
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 Products](#) section of the NAV CANADA website.

<www.navcanada.ca>
Products & Services
Aeronautical Information Products

The Aeronautical Information Products include the following publications:

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

3.1.3.1 *AIP Canada (ICAO)* and Related Amendment Service

AIP Canada (ICAO), 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 (ICAO)*. 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
77 Metcalfe Street
Ottawa, ON K1P 5L6

E-mail: aipcoord@navcanada.ca

Amendments to *AIP Canada (ICAO)* are published every 56 days (see GEN 0.2, “Record of *AIP Canada (ICAO)* 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 (ICAO)* that are operationally significant are published in accordance with Aeronautical Information Regulation and Control (AIRAC) procedures.

3.1.3.2 *AIP Canada (ICAO)* Supplements

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

3.1.3.4 NOTAMs

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

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.

- [NAVAIDS NOTAM Series](#)
- [Designated Airspace \(Class F\) NOTAM Series](#)
- [Aerodrome NOTAM Series](#)

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.

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.

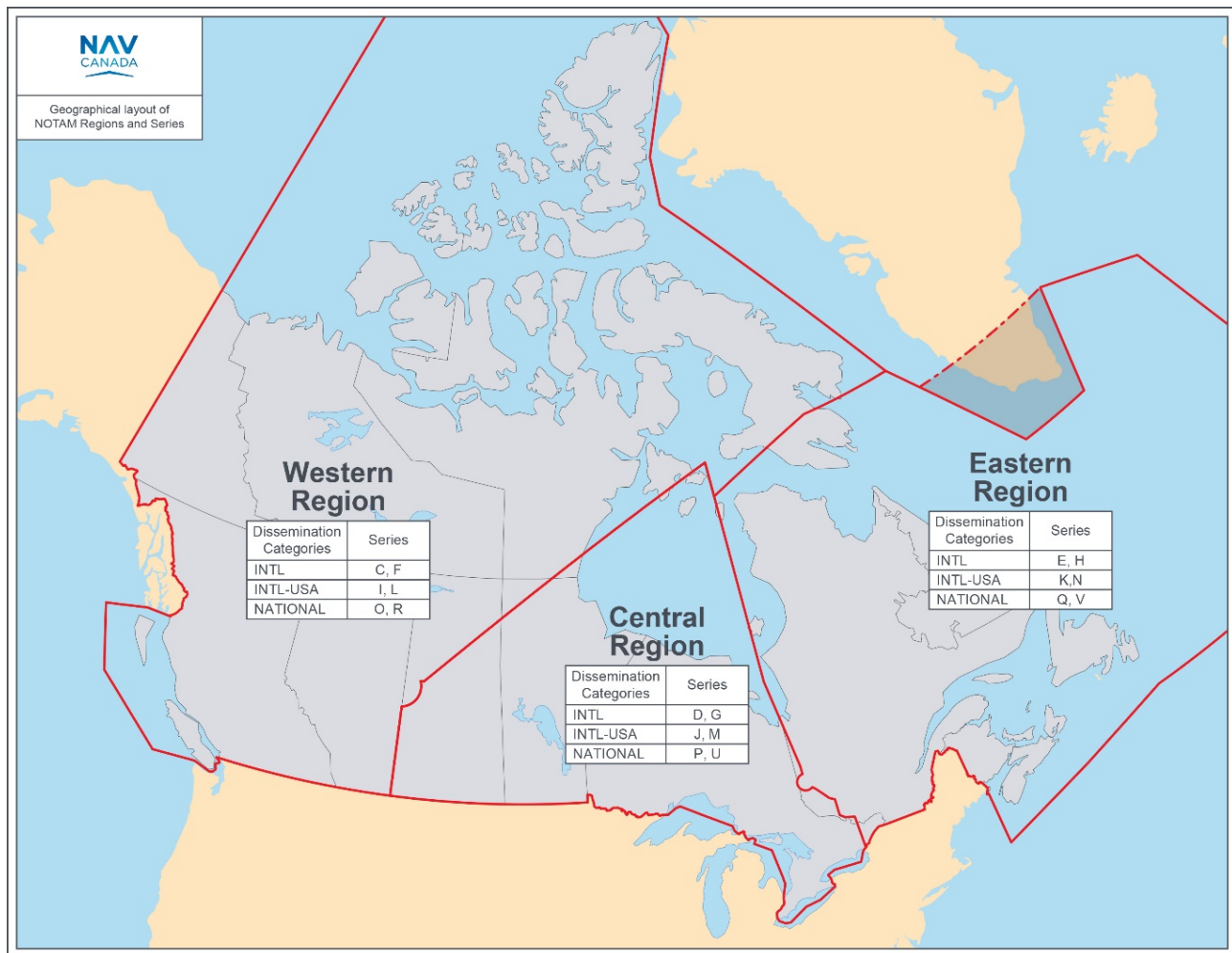


Figure 3.1.3.4, Geographical Layout of NOTAM Regions and Series.

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 REMPLACER 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.
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 and Canadian Runway Friction Index are presented in the Canadian NOTAMJ format. This format relies on NOTAM Files and are issued only for aerodromes.

Approximately 210 NOTAM files (four-letter Canadian location indicators) are resident in the domestic NOTAM database. The NOTAM files are found in the *Canada Flight Supplement*, Section B, “Flight Planning.”

The four letters following “NOTAMJ” identify the NOTAM file whereas the first four characters of the next line (NOTAM text) identify aerodrome.

To obtain NOTAMJ via AFS

Requests for NOTAMJ must be sent to CYZZQQNI. Note that the query identifies the NOTAM file and will return all aerodromes within the NOTAM file.

Example:

```
GG CYZZQQNI
261855 EGGNYNYX
NOTAMQ CYYZ
```

To obtain the French version, where issued:

```
GG CYZZQQNI
DDHHMM CYZVYFYX
NOTAMQ CYYF
```

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 [Publication Schedule](#) on the Aeronautical Information Products section of the NAV CANADA website for information on the publication dates planned for *AIRAC Canada*:

```
<www.navcanada.ca>
Products & Services
Aeronautical Information Products
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 online on the Aeronautical Information Products section of the NAV CANADA website:

<www.navcanada.ca>
Products & Services
Aeronautical Information Products
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.

Please visit <<https://www.navcanada.ca/EN/products-and-services/Pages/aero-nautical-information-charts-ICAO-type-a-charts.aspx>> for information on the most current 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.” A list of available charts is provided on the [Aeronautical Charts](#) section of the NAV CANADA website:

<www.navcanada.ca>
Products & Services
Aeronautical Information Products
Aeronautical Charts

3.2.6 Topographical Charts

For a list of all topographical chart distributors in Canada, refer to the [Canada Map Office – Regional Distribution Centres](#) section of the 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 (ATSS), contact NAV CANADA at the following address or contact numbers during normal business hours.

NAV CANADA
77 Metcalfe Street
Ottawa, ON K1P 5L6
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 (ATSS) 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 (ATSS), 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>
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 (ATSS) 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 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
77 Metcalfe Street
Ottawa ON K1P 5L6
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: nsc@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)
- Very high frequency (VHF) direction finder (VDF)
- 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 (ICAO) 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 NAV CANADA website.

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:

RCO Location	ATS
Baker Lake, NU	Winnipeg FIC
Inuvik, NT	Edmonton FIC
Iqaluit, NU	Québec FIC
Kuujuaq, QC	Québec FIC
Kuujuarapik, QC	Québec FIC
Resolute Bay, NU	Edmonton FIC
Roberval, QC	Québec FIC
St. Anthony, NL	Halifax 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

When operating in Canada or in the Gander OCA (oceanic control area), SATVOICE (satellite voice communications) may be used for any communication service.

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.

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.
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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 NAT Ops Bulletin regarding the “NAT common DLM AIC”.

After 29 March 2018, operators will require a PBCS approval for RCP240 and RSP 180 in order to avail themselves 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:

- Gander Oceanic;
- Montreal FIR, north of a line from
47° N 78' 10" W to 48° 08' N 76° 43' W to 49° 10' N 68° 40' W;
- Edmonton FIR; and
- Vancouver FIR, west of a line from
54° 07' N 135° 12' W to 48° 02' N 128° 27' W.

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):

- Billy Bishop Toronto City Airport (CYTZ)
- Calgary International (CYYC)
- Edmonton International (CYEG)
- Halifax/Stanfield International (CYHZ)
- Montréal/Pierre Elliott Trudeau International (CYUL)

- Ottawa/MacDonald Cartier International (CYOW)
- Québec/Jean Lesage International (CYQB)
- Saskatoon/John G. Diefenbaker International (CYXE)
- St. John's International (CYYT)
- Thunder Bay (CYQT)
- Toronto/Lester B. Pearson International (CYYZ)
- Vancouver International (CYVR)
- Victoria International (CYYJ)
- Winnipeg/James Armstrong Richardson International (CYWG)

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

- Billy Bishop Toronto City Airport (CYTZ)
- Montréal/Pierre Elliott Trudeau International (CYUL)
- Winnipeg/James Armstrong Richardson International (CYWG)

Detailed information on data link departure clearances can be obtained through e-mail from NAV CANADA at pdcc@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 the following table:

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

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

M1 ATC RTF SATCOM (INMARSAT)

M3 ATC RTF SATCOM (IRIDIUM)

The following shall then be filed in field 18:

CODE/ followed by the aircraft address expressed in the hexadecimal format.

The use of SATVOICE for this purpose requires on-board embedded equipment, installed and tested in accordance with appropriate certification and airworthiness standards. Pilots electing to use SATVOICE must, on initial contact, do a SELCAL check on the assigned HF and continue to maintain a listening watch on that 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:

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	1-506-867-7173
ZUL	Montréal FIR	431605	1-514-633-3212
ZYZ	Toronto FIR	431606	1-905-676-4509
ZWG	Winnipeg FIR	431608	1-204-983-8338
ZEG	Edmonton FIR	431601	1-780-890-2775
ZVR	Vancouver FIR	431607	1-604-586-4500

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.

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 will be sent by each facility to confirm two-way communication. Following a successful CPDLC connection, the following uplink message will 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).

In Gander Oceanic airspace, the welcome message will not be sent if the crew has sent a downlink, since that the downlink confirms the connection.

When making initial contact with Edmonton Centre, flights that are not identified by ATC through either radar or ADS-B should use “C–P–D–L–C” after the aircraft call sign, and not include a voice position report. The reply from Edmonton Centre will include acknowledgement that the flight is CPDLC, the advisory “VOICE POSITION REPORTS NOT REQUIRED,” and the assigned frequency for the next station enroute.

When making initial contact with Gander, Edmonton, Winnipeg, or Quebec Radio, flight crews should use “C–P–D–L–C” after the aircraft call sign, not include a voice position report, and request the SELCAL check if required. The ATS facility will advise the flight that “FREQUENCIES WILL BE ASSIGNED VIA CPDLC,”; and issue:

- communication instructions for the next ATS facility;
- communication instructions and the frequency to contact the appropriate ATS facility approaching, or over the exit point; or
- instructions for the flight to contact the next ATS facility at a time or location, prior to the boundary or exit point.

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.

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 (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
7	REQUEST BLOCK (<i>altitude</i>) TO (<i>altitude</i>)	Y	Y	N	N	N	N	Y
8	REQUEST CRUISE CLIMB TO (<i>altitude</i>)	N	N	N	N	N	N	N
9	REQUEST CLIMB TO (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
10	REQUEST DESCENT TO (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
11	AT (<i>position</i>) REQUEST CLIMB TO (<i>altitude</i>)	N	N	N	N	N	N	N
12	AT (<i>position</i>) REQUEST DESCENT TO (<i>altitude</i>)	N	N	N	N	N	N	N
13	AT (<i>time</i>) REQUEST CLIMB TO (<i>altitude</i>)	N	N	N	N	N	N	N
14	AT (<i>time</i>) REQUEST DESCENT TO (<i>altitude</i>)	N	N	N	N	N	N	N
15	REQUEST OFFSET (<i>specified distance</i>) (<i>direction</i>) OF ROUTE	Y	Y	N	N	Y	N	N
16	AT (<i>position</i>) REQUEST OFFSET (<i>specified distance</i>) (<i>direction</i>) OF ROUTE	Y	Y	N	N	Y	N	N
17	AT (<i>time</i>) REQUEST OFFSET (<i>specified distance</i>) (<i>direction</i>) OF ROUTE	Y	Y	N	N	Y	N	N
18	REQUEST (<i>speed</i>)	Y	Y	Y	Y	Y	Y	Y
19	REQUEST (<i>speed</i>) TO (<i>speed</i>)	N	N	N	N	N	N	Y
20	REQUEST VOICE CONTACT	Y	Y	Y	Y	Y	Y	Y
21	REQUEST VOICE CONTACT (<i>frequency</i>)	Y	Y	Y	Y	Y	Y	N
22	REQUEST DIRECT TO (<i>position</i>)	Y	Y	Y	Y	Y	Y	Y
23	REQUEST (<i>procedure name</i>)	N	N	N	N	N	N	N
24	REQUEST (<i>route clearance</i>)	N	N	N	N	N	N	N
25	REQUEST CLEARANCE	N	N	N	N	N	N	N
26	REQUEST WEATHER DEVIATION TO (<i>position</i>) VIA (<i>route clearance</i>)	N	N	N	N	N	N	N
27	REQUEST WEATHER DEVIATION UP TO (<i>specified distance</i>) (<i>direction</i>) OF ROUTE	Y	Y	N	N	N	N	N
28	LEAVING (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
29	CLIMBING TO (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
30	DESCENDING TO (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
31	PASSING (<i>position</i>)	N	N	Y	N	N	Y	Y
32	PRESENT ALTITUDE (<i>altitude</i>)	Y	Y	Y	Y	Y	Y	Y
33	PRESENT POSITION (<i>position</i>)	N	N	Y	N	N	Y	Y
34	PRESENT SPEED (<i>speed</i>)	Y	Y	Y	Y	Y	Y	Y
35	PRESENT HEADING (<i>degrees</i>)	N	N	N	N	N	N	N

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

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

ADS-C

Operators should indicate ADS-C equipage in field 10a 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 pdcc@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
77 Metcalfe Street
Ottawa ON K1P 5L6
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

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)
- *Air Navigation Plan*, “North Atlantic, North American and Pacific Regions” (Doc 8755)

ICAO documents can be purchased from ICAO Headquarters in Montréal.

ICAO
Distribution Sales Unit, Suite 305
999 Robert-Bourassa Boulevard
Montréal, QC H3C 5H7
Canada

Tel.: +1 514-954-8219

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:

<www.ec.gc.ca/Publications/default.asp?lang=En>

3.5.9 Other Services

Additional information can be found in the *Transport Canada Aeronautical Information Manual (TC AIM)* (TP14371E) available on the Transport Canada website and in the Aviation Weather Service Guide available under publications on the NAV CANADA website:

<www.navcanada.ca>
Publications
Operational Publications
Aviation Weather Services Guide [PDF]

See also 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.

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”