SERIE DEMANDE NON-GERE	The NOF or series for which the NOTAM(s) is (are) requested is unknown.

Expression	Usage/meaning
YOUR REQ MSG EXCEEDS MAX NR OF 100/VOTRE MSG REQ DEPASSE NR MAX DE 100	The requested NOTAMs exceed the maximum numbers of NOTAM per request.

3.1.3.5 NOTAM Concerning Runway Surface Conditions

NOTAM concerning Runway Surface Conditions (RSC) and Canadian Runway Friction Index (CRFI) are called RSC NOTAM and are presented in the NOTAM format (as opposed to a SNOWTAM format). It is possible that the NOTAM be disseminated in multiple parts.

The qualifier line (Q-Line) of an RSC NOTAM has the Q-Code FAXX, traffic IV, purpose NBO and scope A.

The RSC NOTAM dissemination mirrors the dissemination categories for aerodromes listed in *AIP Canada*, Part 1 – General (GEN), Section 3.1.3.4 “NOTAMs”. The series are delineated as follows:

- **Series S:** For those airports and aerodromes disseminated in the INTL category
- **Series A:** Those airports and aerodromes disseminated in the INTL-USA category
- **Series B:** Those aerodromes disseminated in the National category

All runway condition information is reported in Item E).

Runway surface conditions may be reported by runway thirds or by full runway length. Runway Condition Codes (RWYCC) are only reported if the runway surface conditions are reported by runway thirds. The CRFI may also be reported by runway thirds or by full runway length. The resulting RSC NOTAM may be valid for 8 hours or 24 hours, depending on the aerodrome’s certification and reporting preference. The validity period of each Aircraft Movement Surface Condition Report (AMSCR) is stated in the section for that runway. The validity period of an AMSCR is a maximum of 8 hours from the time of inspection for certified aerodromes, within the aerodrome’s published operating hours. The validity period of an AMSCR is a maximum of 24 hours from the time of inspection for non-certified aerodromes, within the aerodrome’s published operating hours. The aerodrome operator should be contacted to determine the reporting method for an aerodrome (refer to *AIP Canada*, Part 3 – Aerodromes (AD) – Section 2.3, “Operational Hours” for more info).

Further information can be found in the *Canadian NOTAM Operating Procedures*, Chapter 8 and Appendix E. on the NAV CANADA website:

<www.navcanada.ca>
Aeronautical Information
Operational Guides
NOTAM References
Canadian NOTAM Operating Procedures

3.1.4 AIRAC System

The Aeronautical Information Services also issues *AIRAC Canada*. *AIRAC Canada* is a notice that is issued weekly to provide advance notification to chart makers and producers of aeronautical information about changes within the CDA and airspace assigned to Canadian control. This notice ensures that all CDA users have the same information on the same date. The AIRAC system works on a 56-day publication cycle.

Refer to the IFR Publication Schedule on the NAV CANADA website for information on the publication dates planned for *AIRAC Canada*:

<www.navcanada.ca>
Aeronautical Information
Purchase Information
IFR Publication Schedule

3.1.5 Pre-flight Information Service at Aerodromes and Heliports

In the *Canada Flight Supplement* and the *Canada Water Aerodrome Supplement*, Section B, "Aerodrome/Facility Directory," the table for each aerodrome and heliport has a subheading FLT PLN that contains pre-flight information, if available.

3.1.6 Electronic Terrain and Obstacle Data

Canada does not currently provide electronic terrain and obstacle data.

GEN 3.2 Aeronautical Charts

3.2.1 Responsible Service

NAV CANADA is responsible for providing aeronautical charts in accordance with the standards set out in ICAO Annex 4, "Aeronautical Charts." Any differences from Annex 4 are listed in GEN 1.7, "Differences from ICAO Standards, Recommended Practices and Procedures."

For information about aeronautical charts, contact the national or a regional Aeronautical Information Services office. See GEN 3.1.1, "Responsible Service," for contact information.

3.2.2 Maintenance of Charts

Correction cards are an important facet of information collection when used effectively by pilots. The cards are enclosed with various aeronautical information publications. Users should complete the card with the necessary information. Alternatively, amendments may be reported to the appropriate regional office listed in GEN 1.1.

VFR aeronautical charts are not revised on a fixed basis. However, individual VFR charts in each series are reviewed such that for VFR charts covering the more densely populated areas, the topographic base maps are examined every two years and the aeronautical information is reviewed once a year. For less densely populated areas, the topographic base maps are reviewed every five or six years and the aeronautical overlays are reviewed every two or five years, depending on the location in Canada. VFR charts identified as requiring updating during these inspections are then revised and reproduced.

The "VFR Chart Updating Data" section of the CFS provides a means of notifying VFR chart users of significant aeronautical information to update the current VFR aeronautical charts. In this regard, significant aeronautical information is considered to be that which affects the safety of VFR operation, e.g. obstructions, restricted and advisory areas, blasting operations, cable crossings, and new or revised control zones. New or revised information of this nature, which is required to be depicted on visual charts, is advertised by NOTAM until such time as the information can be published in the "VFR Chart Updating Data" section of the CFS. Subsequently, the NOTAM is cancelled. Later, when any particular visual chart is being revised, any updating information from the "VFR Chart Updating Data" section of the CFS applicable to that chart is included on the chart and deleted from the CFS.

This system of moving significant VFR information from NOTAM to the "VFR Chart Updating Data" section of the CFS and finally to the visual charts themselves, provides VFR operators with an aeronautical information service that is comprehensive, timely and easy to use. For pre-flight planning and in-flight navigation, VFR pilots should consult a current CFS and VNC that is appropriate to the intended route of flight. For flights into high density traffic areas, a current VTA should also be obtained. For pre-flight information, VFR pilots should reference the latest edition of this document.

On receipt of the CFS, the pilot should check the "VFR Chart Updating Data" section for significant information that may update the particular charts being used. If the pilot then consults the NOTAMs prior to departure, he/she will have obtained all essential aeronautical information that could affect the flight.

3.2.3 Purchase Arrangements

To purchase an aeronautical chart or publication, contact the Sales and Distribution Unit of NAV CANADA by mail, e-mail, telephone or fax:

NAV CANADA
Aeronautical Publications
Sales and Distribution Unit
P.O. Box 9840, Station T
Ottawa, ON K1G 6S8
Canada

Tel.: 1-866-731-PUBS (7827) (toll free) or 613-563-2001
Fax: 1-866-740-9992 (toll free) or 613-744-7120
E-mail: aeropubs@navcanada.ca

Purchase Information is also available on the NAV CANADA website:

<www.navcanada.ca>
Aeronautical Information
Purchase Information

3.2.4 Aeronautical Chart Series Available

3.2.4.1 1:500,000 VFR Navigation Chart (VNC) Series of Maps

The VNC series of 52 charts is intended for VFR navigation throughout Canada. It satisfies the requirements of visual air navigation for operations at/or below 12,500 feet ASL.

It provides for:

- 1. Pre-flight planning:
- 1.1 Drawing track lines and using magnetic variation information to determine track in °M;
- 1.2 Map reconnaissance to locate major features (cities, roads, railways, etc.) for lateral navigation; and
- 1.3 Establishing vertical flight profiles with reference to terrain and obstacle elevations.
- 2. In-flight navigation:
- 2.1 Determining horizontal position relative to desired track with reference to ground features;
- 2.2 Determining distances, especially to destination;
- 2.3 Identifying aerodromes, waypoints, frequencies, airspace boundaries, etc.; and
- 2.4 Determining vertical position relative to obstacles and terrain.

3.2.4.2 1:250,000 VFR Terminal Area Charts (VTA) Series of Maps

The VTA series of charts is intended for VFR navigation in the terminal area around seven high traffic areas.

It provides for:

- 1. Pre-flight planning:
- 1.1 Drawing track lines and using magnetic variation information to determine track in °M;
- 1.2 Map reconnaissance to locate major features (cities, roads, railways, etc.) for lateral navigation; and

- 1.3 Establishing vertical flight profiles with reference to terrain, obstacles and runways.
- 2. In-flight navigation:
- 2.1 Identifying arrival and departure routes and waypoints;
- 2.2 Determining horizontal position relative to desired track with reference to ground features;
- 2.3 Determining distances, especially to destination;
- 2.4 Determining vertical position relative to obstacles and terrain; and
- 2.5 Identifying control zones, frequencies and airspace boundaries.

3.2.4.3 *Canada Flight Supplement* (CFS)

This publication provides detailed IFR and VFR information for Canadian aerodromes as well as selected North Atlantic aerodromes. Associated services and national aviation infrastructure information is also included, organized into the following sections:

- **General:** Tables, legends and associated information necessary for interpretation of the material in the supplement.
- **Aerodrome Directory:** Data and sketches for Canadian aerodromes and heliports and selected aerodromes in the North Atlantic.
- **Planning:** Information for flight planning such as characteristics of airspace, flight restrictions, IFR routes and airway intersections.
- **Radio Navigation and Communications:** Data for radio navigation aids and communication facilities.
- **Military:** Flight procedures and data, including sections on procedures for flight in the USA, North Atlantic and Alaska, air/ground communications and military training routes/areas.
- **Emergency:** Emergency procedures. This publication is essential for safety and operational effectiveness in both IFR and VFR operations. It should be used for all pre-flight planning and in-flight operations and for emergency procedures.

3.2.4.4 *Canada Water Aerodrome Supplement* (CWAS)

The *Canada Water Aerodrome Supplement* (WAS) is published annually in March with English and French versions available. It contains detailed information for all water aerodromes shown on Canadian VFR charts under the following sections:

- Special Notices and General
- Aerodrome/Facility Directory
- Planning
- Radio Navigation and Communications
- Emergency

3.2.4.5 *Canada Air Pilot* (CAP)

This series of seven volumes is updated every 56 days and provides aeronautical information primarily related to the IFR arrival or departure phases of flight and comprises the following flight procedure types:

- Instrument Approach Procedure (IAP)
- Diverse and Standard Instrument Departure (SID)
- Standard Instrument Arrival (STAR)
- Noise Abatement Procedure
- Visual Approaches

It also contains ground operations information such as parking areas and de-icing facilities along with Aerodrome and Taxi Chart

3.2.4.6 *Restricted Canada Air Pilot* (RCAP)

This electronic publication provides aeronautical information related to the arrival or departure phases of flight and comprises the following procedure types:

- Instrument Approach Procedure (IAP)
- Diverse and Standard Instrument Departure (SID)
- Standard Instrument Arrival (STAR)
- Noise Abatement Procedure

It also contains ground operations information in Aerodrome Charts.

3.2.4.7 Enroute Low Altitude (LO) Chart

This chart series provides flight crews with information to facilitate navigation along ATS routes in compliance with air traffic services procedures. It is intended for use in the low level airspace structure (below 18,000 feet ASL).

The LO chart series, comprising 10 charts, depicts aeronautical radio information, airways system, controlled/uncontrolled airspace structure, special use airspace, communication stations and selected aerodromes.

It is used for IFR route planning and inflight navigation.

3.2.4.8 Enroute High Altitude (HI) Chart

This chart series provides flight crews with information to facilitate navigation along high level airways and routes in compliance with air traffic control procedures. They are intended for use in high level airspace (18,000 feet ASL and above).

This series comprises six HI charts depicting aeronautical radio information, high level airways structure, controlled/uncontrolled airspace structure, special use airspace, communication facilities and selected aerodromes.

It is used for IFR route planning and inflight navigation.

3.2.4.9 Terminal Area Chart (TAC)

This chart series provides flight crews with information to facilitate IFR navigation in the terminal area of aerodromes in compliance with air traffic services (ATS) procedures. It is intended to assist in the transition from the enroute portion of the flight to the arrival portion, or from the departure portion to the enroute portion, at those terminals where the airspace structure is relatively complex.

The TAC depicts aeronautical radio information, airways system, controlled/uncontrolled airspace structure, special use airspace, communication stations and selected aerodromes in congested areas at a larger scale. This information is in addition to what is displayed on the enroute series and instrument procedure charts.

3.2.4.10 Aerodrome Obstacle Chart Type A

The Type A Obstacle Chart, in combination with relevant information published in the AIP Canada, provides the data necessary to enable an operator to comply with the operating limitations of ICAO Annex 6, Part I, Chapter 5 (paras 5.2.8 and 5.3), and Part III, Section II, Chapter 3 (Helicopters).

These data allow aircraft operators to determine the ability of specific aircraft types under specific conditions, on departure from an airport, to clear obstacles with an engine inoperative. Aerodromes submit survey data to NAV CANADA who in turn makes it available to users as Type A Charts.

For information on the most current charts refer to the ICAO Type A Charts on the NAV CANADA website:

<www.navcanada.ca>
Aeronautical Information
IFR Publications
ICAO Type A Charts

3.2.5 List of Aeronautical Charts Available

For a list of the aeronautical charts available for purchase, see GEN 3.2.3, “Purchase Arrangements.” For a list of available charts refer to the Online Store – Shop Other on the NAV CANADA website:

<www.navcanada.ca>
Aeronautical Information
Online Store
Shop Other

3.2.6 Index to the World Aeronautical Chart (WAC) — ICAO 1:1 000 000

Nil.

3.2.7 Topographical Charts

For details on how topographical charts may be obtained in Canada, refer to the Government of Canada – Natural Resources Canada website.

<http://www.nrcan.gc.ca/earth-sciences/geography/topographic-information/maps/9771>

GEN 3.3 Air Traffic Services

3.3.1 Responsible Service

In accordance with the *Civil Air Navigation Services Commercialization Act*, NAV CANADA is responsible for providing air traffic control (ATC) services that comply with the standards set out in ICAO Annex 11, “Air Traffic Services.” Any differences are listed in GEN 1.7, “Differences from ICAO Standards, Recommended Practices and Procedures.”

For information about the provision of air traffic services (ATS), contact NAV CANADA at the following address or contact numbers during normal business hours.

NAV CANADA
151 Slater Street
Suite 120
Ottawa, ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

3.3.2 Area of Responsibility

NAV CANADA is responsible for providing essential air traffic services (ATS) to aircraft operating in Canadian Domestic Airspace (CDA), and in international airspace assigned to Canadian control.

3.3.3 Types of Services

NAV CANADA provides the following types of air traffic services (ATS), as defined by International Civil Aviation Organization (ICAO):

- air traffic control (ATC) service
- flight information service (FIS)
- alerting service

For information about these services, refer to the About Us – What We Do section on the NAV CANADA website:

<www.navcanada.ca>
Corporate
About Us
What We Do

3.3.4 Coordination Between the Operator and Air Traffic Services

Coordination between the air operator and air traffic services (ATS) is governed in accordance with International Civil Aviation Organization (ICAO) Annex 11, “Air Traffic Services,” Chapter 2, paragraph 2.15.

3.3.5 Minimum Flight Altitude

For information on the rules governing minimum flight altitudes, refer to the sections on Transport Canada’s *Canadian Aviation Regulations* (CARs) website that are listed in Table 3.3.5, “Minimum Flight Altitude.”

Table 3.3.5, Minimum Flight Altitude

Section	Title
602.14	Minimum Altitudes and Distances
602.15	Permissible Low-Altitude Flight
602.34	Cruising Altitudes and Cruising Flight Levels
602.96	General
602.124	Minimum Altitudes to Ensure Obstacle Clearance

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
Part VI – General Operating and Flight Rules
Subpart 2 – Operating and Flight Rules
Division I – General,
Division V – Operations at or in the Vicinity of an Aerodrome, and
Division VII – Instrument Flight Rules

3.3.6 ATS Units Address List

For a list of addresses for all ATS units, contact the responsible service (see GEN 3.3.1, “Responsible Service”).

GEN 3.4 Communication and Navigation Services

3.4.1 Responsible Service

3.4.1.1 Radio Navigation and Aeronautical Systems

All radio navigation aids and aeronautical communication systems in Canada must meet the standards set out in ICAO Annex 10, “Aeronautical Telecommunications.” Differences from the ICAO standards are listed in GEN 1.7, “Differences from ICAO Standards, Recommended Practices and Procedures.”

NAV CANADA is responsible for installing, maintaining and operating the majority of aeronautical telecommunication systems in Canada. This includes operating a network of area control centres (ACCs), terminal control units (TCUs), airport control towers and flight service stations (FSSs) that provide air traffic services (ATS).

A number of communication navigation surveillance/air traffic management (CNS/ATM) systems throughout Canada are owned and operated by individuals, companies, or government. Some navigation aids (NAVAIDS) not owned by NAV CANADA are still shown on navigation charts and maps. Although they are depicted as “private,” they must meet ICAO standards. The NOTAM system normally provides the status of the NAVAIDS not owned by NAV CANADA that are used in instrument approaches.

For information about the provision of ATS, contact NAV CANADA at the following address or contact numbers during normal business hours:

NAV CANADA
151 Slater Street
Suite 120
Ottawa ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

Midwest Air Traffic Control Service, Inc. (Midwest ATC) is responsible for providing ATS and installing, maintaining, and operating the aeronautical telecommunication systems at the Portage la Prairie/Southport Airport, Manitoba. For information about the provision of air traffic services at the Portage la Prairie/Southport Airport, contact Midwest ATC at the following address:

Midwest ATC
7285 W 132nd St # 340,
Overland Park, KS 66213
USA

Tel.: 913-782-7082

Enquiries related to regulations and standards for CNS and ATM systems in Canada should be addressed to:

Flight Standards (AARTA)
Transport Canada
330 Sparks Street
Ottawa ON K1A 0N8

Tel.: 1-800-305-2059
Fax: 613-957-4208
E-mail: TC.Flights.Standards-Normesdevol.TC@tc.gc.ca

3.4.1.2 Air Traffic Services Message Handling

The aeronautical fixed telecommunications network (AFTN) is an integral part of a worldwide system of message switching centres and fixed circuits that allows for aeronautical data exchange between ICAO Member States. Canadian ACCs, flight information centres (FICs), FSSs and other aeronautical facilities are interconnected by the AFTN. Canada's contribution to the AFTN is provided by the AFTN Message Handling System, owned and operated by NAV CANADA, in Ottawa. This centralized store-and-forward message handling system provides for the real-time reception, storage and delivery of aeronautical data nationally, via AFTN stations within Canada, and internationally via the USA, UK, Iceland and Greenland. Command and control of the AFTN Message Handling System is provided by NAV CANADA's National Systems Control Centre (NSCC). Queries on AFTN service can be directed to the NSCC at:

NAV CANADA
National Systems Control Centre
1601 Tom Roberts Avenue
P.O. Box 9824 Station T
Ottawa ON K1G 6R2

AFTN Message Address: CYAAMCFA or CYAAYFAX
Tel.: 613-248-3993
Fax: 613-248-4001
E-mail: nscc@navcanada.ca

Canadian locations and location indicators are listed in ICAO Doc 7910. Messages addressed to aeronautical stations not directly connected to the AFTN Message Handling System are automatically routed to the nearest aeronautical facility for delivery.

The services outlined in this section are provided in accordance with the following documentation:

- *Canada Flight Supplement* (CFS);
- ICAO Annex 10 – *Aeronautical Telecommunications*;
- ICAO Annex 15 – *Aeronautical Information Services*;
- ICAO Doc 4444 – *PANS-ATM*;
- ICAO Doc 7030 – *Regional Supplementary Procedures*;
- ICAO Doc 7910 – *Location Indicators*;
- ICAO Doc 8400 – *ICAO Abbreviations and Codes*;
- ICAO Doc 8585 – *Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services*;
- ICAO Doc 9869 – *Performance-Based Communications and Surveillance (PBCS) Manual*;
- ICAO Doc 10037 – *Global Operational Data Link (GOLD) Manual*; and
- ICAO Doc 10038 – *Satellite Voice Operations Manual (SVOM)*.

3.4.2 Area of Responsibility

The area of responsibility for which communication services are provided includes the radio navigation aids and communication facilities available in the Canadian Domestic Airspace (CDA) as well as international airspace assigned to Canadian control.

3.4.3 Types of Service

3.4.3.1 Radio Navigation Services

The following types of ground-based radio aids to navigation are available in Canada, although signal coverage cannot be guaranteed in all parts of Canadian airspace:

- Distance measuring equipment (DME)
- Instrument landing system (ILS)
- Localizer (LOC)
- Non-directional beacon (NDB)
- Tactical air navigation (TACAN)
- VHF omnidirectional range (VOR)
- VHF omnidirectional range and tactical air navigation (VORTAC)

For a complete list of all radio navigation aids available in Canada, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section D, “Radio Navigation and Communications.” For information related to the Global Navigation Satellite System (GNSS), refer to the *AIP Canada* Section ENR 4.3, “Global Navigation Satellite System (GNSS).”

3.4.3.2 Voice Services

The primary medium for aeronautical voice communications in Canada is VHF-amplitude modulation (AM) in the frequency range of 118 MHz to 137 MHz. For increased range in northern areas and the North Atlantic (NAT), high frequency-single sideband (HF-SSB) is available in the frequency range of 2.8 MHz to 22 MHz.

VHF

The standard VHF air-ground channel spacing in Canada is 25 kHz. A 760-channel transceiver is necessary for operation of 25-kHz channels. This channel spacing means that some operators with 50-kHz capability will have their access to certain Canadian airspace and airports restricted, as 25 kHz channels are implemented for air traffic control (ATC) purposes.

Air traffic service (ATS) frequencies are published in the *Canada Flight Supplement* (CFS), in the *Canada Air Pilot* (CAP), and on aeronautical charts.

Frequency 123.4 MHz is allocated for the use of soaring activities, which include balloons, gliders, sailplanes, ultralights and hang gliders. The use of this frequency for these activities includes air-to-air, air-to-ground instructional and air-to-ground aerodrome traffic communications; the use of this frequency as an aerodrome traffic frequency (ATF) is normally restricted to privately operated aerodromes used primarily for these activities.

For air-to-air communications between pilots within Canadian Southern Domestic Airspace (SDA), the correct frequency to use is 122.75 MHz; in the Northern Domestic Airspace (NDA) and the NAT, the frequency allocated by ICAO is 123.45 MHz.

For flight information services enroute (FISE) throughout Canadian domestic airspace, remote communication outlets (RCOs) have been installed. For information on this service, refer to the *Canada Flight Supplement* (CFS), Section A, “General – Communications (CM).”

Frequency 5,680 kHz provides long-range air-ground communications coverage in the remote areas of Canada for the provision of FISE beyond the range of VHF communications. Aircraft must use HF-SSB when communicating on 5,680 kHz.

The following RCO locations provide FISE on the 5,680 kHz frequency:

Table 3.4.3.2, RCO Locations

RCO Location	ATS
Baker Lake, NU	Edmonton FIC
Inuvik, NT	Edmonton FIC
Iqaluit, NU	Québec FIC
Kuujjuaq, QC	Québec FIC
Kuujjuarapik, QC	Québec FIC
Resolute Bay, NU	Edmonton FIC
Roberval, QC	Québec FIC
St. Anthony, NL	London FIC
Yellowknife, NT	Edmonton FIC

For maps showing the NAV CANADA FISE RCO locations, their radio call signs, and their frequencies, refer to the *Canada Flight Supplement* (CFS), Section C, “Planning”.

SATVOICE

While SATVOICE has been available and approved for routine air traffic service (ATS) communications in Canada for approximately 10 years, technical limitations restricted the effectiveness of the service that was provided. Ongoing development by NAV CANADA has evolved the ground system and technology to overcome the experienced limitations, enabling direct contact with control personnel.

System upgrades will allow appropriately equipped aircraft, operating in any Canadian FIR, to dial a single SATVOICE short code and have the call routed to and connected with, the air traffic controller responsible for the flight.

When operating in Canada or in the Gander OCA (oceanic control area), SATVOICE (satellite voice communications) may be used for any communication service. SATVOICE is intended to enhance available communication for flight crews and controllers alike and may be used for any communication service. While it is considered a form of direct controller-pilot communication (DCPC), VHF voice, HF and CPDLC remain the primary means of communication.

Note: At the time of this publication, the implementation of the system upgrade in Toronto ACC has been delayed. Until then, the only routing for SATVOICE calls will be to the CSM.

Service Limitations North of 72N in Edmonton FIR

Inmarsat satellite coverage has limitations in the north, so flights operating only with Inmarsat equipment may experience unreliability north of 72N and no service north of 80N.

Iridium SATVOICE services are available north of 80N.

Operators of aircraft that are equipped with both Inmarsat and Iridium modems should ensure that they switch to the Iridium system before operating north of 72N.

HF

Gander IFSS (international flight service station) provides long range voice communications services within the Gander FIR as well as the Edmonton and Anchorage FIR’s from approximately 70 degrees north up to the pole. Gander IFSS provides communication services 24 hours a day year-round.

All services are available regardless of the CTA (control terminal area) the flight is operating in (CZQX, CZEG or PAZA).

Services provided in these areas include:

Emergency Communications	Communication assistance to aircraft in a state of emergency. This includes medical emergencies, aircraft equipment emergencies, severe weather, emergencies, hijackings, bomb scares, etc.
International Air/Ground Communications	Voice communication service to aircraft using HF. This service includes, but is not limited to, copying position information, company information, weather information, and clearance requests, and relaying to appropriate agencies via the AFTN (aeronautical fixed telecommunications network) and via interphone.
Aviation Weather Service	Relaying appropriate weather data to flights including SIGMETs, airport METARs/TAFs, and PIREPs.
ATC Support	Support to ATC by relaying clearances, advisories, requests, and any other pertinent information to aircraft.
NOTAM Service	Issuing NOTAMs as required for Gander International Airport, Gander Domestic FIR, and St. Pierre/Miquelon airports (France).
VOLMET	The VOLMET (in flight meteorological information) broadcast service consists of two 10-minute automated broadcasts every hour of the day, 365 days a year, providing weather data to aircraft in flight. The data consists of SIGMETs, terminal forecasts, and actual weather observations for major Canadian airports as well as Narsarsuaq (BGBW) in Greenland. These reports are continuously updated and are transmitted simultaneously over four dedicated HF frequencies.

For a complete list of VOLMET services available in Canada, refer to the *Canada Flight Supplement,* (CFS) Section D, “Radio Navigation and Communications.”

SELCAL

The SELCAL (selective calling system) is installed on all international frequencies at Gander Radio. SELCAL provides an automatic and selective method of calling any aircraft.

3.4.3.3 Data Link Services

Gander Oceanic and Vancouver ACCs offer reduced separation to operators who are equipped and using CPDLC (controller pilot data link communications) and ADS-C (automatic dependent broadcast service – contract). On the North Atlantic, preferred routes and flight levels are also offered to aircraft that are equipped as per the Data Link Mandate (DLM) outlined in North Atlantic (NAT) region documents such as NAT Doc 007 and the most current NAT Ops Bulletins.

Operators require a PBCS approval for RCP240 and RSP180 in order to avail of reduced separation and some preferred routes. Inquiries specifically related to PBCS (performance based communication and surveillance), RCP (required communication performance) or RSP (required surveillance performance) should be addressed to PBCS@navcanada.ca.

CPDLC

CPDLC are available in both the Gander Oceanic FIR, and above flight level (FL) 290 in Canadian Domestic Airspace.

ADS–C

ADS-C is used for aircraft surveillance, position reporting, and conformance checking in the following airspace:

Figure 3.4.3.3, ADS-C Coverage

1. Vancouver ACC

The airspace within the area bounded by a line beginning at:

54° 06' 40.86" N	135° 12' 16.86" W	to
54° 38' 13.78" N	135° 53' 48.43" W	to
52° 34' 22.68" N	141° 02' 58.67" W	to
46° 16' 23.99" N	134° 14' 37.17" W	to
45° 24' 15.09" N	133° 02' 27.80" W	to
45° 06' 20.82" N	131° 55' 13.79" W	to
45° 12' 33.87" N	128° 56' 24.54" W	to
45° 55' 12.98" N	126° 46' 27.38" W	to
48° 09' 21.50" N	127° 56' 52.20" W	to
48° 02' 04.28" N	128° 27' 00.44" W	to
54° 06' 40.86" N	135° 12' 16.86" W	point of beginning.

2. Edmonton ACC

   – ADS-C airspace is defined according the Arctic High Specialty coordinates. It matches geographically with the Specialty airspace.

3. Montréal ACC

   – ADS-C airspace is defined according the North Specialty coordinates. It matches geographically with the Specialty airspace.

4. Gander ACC

   – ADS-C airspace is defined according the High Specialty coordinates. It matches geographically with the Specialty airspace.

   – ADS-C airspace is defined according the Gander (CZQX) Oceanic FIR coordinates. It matches geographically with the FIR airspace.

   – ADS-C airspace is defined according the delegated airspace FL 290 and above over Greenland coordinates.

PDC

NAV CANADA provides two forms of IFR pre-departure clearances (PDC), which can be obtained via data link at certain airports: ARINC 620/622, which is delivered to and from an airline host, and ARINC 623, which is delivered directly to the aircraft.

PDC service (ARINC Specification 620/622) is available at the following airports (see registration requirements in GEN 3.4.4):

- Calgary/YYC Calgary Intl (CYYC)
- Edmonton Intl (CYEG)
- Fort McMurray (CYMM)
- Fredericton Intl (CYFC)
- Gander Intl (CYQX)
- Halifax/Stanfield Intl (CYHZ)
- Moncton/Greater Moncton Roméo Leblanc Intl (CYQM)
- Montréal/Pierre Elliott Trudeau Intl (CYUL)
- Ottawa/MacDonald-Cartier Intl (CYOW)
- Québec/Jean Lesage Intl (CYQB)
- Saskatoon/John G. Diefenbaker Intl (CYXE)
- St. John’s Intl (CYYT)
- Thunder Bay (CYQT)
- Toronto/Lester B. Pearson Intl (CYYZ)
- Vancouver Intl (CYVR)
- Victoria Intl (CYYJ)
- Winnipeg/James Armstrong Richardson Intl (CYWG)

PDC service (ARINC Specification 623) is available at the following airports:

- Toronto/Billy Bishop Toronto City Airport (CYTZ)
- Montréal/Pierre Elliott Trudeau Intl (CYUL)

- Winnipeg/James Armstrong Richardson Intl (CYWG)

Detailed information on data link departure clearances can be obtained through e-mail from NAV CANADA at pdc@navcanada.ca.

3.4.3.4 Broadcasting Services

For a list of commercial broadcasting stations, North Atlantic meteorological information (HF-VOLMET), and Aeronautical Radio Incorporated (ARINC) communication frequencies, refer to the *Canada Flight Supplement* (CFS), Section D, "Radio Navigation and Communications."

3.4.3.5 Language Services

The use of English and French for aeronautical radio communications in Canada is detailed in the sections on Transport Canada's Canadian Aviation Regulations (CARs) website that are listed in Table 3.4.3.5, "Language Services."

Table 3.4.3.5, Language Services

Section	Title
602.133	Language Used in Aeronautical Radiocommunications
602.134	Locations Where Services Are Available in English and French
602.135	Locations Where Services Are Available in English

The regulations specify that ATS must be provided in English and set out the locations where services are to be provided in French as well. Refer to:

<http://www.tc.gc.ca/eng/acts-regulations/regulations-sor96-433.htm>
Part VI – General Operating and Flight Rules
Subpart 2 – Operating and Flight Rules
Division VIII – Radiocommunications

For safety and operational efficiency, once the language to be used has been determined, the pilot should refrain from changing language in the course of communications without formal notification to that effect. In addition, pilots should become familiar with the aeronautical phraseology and terminology applicable to the type of service being provided in the official language of their choice.

3.4.4 Requirements and Conditions

3.4.4.1 Voice Services

VHF

An aircraft should communicate with the ATS unit that manages traffic in the area in which the aircraft is flying. Aircraft should maintain a continuous watch on the appropriate frequency of the ATS station and should not leave the frequency, except in an emergency, without informing the ATS unit.

If instructed to monitor a frequency, pilots must continuously monitor that frequency but are not required to check in.

SATVOICE

For aircraft capable of both air-to-ground and ground-to-air SATVOICE, operators should include the following in their ICAO flight plan:

- in item 10, as appropriate, insert:

- "M1" for ATC RTF INMARSAT capability; and/or
- "M3" for ATC RTF IRIDIUM capability; and

- in Item 18, insert:
  - the indicator REG/ followed by the aircraft registration; and
  - the indicator CODE/ followed by the aircraft address expressed in the form of an alphanumerical code of six hexadecimal characters.

Example:

(FPL-XXX101-IS
- B773/H-SHXWM1M3/S
- EGLL1400
- N0450F310 L9 UL9 STU285036/M082F310 UL9 LIMRI 52N020W 52N030W 50N040W 49N050W
- CYQX0455 CYYR

EET/EISN0026 EGGX0111 CZQX0228 REG/CFIUV SEL/FQHS CODE/C0173E)

Note: Inclusion of SATVOICE capability in the ICAO flight plan indicates to the air traffic controller that both the aircraft equipment is approved for use and that the flight crew has the appropriate qualifications and training to use it.

The use of SATVOICE for this purpose requires on-board embedded equipment, installed and tested in accordance with appropriate certification and airworthiness standards. Pilots using SATVOICE in airspace where HF is required must still, on initial contact, do a SELCAL check on the assigned HF and continue to maintain a listening watch on the appropriate HF frequency. Safety-level priority has been assigned to ATS communications by satellite service providers, Inmarsat and Iridium only. When accepting an incoming call, the pilot shall visually confirm and verify that it is an ATS safety-level priority call. Calls using other priorities delivering ATC instructions must be disregarded and crews must contact the ATS unit to confirm the validity of the message received. Aircraft equipped with SATVOICE equipment may call the appropriate ATS unit using the following short codes or public switched telephone network (PSTN) numbers:

Table 3.4.4.1, ATS Units, Short Codes and PSTN Numbers

Site	ATS Unit	Short Code	PSTN Number (Long Code)
ZQX (Ocean)	Gander Oceanic FIR	431603	1-709-651-5260
ZQX (Dom.)	Gander Domestic FIR	431602	1-709-651-5297
ZQX (IFSS)	Gander Radio	431613	1-709-651-5298
ZQM	Moncton FIR	431604	1-506-867-8745
ZUL	Montréal FIR	431605	1-514-636-3606
ZYZ	Toronto FIR	431606	1-905-676-4509
ZWG	Winnipeg FIR	431608	1-204-837-9481
ZEG	Edmonton FIR	431601	1-780-890-2775
ZVR	Vancouver FIR	431607	1-604-507-7875

***Note:** Short codes should always be used. However, long codes (phone number) can be used, but only if absolutely necessary. Call routing automation in the voice switching system is only available when the short code is used. Calls will still get through with the long code (phone number) but will route to a designated position within the unit instead of the air traffic control officer (ATCO) responsible for the flight. Furthermore, the short code is unlikely to ever change, which prevents the

need for reprogramming of the flight management system (FMS) and other speed dial databases, whereas the long codes (phone numbers) may change infrequently.

In the Edmonton FIR, SATVOICE calls should be made directly to the ZEG SATVOICE number.

In the Gander Domestic and Oceanic FIRs, SATVOICE calls should be made to Gander international flight service station (IFSS) except in urgent situations, when the call can be made directly to the appropriate air traffic control (ATC) unit.

HF

Operators should indicate SELCAL codes in field 18 of the flight plan as follows:

SEL/XXXX

Upon receipt of HF frequencies or upon entering an area where Gander provides HF communications, aircraft must call for a SELCAL check. This is done to verify functionality of the equipment and validate the frequency being used. Due to the nature of HF, it may be necessary to change a flight to a different HF frequency other than the one initially assigned in order to establish optimal communications.

3.4.4.2 Data Link Services

Data Link Initiation

Flights entering ATS data link service areas (CPDLC and ADS-C) from airspace where no ATS data link services are available should perform an AFN logon:

- 15 to 45 minutes prior to entering the airspace; or
- prior to departure, if the departure airport is adjacent to or underlying the airspace.

Flights entering ATS data link service areas from adjacent airspace where ATS data link services are being received should not need to perform another AFN logon. Under normal circumstances, the current and next ATS facilities automatically transfer these services.

Table 3.4.4.2, AFN Logon Facility Identifiers

Facility Name (in alphabetical order)	Facility Identifier for AFN logon
Edmonton Area Control Centre	CZEG
Gander Area Control Centre (Domestic)	CDQX (Domestic identifier)
Gander Area Control Centre (Oceanic)	CZQX (Oceanic identifier)
Moncton Area Control Centre	CZQM
Montreal Area Control Centre	CZUL
Toronto Area Control Centre	CZYZ
Vancouver Area Control Centre	CZVR
Winnipeg Area Control Centre	CZWG

CPDLC

Operators should indicate CPDLC equipage in field 10a of the flight plan as follows:

- J1 CPDLC FANS 1/A ATN VDL Mode 2
- J2 CPDLC FANS 1/A HFDL
- J3 CPDLC FANS 1/A VDL Mode 4
- J4 CPDLC FANS 1/A VDL Mode 2

- J5 CPDLC FANS 1/A SATCOM (INMARSAT)
- J7 CPDLC FANS 1/A SATCOM (IRIDIUM)

In Gander Oceanic airspace, only operators who are able to use CPDLC over SATCOM and file J5 or J7 will receive a CPDLC connection request.

Effective 29 March 2018, operators who have a PBCS approval for RCP240 should indicate it in field 10a of the flight plan as follows:

P2 RCP240

The CPDLC welcome message may be sent by each facility to confirm two-way communication. Following a successful CPDLC connection, the following uplink message may be sent to aircraft: “THIS IS AN AUTOMATED MESSAGE TO CONFIRM CPDLC CONTACT WITH [facility name].” Upon receipt of the welcome message, flight crews are to respond with Downlink Message ROGER (DM3).

Note: In lieu of the standard welcome message, approximately 5 minutes after entering Gander Oceanic airspace, equipped flights will receive a message advising them to set the latency timer. This message serves two purposes: to confirm two-way communications and to ensure that flight crews set the latency timer so that any message delayed in the network is identified to flight crews or not delivered at all after expiration. Refer to section ENR 7.1.10, “Communications with ATC”, for NAT procedures relating to initial contact with Gander using CPDLC.

Contact or Monitor Message

A CONTACT (UM117) or MONITOR (UM120) message instructs the pilot to change to the specified frequency and may include a position or time for when to change to the new frequency. Use of a CONTACT or MONITOR message is as follows:

- When a MONITOR message is received, the pilot should change to the specified frequency upon receipt of the instruction or at the specified time or position. The pilot is **not** required to establish voice contact on the frequency.
- When a CONTACT message is received, the pilot should change to the specified frequency upon receipt of the instruction or at the specified time or position and establish voice contact on the frequency.
- Pilots must send a WILCO in response to a CONTACT or MONITOR message before changing frequency. This is critical to ensure a successful CPDLC transfer between units.

When possible, flight crews should not insert non-ATC waypoints in the cleared route of flight. If deviations around weather are required, flight crews should establish voice contact and advise ATC of their intentions. Position reports via voice should be made abeam waypoints until the flight is back on its cleared route.

In Gander Oceanic airspace, a UM137 CONFIRM ASSIGNED ROUTE will be sent approximately 10 minutes after ocean entry (5 minutes after the welcome message). The expected response from the aircraft is ASSIGNED ROUTE [route clearance] (DM40).

The oceanic ground system will use this to confirm the rest of the ocean route in the flight management system (FMS) matches what is in the air traffic management (ATM) oceanic ground system.

The crew shall not send a free text or append any free text to the ASSIGNED ROUTE [route clearance] (DM40).

If the crew is unable to send the ASSIGNED ROUTE [route clearance] (DM40) then they should respond with free text “UNABLE TO SEND ROUTE”.

Supported downlink messages are shown in the following table. Any downlink message other than indicated will generate a “MESSAGE NOT SUPPORTED BY THIS FACILITY” response from the ground system.

Table 3.4.4.3, Accepted Downlink Messages

DM #	Downlink Message	Message Supported by Facility (Y/N)						
		CZVR	CZEG	CZWG	CZYZ	CZUL	CZQM	CDQX
0	WILCO	Y	Y	Y	Y	Y	Y	Y
1	UNABLE	Y	Y	Y	Y	Y	Y	Y
2	STANDBY	Y	Y	Y	Y	Y	Y	Y
3	ROGER	Y	Y	Y	Y	Y	Y	Y
4	AFFIRM	Y	Y	Y	Y	Y	Y	Y
5	NEGATIVE	Y	Y	Y	Y	Y	Y	Y
6	REQUEST (*altitude*)	Y	Y	Y	Y	Y	Y	Y
7	REQUEST BLOCK (*altitude*) TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
8	REQUEST CRUISE CLIMB TO (*altitude*)	N	N	N	N	N	N	N
9	REQUEST CLIMB TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
10	REQUEST DESCENT TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
11	AT (*position*) REQUEST CLIMB TO (*altitude*)	N	Y	N	N	N	N	N
12	AT (*position*) REQUEST DESCENT TO (*altitude*)	N	Y	N	N	N	N	N
13	AT (*time*) REQUEST CLIMB TO (*altitude*)	N	Y	N	N	N	N	N
14	AT (*time*) REQUEST DESCENT TO (*altitude*)	N	Y	N	N	N	N	N
15	REQUEST OFFSET (*specified distance*) (*direction*) OF ROUTE	Y	Y	Y	Y	Y	Y	Y
16	AT (*position*) REQUEST OFFSET (*specified distance*) (*direction*) OF ROUTE	Y	Y	Y	Y	Y	Y	Y
17	AT (*time*) REQUEST OFFSET (*specified distance*) (*direction*) OF ROUTE	Y	Y	Y	Y	Y	Y	Y
18	REQUEST (*speed*)	Y	Y	Y	Y	Y	Y	Y
20	REQUEST VOICE CONTACT	Y	Y	Y	Y	Y	Y	Y
21	REQUEST VOICE CONTACT (*frequency*)	Y	Y	Y	Y	Y	Y	Y
22	REQUEST DIRECT TO (*position*)	Y	Y	Y	Y	Y	Y	Y
23	REQUEST (*procedure name*)	N	N	N	N	N	N	N
24	REQUEST (*route clearance*)	N	Y	N	N	Y	Y	N
25	REQUEST CLEARANCE	N	Y	N	N	Y	Y	N
26	REQUEST WEATHER DEVIATION TO (*position*) VIA (*route clearance*)	N	N	N	N	N	N	N
27	REQUEST WEATHER DEVIATION UP TO (*specified distance*) (*direction*) OF ROUTE	Y	Y	Y	Y	Y	Y	Y
28	LEAVING (*altitude*)	Y	Y	Y	Y	Y	Y	Y
29	CLIMBING TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
30	DESCENDING TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
31	PASSING (*position*)	Y	Y	Y	Y	Y	Y	Y
32	PRESENT ALTITUDE (*altitude*)	Y	Y	Y	Y	Y	Y	Y
33	PRESENT POSITION (*position*)	Y	Y	Y	Y	Y	Y	Y
34	PRESENT SPEED (*speed*)	Y	Y	Y	Y	Y	Y	Y
35	PRESENT HEADING (*degrees*)	Y	Y	Y	Y	Y	Y	Y

DM #	Downlink Message	Message Supported by Facility (Y/N)						
		CZVR	CZEG	CZWG	CZYZ	CZUL	CZQM	CDQX
36	PRESENT GROUND TRACK (*degrees*)	Y	Y	Y	Y	Y	Y	Y
37	LEVEL (*altitude*)	Y	Y	Y	Y	Y	Y	Y
38	ASSIGNED ALTITUDE (*altitude*)	Y	Y	Y	Y	Y	Y	Y
39	ASSIGNED SPEED (*speed*)	Y	Y	Y	Y	Y	Y	Y
40	ASSIGNED ROUTE (*route clearance*)	Y	Y	Y	Y	Y	Y	Y
41	BACK ON ROUTE	Y	Y	Y	Y	Y	Y	Y
42	NEXT WAYPOINT (*position*)	Y	Y	Y	Y	Y	Y	Y
43	NEXT WAYPOINT ETA (*time*)	Y	Y	Y	Y	Y	Y	Y
44	ENSUING WAYPOINT (*position*)	Y	Y	Y	Y	Y	Y	Y
45	REPORTED WAYPOINT (*position*)	Y	Y	Y	Y	Y	Y	Y
46	REPORTED WAYPOINT (*time*)	Y	Y	Y	Y	Y	Y	Y
47	SQUAWKING (*code*)	Y	Y	Y	Y	Y	Y	Y
49	WHEN CAN WE EXPECT (*speed*)	Y	Y	Y	Y	Y	Y	Y
50	WHEN CAN WE EXPECT (*speed*) TO (*speed*)	N	N	N	N	N	N	N
51	WHEN CAN WE EXPECT BACK ON ROUTE	N	N	N	N	N	N	N
52	WHEN CAN WE EXPECT LOWER ALTITUDE	Y	Y	Y	Y	Y	Y	Y
53	WHEN CAN WE EXPECT HIGHER ALTITUDE	Y	Y	Y	Y	Y	Y	Y
54	WHEN CAN WE EXPECT CRUISE CLIMB TO (*altitude*)	N	N	N	N	N	N	N
55	PAN PAN PAN	Y	Y	Y	Y	Y	Y	Y
56	MAYDAY MAYDAY MAYDAY	Y	Y	Y	Y	Y	Y	Y
57	(*remaining fuel*) OF FUEL REMAINING AND (*remaining souls*) SOULS ON BOARD	Y	Y	Y	Y	Y	Y	Y
58	CANCEL EMERGENCY	Y	Y	Y	Y	Y	Y	Y
59	DIVERTING TO (*position*) VIA (*route clearance*)	Y	Y	Y	Y	Y	Y	Y
60	OFFSETTING (*distance offset*) (*direction*) OF ROUTE	Y	Y	Y	Y	Y	Y	Y
61	DESCENDING TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
62	ERROR (*error information*)	Y	Y	Y	Y	Y	Y	Y
63	NOT CURRENT DATA AUTHORITY	Y	Y	Y	Y	Y	Y	Y
64	(*ICAO facility designation*)	Y	Y	Y	Y	Y	Y	Y
65	DUE TO WEATHER	Y	Y	Y	Y	Y	Y	Y
66	DUE TO AIRCRAFT PERFORMANCE	Y	Y	Y	Y	Y	Y	Y
67	FREE TEXT	Y	Y	Y	Y	Y	Y	Y
68	FREE TEXT	Y	Y	Y	Y	Y	Y	Y
69	REQUEST VMC DESCENT	N	N	N	N	N	N	N
70	REQUEST HEADING (*degrees*)	Y	Y	Y	Y	Y	Y	Y
71	REQUEST GROUND TRACK (*degrees*)	Y	Y	Y	Y	Y	Y	Y
72	REACHING (*altitude*)	Y	Y	Y	Y	Y	Y	Y

DM #	Downlink Message	Message Supported by Facility (Y/N)						
		CZVR	CZEG	CZWG	CZYZ	CZUL	CZQM	CDQX
73	(*version number*)	Y	Y	Y	Y	Y	Y	Y
74	MAINTAIN OWN SEPARATION AND VMC	N	N	N	N	N	N	N
75	AT PILOT'S DISCRETION	N	N	N	N	N	N	N
76	REACHING BLOCK (*altitude*) TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
77	ASSIGNED BLOCK (*altitude*) TO (*altitude*)	Y	Y	Y	Y	Y	Y	Y
78	AT (*time*) (*distance*) (*to/from*) (*position*)	Y	Y	Y	Y	Y	Y	Y
79	ATIS (*ATIS identifier*)	Y	Y	Y	Y	Y	Y	Y
80	DEVIATING (*distance offset) (direction*) OFF ROUTE	Y	Y	Y	Y	Y	Y	Y

ADS–C

Operators should indicate ADS-C equipage in field 10b of the flight plan as follows:

D1 ADS-C with FANS 1/A capability

Effective 29 March 2018, operators who have a PBCS approval for RSP180 should indicate it in field 18 of the flight plan exactly as follows:

SUR/RSP180

Depending on the position when entering the Edmonton ADS-C service area, initial radio contact will be with the Edmonton ACC ("Edmonton Centre"), the Gander international flight service station (IFSS) ("Gander Radio"), the Edmonton FIC ("Edmonton Radio"), the Winnipeg FIC ("Winnipeg Radio"), or the Québec FIC ("Québec Radio").

PDC

For PDC service, operators must be subscribed to a participating data link service provider and need to register for this service with NAV CANADA, by e-mailing the following information to pdc@navcanada.ca.

- airline call sign;
- airports at which PDC service is being requested;
- aircraft type(s) to receive the service (e.g. B763, B762, etc.);
- network code: the address of your air operations centre (AOC) computer to which the clearance message is to be sent; and
- confirmation that crews have been trained and are ready to accept PDC, or the date at which your airline will be ready to accept PDC clearances.

There is no registration requirement to use departure clearance (DCL); however, operators must be ARINC or SITA data link subscribers, aircraft must be equipped for DCL, and pilots must be trained in its use. Departure clearance requests (RCD) must be sent no more than 60 minutes prior to, and no later than 15 minutes after, the estimated time of departure filed in the flight plan. Once the departure clearance message (CLD) has been received, the pilot will have five minutes to respond with a departure clearance readback (CDA).

3.4.5 Miscellaneous

3.4.5.1 SATCOM shadow

Data link services may be affected by an area of Inmarsat satellite communication (SATCOM) unreliability in the Edmonton FIR. This area, referred to as the SATCOM shadow, extends from the North Pole to approximately 70°N. Unreliability may be most pronounced at 120°W, while coverage improves to the east and west of 120°W. The exact extent and effect of the shadow depends on the satellite services contracted, atmospheric conditions, aircraft antenna placement, and direction of flight. Owing to their polar orbits, this SATCOM shadow will not likely affect Iridium SATCOM users. Regardless of the contract SATCOM service provider, aircraft observing an indication that SATCOM has been lost should expect that their automatic dependent surveillance – contract (ADS-C) has been terminated. Ensuing position reports are to be provided via voice, until the outage has been overcome and flight crews can re-establish ADS-C.

GEN 3.5 Meteorological Services

3.5.1 Responsible Service

For information on the aviation weather services provided by NAV CANADA, contact NAV CANADA during normal business hours at the following address or contact number:

NAV CANADA
Aviation Weather Services
151 Slater Street
Suite 120
Ottawa ON K1P 5H3
Canada

Tel.: 1-800-876-4693-4 (disregard the last digit if in North America)
Fax: +1 613-563-3426
E-mail: service@navcanada.ca

For information on the regulations governing aviation weather services, contact Transport Canada at the following address:

Transport Canada
Flight Standards (AARTA)
Ottawa ON K1A 0N8
Canada

E-mail: TC.ANSWeatherInfo-InfoMeteoSNA.TC@tc.gc.ca

The provision of aviation weather services is based on the following ICAO publications:

- Annex 3, “Meteorological Service for International Air Navigation”
- *Regional Supplementary Procedures* (Doc 7030)
- *North American (NAM) Air Navigation Plan*, *Volume I* (ICAO Doc 9634)

ICAO documents can be purchased from ICAO Headquarters in Montréal.

ICAO E-Commerce and Publications Sales Unit,
999 Robert-Bourassa Boulevard
Montréal, QC H3C 5H7
Canada

Tel.: +1 514-954-8219 ext. 8022
E-mail: sales@icao.int
Online store: https://store.icao.int/

Differences from Annex 3, "Meteorological Service for International Air Navigation," are listed in GEN 1.7, "Differences from ICAO Standards, Recommended Practices and Procedures."

3.5.2 Area of Responsibility

Aviation weather services are provided for CDA and international airspace assigned to Canada as a responsibility of ATC services.

3.5.3 Meteorological Observations and Reports

For information on meteorological observations and reports provided for international air navigation, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, General – Flight Planning," and Section B, "Aerodrome/Facility Directory," under the subheading FLT PLN.

3.5.4 Types of Service

For information on the types of meteorological services provided, refer to the *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, General – Flight Planning," and Section B, "Aerodrome/Facility Directory," under the subheading FLT PLN.

3.5.5 Notification Required from Operators

There is no minimum amount of advance notice required by the meteorological authority in Canada from operators to receive or change briefing, consultation and flight documentation and other meteorological information.

3.5.6 Aircraft Reports

The level of detail required for aircraft reports is based on the ICAO's Annex 3, "Meteorological Service for International Air Navigation."

3.5.7 VOLMET Service

For in-flight meteorological information (VOLMET) in Canada, refer to the *Canada Flight Supplement*, Section D, "Radio Navigation and Communications – North Atlantic Meteorological Information (HF) (VOLMET)."

3.5.8 SIGMET and AIRMET Service

For information on SIGMET and AIRMET services, refer to the *Manual of Standards and Procedures for Aviation Weather Forecasts* (MANAIR), which is available in hypertext markup language (HTML) format and PDF format on the following Environment Canada website:

<https://www.canada.ca/en/environment-climate-change/services/weather-manuals-documentation/manair-standards-procedures-aviation-forecasts.html>

3.5.9 Other Automated Meteorological Services

Additional information, including a description of available automated services for the provision of meteorological information, refer to the following publications:

- *Transport Canada Aeronautical Information Manual* (TC AIM) (TP14371E) MET section, paragraphs 1.2.4, 1.2.5, 1.2.6 and 8.5; it is available on the Transport Canada website: <https://www.tc.gc.ca/en/services/aviation/publications/tc-aim.html>.
- *Canada Flight Supplement* or the *Canada Water Aerodrome Supplement*, Section A, "General – Flight Planning," and Section B, "Aerodrome/Facility Directory" under the subheading FLT PLN. The *Canada Flight Supplement* is available for purchase from the NAV CANADA e-commerce store: <http://products.navcanada.ca/>.
- *Aviation Weather Services Guide* available in the section "Aeronautical Information – Operational Guides – Aviation Weather Services Resources" of the NAV CANADA website.

GEN 3.6 Search and Rescue

3.6.1 Responsible Service

The SAR service in Canada is established in accordance with the provisions of ICAO Annex 12, "Search and Rescue." Differences from the ICAO standards are listed in GEN 1.7, "Differences from ICAO Standards, Recommended Practices and Procedures." The Canadian Forces are responsible for conducting SAR operations.

SAR service is provided through three Rescue Coordination Centres (RCC), one each located in Victoria, British Columbia; Trenton, Ontario; and Halifax, Nova Scotia. The RCCs control all rescue units in their region through an extensive civil/military communications network. The addresses of the RCCs are as follows:

Victoria

Rescue Coordination Centre Victoria
FMO Victoria, BC V0S 1B0
Canada

Tel.: 1-800-567-5111
+1 250-413-8933
#SAR or #727 (toll-free cellular)
Fax: +1 250-413-8932

Trenton

Rescue Coordination Centre Trenton
Astra, ON K0K 1B0
Canada

Tel.: 1-800-267-7270
+1 613-965-3870
Fax: +1 613-965-7190

Halifax

Rescue Coordination Centre Halifax
FMO Halifax, NS B3K 2X0
Canada

Tel.: 1-800-565-1582
+1 902-427-8200
Fax: +1 902-427-2114

Note: All RCCs will accept collect telephone calls dealing with missing or overdue air or marine craft.

For further information about SAR services in Canada, refer to the following publications:

Canada Flight Supplement, Section F, "Emergency – Search and Rescue" or *Canada Water Aerodrome Supplement,* Section E, "Emergency – Search and Rescue"

3.6.2 Area of Responsibility

For the areas of responsibility for the RCCs, see Figure 3.6.2, “Search and Rescue Regions.”

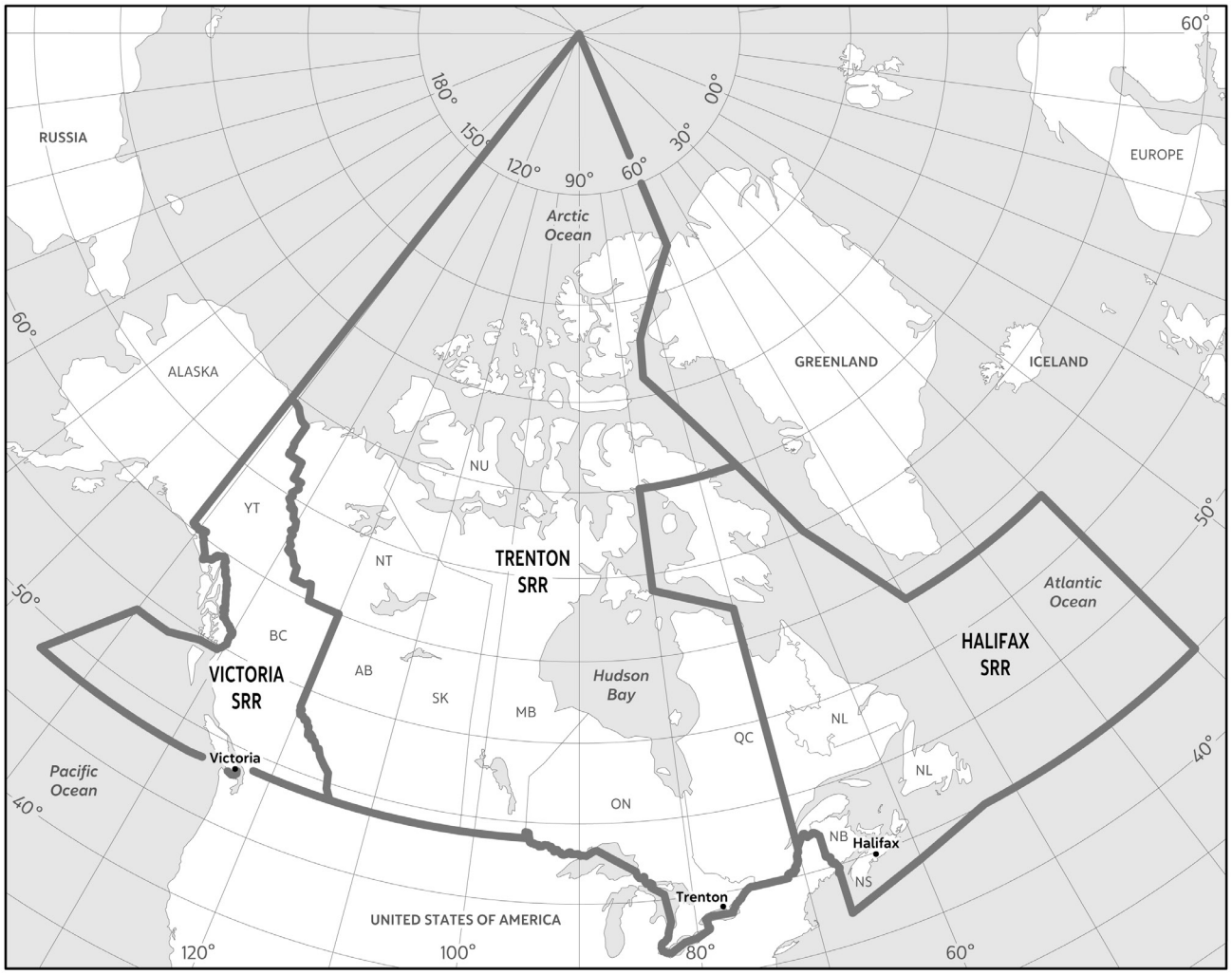

Figure 3.6.2, Search and Rescue Regions

3.6.3 Types of Service

SAR services are available continuously throughout Canada and the Canadian territorial coastal water areas of the Atlantic, Pacific and Arctic. SAR units are equipped to conduct searches and provide a rescue service, including parachute rescue personnel who can render first aid and provide emergency supplies. In support of SAR services, the Canadian Forces provide specially equipped ground searchers capable of operating over any terrain.

3.6.4 SAR Agreements

Two bilateral SAR agreements exist between Canada and the United States. The first permits public aircraft of either country that are engaged in air SAR operations to enter or leave either country without being subjected to normal immigration or customs formalities. The second agreement permits vessels and wrecking appliances of either country to render aid and assistance on specified border waters and on the shores and in the waters of the other country along the Atlantic and Pacific coasts within a distance of 30 NM from the international boundary on those coasts.

In situations not covered by the agreements above, requests from the United States for aircraft of their own registry to participate in a SAR operation within Canada may be addressed to the nearest RCC. The RCC will reply and issue the appropriate instructions.

3.6.5 Conditions of Availability

Contact any of the RCC for information on conditions of availability.

3.6.6 Procedures and Signals Used

For information about the procedures and signals used for SAR services in Canada, refer to the following publications:

Canada Flight Supplement, Section F, “Emergency – Search and Rescue” or *Canada Water Aerodrome Supplement*, Section E, “Emergency – Search and Rescue”

GEN 4. CHARGES FOR AERODROMES, HELIPORTS AND AIR NAVIGATION SERVICES

GEN 4.1 Aerodrome and Heliport Charges

The *Air Services Charges Regulations (*ASCR) contain the charges applicable at airports operated by or on behalf of the Department of Transport. An office consolidation of the ASCR is available on the Internet at <http://laws.justice.gc.ca/eng/SOR-85-414/index.html>. Changes to the ASCR are published in Parts I and II of the Canada Gazette available at <www.gazette.gc.ca/>

Charges for airport facilities and services not operated by the department should be obtained directly from each local airport authority.

To determine applicable charges for airport facilities and services, refer to the aerodrome operator or service provider. For contact information, refer to the *Canada Flight Supplement* (CFS) or the *Canada Water Aerodrome Supplement* (WAS), Section B, “Aerodrome/Facility Directory,” under the heading OPR.

GEN 4.2 Air Navigation Services Charges

Under the terms of the *Civil Air Navigation Services Commercialization Act*, NAV CANADA recovers its costs through a system of service charges. NAV CANADA invoices and collects charges from airlines and other owners and operators of aircraft to cover the cost of the air navigation services provided or made available by the Corporation or a person acting under the authority of the Minister of National Defence.

The Company’s customer service charges are described in the Customer Guide to Charges available on the NAV CANADA’s website:

<www.navcanada.ca>
Corporate
Service Charges
About Service Charges
View Customer Guide to Charges

Any questions about air navigation services charges should be directed to a customer service representative at one of the following numbers:

NAV CANADA
Customer Contact Centre

Tel.: 1-800-876-4693
Fax: 1-613-563-3426 (local)
1-877-663-6656 (toll free within North America)
E-mail: service@navcanada.ca
Availability: 0800 – 1800 (Eastern Standard Time EDT)

GEN 4.3 Charges for Customs Services and Penalties for Customs Violations

At International Civil Aviation Organization (ICAO) designated international airports and all other airports authorized for customs clearance, customs inspection services are normally provided free of charge during Canadian Border Services Agency (CBSA) listed hours of service.

Hours of service vary by airport and are based on the need for local service, traffic volume, and seasonal demand (see CFS for hours of operations). If service is required outside of these hours or in locations where the CBSA does not have an office, the CBSA will consider entering into cost recovery agreements in order to provide service.

Some airport authorities have entered into cost recovery agreements with the CBSA in order to provide service in certain circumstances, including service during CBSA posted business hours. Please consult airport authorities for more information about how cost recovery may apply to your particular situation. These special call-out charges are assessed by specific costs such as the number of officers, the number of hours involved, and the travel costs associated with the provision of customs inspection services.

Since the law provides for substantial penalties for violations of the customs regulations, aircraft operators and pilots should make every effort to ensure compliance. Failure to report to customs may result in penalties including forfeiture of the aircraft and any goods carried therein.