EFFECTIVE 0901Z 11 AUGUST 2022
TO 0901Z 8 SEPTEMBER 2022

AIP CANADA

Aeronautical Information Circulars
The following Aeronautical Information Circulars are in effect:

- 28/18 Toronto/Lester B. Pearson International (CYYZ) New Night-Time Approach Procedures
- 9/21 Notice of Mandate to Apply Airport Collaborative Decision Making (A-CDM) Procedures at Toronto/Lester B. Pearson International Airport (Replaces AIC 26/20)
- 10/21 Notice of Trial for Proposed Amended Preferential Runway System at Toronto/Lester B. Pearson International Airport (Replaces AIC 8/20)
- 11/21 Effects of Approach Light System Intensity on Instrument Flight Procedure Minima
- 15/21 Notice of Operational Trial: New Runway Hold Position Markings, Placement and Lighting Toronto/Lester B. Pearson International Airport
- 18/21 Trial to Remove Flight Planning Requirement of Eastbound North American Routes (NAR) (Replaces AIC 34/20)
- 22/21 Canada/USA Border Computer Navigation Fixes
- 23/21 Decommission of VHF Direction Finding
- 24/21 User Information for the Implementation of the Canadian Runway Surface Condition NOTAM Format 12 August 2021 (Replaces AIC 33/20 and AIC 37/20)
- 25/21 Changes to Canadian SIGMET, AIRMET and TAF Bulletins
- 32/21 Pre-Taxi Clearance Implementation at Flight Service Staffed Airports in Canada
- 3/22 Thunder Bay, ON (CKE6) Water Aerodrome—Communication Procedure Change
- 7/22 Persons Operating Instrument Flight Rules Aircraft When Approaching or Landing at an Uncontrolled Aerodrome
- 8/22 Oblique Angle Intersection Use at Controlled Airports
- 9/22 Time-Based Separation Implementation at Toronto/Lester B. Pearson International Airport (CYYZ)
- 10/22 Change in Hours of Community Aerodrome Radio Station at Grise Fiord, Nunavut
- 11/22 NAVAID Modernization Program: Phase 8
- 12/22 Notice of Further Expansion of Automatic Dependent Surveillance – Broadcast (ADS-B) Services Below Flight Level 290 (Supersedes AIC 6/22)
- 14/22 Common Frequency Areas Within a 50 Nautical Mile Radius of Montreal
- 15/22 Decommissioning of NAV CANADA Very High Frequency and Automated Dependent Surveillance – Broadcast Stations Located in Southern Greenland (Replaces AIC 13/22)
- 16/22 Notifications on Overflying Conflict Zones Issued by Transport Canada (Replaces AIC 37/21)
- 17/22 Procedures for the Use of a Ground Advisory Frequency at Mirabel (CYMX) Airport (Supersedes AIC 30/20)
- 18/22 New Procedures for the Use of a Ground Advisory Frequency at Nanaimo (CYCD) Airport
- 19/22 VFR Checkpoints

Note: Cette information est aussi disponible dans l’autre langue officielle.
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<tr>
<th>Date</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>20/22</td>
<td>Modification of Terrace Control Zone</td>
</tr>
<tr>
<td>21/22</td>
<td>Aerodrome Forecast Hours—Dease Lake, British Columbia (CYDL)</td>
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<td>Use of Controller Pilot Data Link Communications Route Clearance Messages in the Moncton Flight Information Region</td>
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The following Aeronautical Information Circular has been cancelled:

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/22</td>
<td>Notice of Automatic Dependent Surveillance – Broadcast Out Performance Requirements Mandate in Canadian Domestic Airspace</td>
</tr>
</tbody>
</table>
NOTICE OF UPDATED TIMELINE FOR ADS-B OUT PERFORMANCE REQUIREMENTS MANDATE IN CANADIAN DOMESTIC AIRSPACE
(Replaces AIC 2/22)

Introduction
In February of 2022, Canada announced an automatic dependent surveillance – broadcast out (ADS-B Out) Performance Requirements Mandate for applicable Canadian Domestic Airspace. The mandate put forward a phased approach to expand the delivery of safety and efficiency benefits made possible by the availability of space-based ADS-B surveillance, with the first phase planned for implementation beginning in early 2023.

Since that announcement, NAV CANADA and Transport Canada have worked closely to evaluate stakeholder feedback and, due to supply-chain limitations experienced by some customers in the context of the global pandemic, a review of the effective dates was carried out and the implementation timeline is being updated.

This aeronautical information circular outlines the updated ADS-B Out Performance Requirements Mandate implementation phases, areas of applicability, and equipage requirements, and provides background on ADS-B usage in Canada. It also outlines safety and efficiency benefits associated with the capability for expansion of surveillance to areas where it was previously not available, thereby providing greater situational awareness for air traffic service personnel and pilots.

Background
ADS-B Out is an electronic surveillance technology on board an aircraft that automatically broadcasts flight information from the aircraft via a digital data link. The data is used by air traffic systems to depict the aircraft’s position and altitude on display screens.

NAV CANADA, the air navigation service provider for Canada, has provided ground-based ADS-B surveillance service in portions of CDA at flight level (FL) 290 and above since 2008. The availability of space-based ADS-B since 2019 has enabled air traffic service (ATS) surveillance throughout the entirety of CDA. This has brought many benefits in areas and at altitudes where coverage was previously unavailable, by enabling significant safety, operational and infrastructure efficiency gains. In areas where ATS surveillance already exists, the introduction of ADS-B for surveillance will provide value by removing coverage gaps and adding redundancy in surveillance sources, resulting in more seamless operations and a stronger system.

The implementation of the ADS-B Out Performance Requirements Mandate leverages advancements in satellite-based navigation and aligns with International Civil Aviation Organization (ICAO) and Transport Canada performance-based navigation (PBN) plans.

Equipage Requirements
To demonstrate compliance with the ADS-B Out mandate, aircraft will be required to:

- have antenna capability for broadcast toward space-based ADS-B receivers emitting 1090 MHz extended squitter. This requirement can be met either through antenna diversity (the use of a top and bottom antenna) or with a single antenna that is capable of transmitting both towards the ground and up towards satellites.
Operators are expected to file the following ADS-B equipage in Item 10 of the ICAO flight plan:

- B1 ADS-B with dedicated 1090 MHz ADS-B “Out” capability, or
- B2 ADS-B with dedicated 1090 MHz ADS-B “Out” and “In” capability.

**Area of Applicability and Phased Implementation**

The ADS-B Out mandate will be enabled through airspace classification designation and amendment to transponder airspace requirements, as described in the *Designated Airspace Handbook* (DAH), TP 1820E.

Implementation is planned to occur over multiple phases:

- Class A airspace commencing 10 August 2023
- Class B airspace commencing 16 May 2024
- Class C, D and E airspace commencing no earlier than 2026

Class F and Class G airspace are not affected by the ADS-B Out mandate.

This approach will help achieve the maximum benefits of a performance-based mandate within acceptable timelines, while providing aircraft operators and owners adequate time to meet the equipage requirements given aviation’s supply-chain considerations.
Benefits

The greatest benefits for ATS surveillance are achieved if all aircraft are appropriately equipped. Mandating the equipage of all aircraft within certain airspace enables the use of a common surveillance technology across the country, creating a more seamless operating environment and bringing significant safety and efficiency benefits.

Safety benefits include:

- Increased air traffic control (ATC) situational awareness through improved accuracy of aircraft position and trajectory.
- Increased pilot situational awareness for aircraft equipped with ADS-B Out capability.
- Earlier warnings/alerts of unexpected aircraft deviations.
- Support of remotely piloted aircraft system (RPAS) detect-and-avoid capabilities installed by several leading drone manufacturers.
- Implementation of common surveillance technology to current and new airspace for a more seamless operating environment.
- Improved emergency response for tracking and locating aircraft in distress.

Efficiency benefits include:

- More customer-preferred routes, speeds and flight levels.
- More flexible and efficient use of airspace — supporting new routes and separation standards, resulting in shorter flight times and reduced fuel consumption.
- Support for changes to airspace boundaries and sectors as space-based ADS-B service is deployed across Canada. The result will be improved capacity, as well as new traffic flows that significantly reduce fuel burn and greenhouse gas emissions.

In advance of the effective dates of the Mandate, NAV CANADA will continue to expand the areas and altitudes where ADS-B surveillance services are available, so that aircraft operators who have equipped early will be able to take greater advantage of these safety and efficiency benefits. Areas where ADS-B surveillance services have been expanded, along with any associated operational requirements, will be described in a separate AIC.

Further Information

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 23/22

CONTROLLER-PILOT DATA LINK COMMUNICATIONS
UPLINK MESSAGE LATENCY MONITOR
FUNCTION IN GANDER OCEANIC CONTROL AREA

Introduction

Various International Civil Aviation Organization (ICAO) regions have either implemented or are in the process of implementing reduced lateral and longitudinal separation minima predicated on the following performance-based communication and surveillance (PBCS) specifications: required communication performance (RCP) 240 and required surveillance performance (RSP) 180. One of the safety requirements in RCP 240 that are allocated to the aircraft system is Safety Requirement #15 (SR-15), which states that the aircraft system shall provide appropriate indication should the aircraft system receive a message whose timestamp exceeds a time variable.

To support SR-15, air traffic control (ATC) will uplink the controller-pilot data link communications (CPDLC) free text message “SYSU-6 (UM169) SET MAX UPLINK DELAY VALUE TO 300 SECONDS” to prompt the pilot to enter the specified latency value into the aircraft avionics (refer to the ICAO Doc 10037, Global Operational Data Link Manual (GOLD), Appendix A, Table A.4.13).

Background

The intention of the message latency monitor function is to prevent pilots from acting on a CPDLC uplink message that has been delayed in the network. The most serious of such cases would be the pilot executing a clearance that was no longer valid.

There are variations between aircraft types in the implementation of the message latency monitor function:

a) The Airbus implementation and some General Aviation aircraft implementations function in such a way that the aircraft automatically rejects a delayed uplink message by sending an error message to ATC and does not show the message to the pilot. The message sent to ATC is normally this: “ERROR INVALID DATA. UPLINK DELAYED IN NETWORK AND REJECTED RESEND OR CONTACT BY VOICE.”

b) The Boeing implementation and some General Aviation aircraft implementations function in such a way that the delayed message is displayed to the pilot with an indication that the message has been delayed. It is then up to the pilot to act as is appropriate (refer to section 3 below).

c) Some aircraft have a deficient implementation that has not been designed in accordance to industry standards.

d) Some CPDLC-equipped aircraft do not have the message latency monitor function implemented at all.

Because aircraft implementations are varied, it is impossible for ATC to tailor the uplink of the message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” to different aircraft types. It has therefore been decided among the North Atlantic (NAT) air navigation service providers (ANSPs) to uplink this message to all CPDLC-connected aircraft immediately after they enter each control area. An aircraft may therefore receive this message multiple times during a flight.
Aircraft have been receiving the CPDLC message “THIS IS AN AUTOMATED MESSAGE TO CONFIRM CPDLC CONTACT WITH GANDER CENTRE” upon entry into Gander oceanic control area (OCA). This message will be discontinued and replaced with the message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS.” This new message will serve two purposes:

a) To prompt the pilot to set the specified uplink delay value in the aircraft avionics; and
b) To establish the current data authority (CDA) for ATC.

Pilot Procedures

Pilots shall be familiar with aircraft functionality that concerns the CPDLC uplink message latency monitor.

When the pilot receives the uplink CPDLC message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” he/she shall:

a) Send a positive response to ATC as prompted by the avionics “(ACCEPT [ROGER])” regardless of whether the aircraft supports the latency monitor.

Note 1: It is important that pilots respond to the “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” uplink message to avoid having open unanswered CPDLC messages in the system. This also applies to aircraft that have deficient message latency monitor functionality or no such functionality at all.

Note 2: The GOLD Manual specifies that the pilot should append the response downlink with the free text message “TIMER NOT AVAILABLE” when the message latency monitor function is not available in the aircraft (refer to the GOLD Manual, Table 4-1).

b) If the aircraft is equipped with a correctly functioning message latency monitor, enter the specified uplink delay into the avionics in accordance with the aircraft procedures. Some avionics will automatically set the delay value in accordance with the uplink message and do not allow for a manual input.

Note 3: If an aircraft is instructed to log off and then log on again mid-flight, ATC can send the message “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” again once the logon is completed.

When a pilot receives a CPDLC uplink message with an indication that the message has been delayed the pilot shall:

a) Revert to voice communications to notify the ATS unit of the delayed message received and to request clarification of the intent of the CPDLC message; and
b) Respond appropriately to close the message as per the instructions of the controller.

c) The pilot must not act on the delayed uplink message until clarification has been received from the controller.

Implementation

Implementation of the “SET MAX UPLINK DELAY VALUE TO 300 SECONDS” message in the Gander OCA will be effective as of 0000Z on 26 March 2020.
Further Information

For further information, please contact:

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Gander Area Control Centre
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Gander, NL A1V 1W7
Attn: Robert Fleming, Manager
ACC Operations

Direct line: 709-651-5280
E-mail: robert.fleming@navcanada.ca

Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 22/22

USE OF CONTROLLER PILOT DATA LINK COMMUNICATIONS ROUTE CLEARANCE MESSAGES IN THE MONCTON FLIGHT INFORMATION REGION

Introduction

Controller pilot data link communications (CPDLC) has been in use in the Moncton flight information region (FIR) since 2012. Commencing on or soon after 28 June 2022, the available CPDLC message set will be expanded to include messages containing route clearances. Moncton air traffic controllers (ATCO) will be able to accept pilot-initiated CPDLC route requests and uplink the appropriate clearance using flight management system (FMS) loadable data, thereby reducing readback/hearback and transposition errors.

Implementation Plan

Implementation of CPDLC route clearance messages will be communicated via NOTAM prior to initiation.

<table>
<thead>
<tr>
<th>Pilot-Initiated Route Requests</th>
<th>ATC Response or Initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQUEST DIRECT TO [position]</td>
<td>PROCEED DIRECT TO [position]</td>
</tr>
<tr>
<td>REQUEST [route clearance]</td>
<td>CLEARED TO [position] VIA [route clearance]</td>
</tr>
<tr>
<td></td>
<td>CLEARED [route clearance]</td>
</tr>
<tr>
<td></td>
<td>AT [position] CLEARED [route clearance]</td>
</tr>
<tr>
<td>DIVERTING TO [position] VIA [route clearance]</td>
<td>CLEARED TO [position] VIA [route clearance]</td>
</tr>
<tr>
<td></td>
<td>CLEARED [route clearance]</td>
</tr>
<tr>
<td></td>
<td>AT [position] CLEARED [route clearance]</td>
</tr>
</tbody>
</table>

Pilots are to respond to a route clearance message with one of the following:

- WILCO
- UNABLE
- STANDBY

Controller-Initiated Route Clearances

Air traffic controllers may initiate a route clearance for separation purposes, to avoid restricted airspace or for other operational requirements.

Note: Cette information est aussi disponible dans l’autre langue officielle.
Pilot Procedures

If a clearance is received that can be automatically loaded into the FMS, the pilot should load the clearance into the FMS and review it before responding with “WILCO” or “UNABLE”.

Flight crews must be familiar with the proper loading and execution of the following CPDLC route clearance uplinks:

<table>
<thead>
<tr>
<th>Uplink Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCEED DIRECT TO [position]</td>
<td>Instruction to proceed directly to the specified position</td>
</tr>
</tbody>
</table>
| CLEARED TO [position] VIA [route clearance] | Instruction to proceed to the specified position via the specified route  
This uplink may not show the “VIA ROUTE CLEARANCE” until it is loaded  
This is not a direct to the “CLEARED TO [waypoint]”. It is a clearance to the waypoint via the route specified. |
| CLEARED [route clearance] | Instruction to proceed via the specified route  
This uplink may not show the “ROUTE CLEARANCE” until it is loaded |
| AT [position] CLEARED [route clearance] | Instruction to proceed from the specified position via the specified route  
This uplink may not show the “ROUTE CLEARANCE” until it is loaded |

Note 1: Experience shows that flight crews often misunderstand the uplink message “CLEARED TO [position] VIA [route clearance]” when they fail to load the message into the FMS, with the result that they incorrectly fly directly to the “CLEARED TO [position]”. In other cases, even after loading, they perceive the clearance as direct to the “CLEARED TO [position]”.

Note 2: FMS waypoint weather data (winds and temperature) may be lost depending on the route clearance message received. Flight crews should verify the weather data as they may need to re-enter the weather data for proper FMS predictions.

Note 3: For additional guidance on pilot procedures for uplink messages containing FMS-loadable data, refer to Section 4.3.5 of the International Civil Aviation Organization (ICAO) Doc 10037—Global Operational Data Link (GOLD) Manual.

Route Verification

To mitigate errors associated with pilots failing to promptly load or execute the new route clearances, controllers may verify the new route using automatic dependent surveillance – contract (ADS-C) reports, or by sending “CONFIRM ASSIGNED ROUTE”. Pilots are to respond to the “CONFIRM ASSIGNED ROUTE” with “ASSIGNED ROUTE [route clearance]”.

Note: Some aircraft are unable to send “ASSIGNED ROUTE [route clearance]” due to system limitations. In this case, pilots should respond with the free text message “UNABLE TO SEND ROUTE”.
Further Information

For further information, please contact:

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Attn: Noel Dwyer, National Manager
ATS Standards Delivery

E-mail: noel.dwyer@navcanada.ca

Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
NAV CANADA, the country’s provider of civil air navigation services, conducted a review to adjust the publication hours of the aerodrome forecast (TAF) at the Dease Lake, BC (CYDL) airport.

As a result of this review, the TAF hours for the Dease Lake airport will change as follows:

| New TAF:         | 1300Z–0000Z‡ (05:00–16:00 local time) |

This change will take effect 08 September 2022 at 0901 Coordinated Universal Time (UTC). The appropriate aeronautical publications will be amended.

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AERONAUTICAL INFORMATION CIRCULAR 20/22

MODIFICATION OF TERRACE CONTROL ZONE

NAV CANADA, the country's provider of civil air navigation services, conducted an aeronautical study that reviewed the requirement for controlled airspace and mandatory frequency (MF) requirements in an area below the elevation of the Northwest Regional Airport Terrace-Kitimat (CYXT) that encompasses a heliport near the town of Terrace, BC.

The study concluded that airspace 700 feet above sea level (ASL) and below in the Skeena River Valley should be removed from the control zone. This will allow helicopter operations to occur without entering the control zone, while keeping the affected airspace within the MF area.

The dimensions of the Class E Terrace control zone will appear in the Designated Airspace Handbook (TP 1820E), as shown in the following table and figure.

Terrace, BC:

The airspace within the area bounded by a circle of 5 miles radius centred on the following:

| N54°27'59.00" | W128°34'39.00" | (Terrace, BC - AD) |

Excluding the class G airspace 700´ and below bounded by a line beginning at:

| N54°29'54.94" | W128°37'32.18" | to |
| N54°28'58.87" | W128°43'02.85" | thence clockwise along the arc of a circle of 5 miles radius centred on |
| N54°27'59.00" | W128°34'39.00" | (Terrace, BC - AD) \ to |
| N54°32'30.75" | W128°38'15.26" | to |
| N54°29'54.94" | W128°37'32.18" | point of beginning |
This change will take effect 08 September 2022 at 0901 Coordinated Universal Time (UTC). The appropriate aeronautical publications will be amended. Refer to this aeronautical information circular (AIC), the Designated Airspace Handbook (TP 1820E) or the relevant AIP Supplement until the Kitimat visual flight rules (VFR) navigation chart (VNC) is updated which is planned for December 2023.
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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
VFR CHECKPOINTS

Significant points for visual flight rules (VFR) use in Canada are being amalgamated from three (3) types (VFR checkpoint, VFR call-up point and military VFR checkpoint) into a single type: VFR checkpoint.

VFR checkpoints are used as a supplemental means of navigation, when necessary, to alleviate air traffic services (ATS) workload and frequency congestion.

Note: VFR checkpoints are not intended to be used as a primary means of navigation or for flight planning purposes.

All VFR checkpoints in Canada will have a pronounceable name for use in air traffic communications and have a non-ICAO five-letter identifier beginning with "VC" for storage in VFR navigational databases.

Legends, symbols, identifiers and coordinate data for all VFR checkpoints will be updated in applicable VFR Terminal Procedures Charts (VTPC), and VFR terminal area charts (VTA) beginning 14 July 2022 and completed by 3 November 2022.

This aeronautical information circular (AIC) will expire 31 December 2022.

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
NEW PROCEDURES FOR THE USE OF A GROUND ADVISORY FREQUENCY AT NANAIMO (CYCD) AIRPORT

The purpose of this aeronautical information circular (AIC) is to inform pilots and air traffic services (ATS) of new procedures associated with the introduction of a ground advisory (GND ADV) frequency for use at Nanaimo Airport (CYCD).

Procedures

- When the GND ADV frequency is operational, pilots operating on the apron and taxiways up to the hold line for runways in use at Nanaimo Airport will be exempt from maintaining a continuous listening watch and making reports on the mandatory frequency (MF) (Canadian Aviation Regulations [CARs] subsections 602.97 (2), 602.98 (1), and section 602.99). While operating on the ground, ATS will instruct pilots to make all frequency changes.

- New operating restrictions regarding communications on the MF and the GND ADV frequency will be specified by the Minister in the Canada Flight Supplement (CFS).

- New procedures for use of the GND ADV frequency at Nanaimo Airport will be published in appropriate aeronautical publications, as noted below.

Pursuant to CARs subsection 602.98 (1), the Minister has authorized NAV CANADA ATS to specify operating restrictions regarding communications intended for the MF and assign a GND ADV frequency for use at Nanaimo Airport, for aircraft operating on the apron and taxiways up to the hold line before the runway in use. This action has been taken to reduce the frequency congestion on the MF and reduce safety hazards associated with said congestion.

Coincident with this action, during periods when the GND ADV frequency is operational, pilots will be exempt from the requirements of CARs sections 602.97, 602.98, and 602.99. Pilots must still adhere to CARs sections 602.100 to 602.103, inclusive.

Referenced CARs are reproduced in Appendix A on page 3 of this AIC. The exemption number and title are as follows: NCR 014-2022, “Exemption from Subsections 602.97 (2), 602.98 (1), and Section 602.99 of the Canadian Aviation Regulations.”

Effective 16 June 2022 NAV CANADA will provide ground traffic information, pre-taxi clearances (where available), and other advisory information on the GND ADV frequency.

During this change, the automatic terminal information service (ATIS) message will contain information to pilots regarding use of the GND ADV frequency.
The following aeronautical publications will be amended to reflect this additional frequency:

- **Canada Flight Supplement** (CFS)
- **Canada Air Pilot**, “Instrument Procedures — General Pages” (CAP GEN)
- **Canada Air Pilot**, Volume 2, “Instrument Procedures — British Columbia” (CAP Volume 2)

Refer to the CFS “General Section” and the CAP GEN for a definition of Ground Advisory. Refer to the CFS, Section B “Aerodrome/Facility Directory” and CAP Volume 2 for more detailed information specific to Nanaimo Airport, such as frequency and procedures.

Phraseology examples that pilots can expect from flight service specialists include:

- Instruction to change to the appropriate frequency (after receipt of advisory information):

<table>
<thead>
<tr>
<th>Pilot:</th>
<th>GOLF ALFA BRAVO CHARLIE ON BRAVO FOR RUNWAY TWO THREE AT ALFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>GND ADV:</td>
<td>ROGER, CONTACT RADIO ON (frequency)</td>
</tr>
</tbody>
</table>

- Recommended taxi routing during complex ground traffic situations:
  
  SUGGEST TAXI VIA BRAVO, ECHO, JULIET, ALFA HOLD SHORT RUNWAY ONE ONE
  
  or
  
  RECOMMEND TAXI VIA TANGO, BRAVO, RUNWAY TWO FOUR

- When transferring aircraft to either frequency (if the FSS positions are combined):

  CHANGE TO MY FREQUENCY (frequency)

This AIC will not expire unless superseded by a change in the level of service, or by amendment of, exemption from, or interpretation of the **Canadian Aviation Regulations**.

If you have any questions or concerns, please contact:

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
APPENDIX A

Division V — Operations at or in the Vicinity of an Aerodrome

General

602.96 (1) This section applies to persons operating VFR or IFR aircraft at or in the vicinity of an uncontrolled or controlled aerodrome.

(2) Before taking off from, landing at or otherwise operating an aircraft at an aerodrome, the pilot-in-command of the aircraft shall be satisfied that

(a) there is no likelihood of collision with another aircraft or a vehicle; and

(b) the aerodrome is suitable for the intended operation.

(3) The pilot-in-command of an aircraft operating at or in the vicinity of an aerodrome shall

(a) observe aerodrome traffic for the purpose of avoiding a collision;

(b) conform to or avoid the pattern of traffic formed by other aircraft in operation;

(d) where the aerodrome is an airport, comply with any airport operating restrictions specified by the Minister in the Canada Flight Supplement;

VFR and IFR Aircraft Operations at Uncontrolled Aerodromes within an MF Area

602.97 (1) Subject to subsection (3), no pilot-in-command shall operate a VFR or IFR aircraft within an MF area unless the aircraft is equipped with radio communication equipment pursuant to Subpart 5.

(2) The pilot-in-command of a VFR or IFR aircraft operating within an MF area shall maintain a listening watch on the mandatory frequency specified for use in the MF area.

General MF Reporting Requirements

602.98 (1) Every report made pursuant to this Division shall be made on the mandatory frequency that has been specified for use in the applicable MF area.

(2) Every report referred to in subsection (1) shall be

(a) directed to the ground station associated with the MF area, if a ground station exists and is in operation; or

(b) broadcast, if a ground station does not exist or is not in operation.

MF Reporting Procedures before Entering Manoeuvring Area

602.99 The pilot-in-command of a VFR or IFR aircraft that is operated at an uncontrolled aerodrome that lies within an MF area shall report the pilot-in-command’s intentions before entering the manoeuvring area of the aerodrome.
AERONAUTICAL INFORMATION CIRCULAR 17/22

PROCEDURES FOR THE USE OF A GROUND ADVISORY FREQUENCY AT MIRABEL (CYMX) AIRPORT

(Supersedes AIC 30/20)

The purpose of this aeronautical information circular (AIC) is to inform pilots and air traffic services (ATS) of procedures associated with the ground advisory (GND ADV) frequency for use at Montréal International / Mirabel Airport (CYMX).

Procedures

- When the GND ADV frequency is operational, pilots operating on the apron and taxiways up to the hold line for runways in use at Mirabel Airport will be exempt from maintaining a continuous listening watch and making reports on the mandatory frequency (MF) (Canadian Aviation Regulations [CARs] subsections 602.97 [2], 602.98 [1], and section 602.99). While operating on the ground, ATS will instruct pilots to make all frequency changes.

- New operating restrictions regarding communications on the MF and the GND ADV frequency will be specified by the Minister in the Canada Flight Supplement (CFS).

- Procedures for use of the GND ADV frequency at Mirabel Airport have been published in the appropriate aeronautical publications, as noted below.

Pursuant to CARs subsection 602.98 (1), the Minister has authorized NAV CANADA ATS to specify operating restrictions regarding communications intended for the MF and assign a GND ADV frequency for use at Mirabel Airport, for aircraft operating on the apron and taxiways up to the hold line before the runway in use. This action has been taken to reduce the frequency congestion on the MF and reduce safety hazards associated with such congestion.

Coincident with this action, during periods when the GND ADV frequency is operational, pilots will be exempt from the requirements of CARs sections 602.97, 602.98, and 602.99. Pilots must still adhere to CARs sections 602.100 to 602.103, inclusive.

Referenced CARs are reproduced in Appendix A on page 3 of this AIC. The exemption number and title are as follows: NCR-014-2022, “Exemption from Subsections 602.97 (2), 602.98 (1), and Section 602.99 of the Canadian Aviation Regulations.”

NAV CANADA will provide ground traffic information, pre-taxi clearances (where available), and other advisory information on the GND ADV frequency.

During this change, the automatic terminal information service (ATIS) message will contain information to pilots regarding use of the GND ADV frequency.
The following aeronautical publications reflect this additional frequency:

- Canada Flight Supplement (CFS)
- Canada Air Pilot, "Instrument Procedures — General Pages" (CAP GEN)
- Canada Air Pilot Volume 5, “Instrument Procedures — Quebec” (CAP Volume 5)
- Canada Air Pilot Volume 6, “Procédures aux instruments — Québec” (CAP Volume 6)

Refer to the CFS “General Section”, CAP Volume 6 and the CAP GEN for a definition of Ground Advisory. Refer to the CFS, Section B “Aerodrome/Facility Directory”, CAP Volume 5, and CAP Volume 6 for more detailed information specific to Mirabel Airport, such as frequency and procedures.

Phraseology examples that pilots can expect from flight service specialists include:

- Instruction to change to the appropriate frequency (after receipt of advisory information):

<table>
<thead>
<tr>
<th>Pilot:</th>
<th>GOLF ALFA BRAVO CHARLIE ON BRAVO FOR RUNWAY TWO THREE AT ALFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>GND ADV:</td>
<td>ROGER, CONTACT RADIO ON (frequency)</td>
</tr>
</tbody>
</table>

- Recommended taxi routing during complex ground traffic situations:
  
  SUGGEST TAXI VIA BRAVO, ECHO, JULIET, ALFA. HOLD SHORT RUNWAY ONE ONE
  or
  
  RECOMMEND TAXI VIA TANGO, BRAVO, RUNWAY TWO FOUR

- When transferring aircraft to either frequency (if the FSS positions are combined):
  
  CHANGE TO MY FREQUENCY (frequency)

This AIC supersedes AIC 30/20 and will not expire unless superseded by a change in the level of service, or by amendment of, exemption from, or interpretation of the Canadian Aviation Regulations.

If you have any questions or concerns, please contact:

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77 Metcalfe Street
Ottawa, ON K1P 5L6

Tel.: 800-876-4693
Fax: 877-663-6656
E-mail: service@navcanada.ca

Vanessa Robertson
Director Air Traffic Services (ATS) Standards
NOTIFICATIONS ON OVERFLYING CONFLICT ZONES
ISSUED BY TRANSPORT CANADA

(Replaces AIC 37/21)

1. CONTEXT

1.1 The Minister of Transport (MOT) is responsible for the assessment of specific threats concerning flight operations within the framework of the Aeronautics Act. Transport Canada, on behalf of the MOT, monitors the security of flight routes used by passenger aircraft and conducts threat assessments when there are changes in the security situation in these routes.

1.2 When it is perceived or assessed the State responsible for managing its airspace is not properly mitigating existing risks to commercial aviation, Transport Canada can issue an airspace notification for a risk area, either informative, advisory or prohibitive in nature, under Section 5.1 of the Aeronautics Act. Transport Canada’s threat assessment methodology is based on a tiered assessment of threat, as described in Section 3.

1.3 Airspace notifications issued by Transport Canada apply to Canadian Air Operators (CAO) and Owners of Aircraft Registered in Canada (OARC), and are intended to inform flight planning and operational decision-making.

2. PUBLICATION

2.1 NAV CANADA, the corporation that operates Canada's civil air navigation service, publishes airspace notifications on behalf of the MOT.

2.2 The reporting format follows the standards articulated in the International Civil Aviation Organisation’s (ICAO) Annex 15 – Aeronautical Information Services.

2.3 Notice to Airmen (NOTAM): when information to be distributed is temporary in nature or time-critical, notifications on conflict zones are published via NOTAM. As per Annex 15 (Standard 6.3.2.3 (n)), the notification is to include information that is as specific as possible regarding the nature and extent of threats of that conflict and its consequences for civil aviation. The NOTAM will either be cancelled once its validity ceases to apply, or incorporated into an Aeronautical Information Circular, if the information continues to be valid.

2.4 Aeronautical Information Circular (AIC): if an airspace notification will remain valid for more than 90 days, it will be issued as, or transferred to, an AIC. The notification contained in the AIC remains valid until the MOT makes a change, based on a new risk assessment of the security situation. If a change is deemed necessary, it will be reflected in the next AIC editorial. If the change needs to be communicated before the publication of the editorial, it will be made via NOTAM, which will be rescinded upon issuance of the AIC editorial.

Note: Cette information est aussi disponible dans l’autre langue officielle.
3. **ISSUANCE**

3.1 The issuance of airspace notifications for overflying conflict zones is a tiered-based risk system, as described below:

- **Level 1:** Medium risk *(INFORMATION / GENERAL ADVICE)* – Advised to take all potential risk information into account in risk assessment and flight routing decisions in the airspace of X country.

- **Level 2:** High risk *(RECOMMENDATION)* – Recommended to maintain a flight level of X / not to enter the airspace of X country.

- **Level 3:** Critical risk *(PROHIBITION)* – Prohibited to enter the airspace of X country.

4. **EXEMPTIONS**

4.1 Exceptional waivers for prohibitive notifications may be granted upon motivated request to the competent authority. Affected air operators wishing to obtain such an Authorization must apply to the department of transport at 1-877-992-6853 or 1-613-992-6853 or by email at Operations.aviation@tc.gc.ca.

4.2 The notifications listed below apply without prejudice to emergency measures that the pilot in command may take in case of absolute necessity.

5. **INVENTORY OF TRANSPORT CANADA ISSUED NOTIFICATIONS**

5.1 **Afghanistan – Level 2 – Issued July 28, 2021**

SECURITY – HAZARDOUS SITUATION IN AFGHANISTAN. Canadian Air Operators and owners of aircraft registered in Canada are recommended not to enter FIR Kabul FIR (OAKX). Potential risk from extremist and militant activity and limited risk mitigation capabilities. Excluded from this guidance are airways P500 and G500 for transiting overflights at or above flight level FL320.

5.2 **Belarus – Level 3 – Issued February 24, 2021**

SECURITY – HAZARDOUS SITUATION IN BELARUS. Canadian Air Operators and owners of aircraft registered in Canada are prohibited to enter FIR Minsk (UMMV), in the airspace of Belarus. Potential risk from anti-aviation weaponry and military operations.

5.3 **Ethiopia – Level 1 – Issued November 22, 2021**

SECURITY – HAZARDOUS SITUATION IN ETHIOPIA. Canadian Air Operators and owners of aircraft registered in Canada are advised to take all potential risk information into account in their risk assessment and routing decisions when operating at a flight level equal to or below flight level FL290 within FIR Addis Ababa FIR (HAAA). Potential risk from anti-aviation weaponry and military operations.

5.4 **Iran – Level 2 – Issued January 10, 2020**

SECURITY – HAZARDOUS SITUATION IN IRAN. Canadian Air Operators and owners of aircraft registered in Canada are recommended not to enter FIR Tehran (OIIX). Potential risk from anti-aviation weaponry and military operations.
5.5 Iraq – Level 2 – Issued November 18, 2021

SECURITY – HAZARDOUS SITUATION IN IRAQ. Canadian Air Operators and owners of aircraft registered in Canada are recommended to maintain a flight level equal to or above flight level FL320 in FIR Baghdad FIR (ORBB). Potential risk from anti-aviation weaponry and military operations.

5.6 Libya – Level 2 – Issued February 18, 2020

SECURITY – HAZARDOUS SITUATION IN LIBYA. Canadian Air Operators and owners of aircraft registered in Canada are recommended not to enter FIR Tripoli FIR (HLLL). Potential risk from anti-aviation weaponry and military operations created by the current level of internal instability.

5.7 Moldova – Level 3 – Issued February 24, 2022

SECURITY – HAZARDOUS SITUATION IN MOLDOVA. Canadian Air Operators and owners of aircraft registered in Canada are prohibited to enter FIR Chisinau (LUUU), in the airspace of Moldova. Potential risk from anti-aviation weaponry and military operations.

5.8 North Korea – Level 1 – Issued February 9, 2021

SECURITY – HAZARDOUS SITUATION IN NORTH KOREA. Canadian Air Operators and owners of aircraft registered in Canada are advised to take all potential risk information into account in their risk assessment and routing decisions within FIR Pyongyang (ZKKP). Potential risk from ballistic missile launches without prior notice.

5.9 Saudi Arabia – Level 2 – Issued March 11, 2021

SECURITY – HAZARDOUS SITUATION IN SAUDI ARABIA. Canadian Air Operators and owners of aircraft registered in Canada are advised to take all potential risk information into account in their risk assessment and routing decisions within FIR Jeddah (OEJD), and not to enter the southwest area of FIR OEJD, in which ESCAT (Emergency Security Control of Air Traffic) rules may be activated by NOTAM from the Saudi authorities. Potential risk from anti-aviation weaponry and military operations.

5.10 Somalia – Level 2 – Issued February 9, 2021

SECURITY – HAZARDOUS SITUATION IN SOMALIA. Canadian Air Operators and owners of aircraft registered in Canada are recommended to maintain a flight level equal to or above FL260 within FIR Mogadishu (HCSM). Potential risk from anti-aviation weaponry and military operations.

5.11 Syria – Level 2 – Issued February 9, 2020

SECURITY – HAZARDOUS SITUATION IN SYRIA. Canadian Air Operators and owners of aircraft registered in Canada are recommended not to enter FIR Damascus FIR (OSTT), and to take all potential risk information into account in their risk assessment and routing decisions when operating in the airspace within 200 NM of FIR OSTT. Potential risk from anti-aviation weaponry and military operations.
5.12 **Ukraine – Level 3 – Issued February 24, 2022**

SECURITY – HAZARDOUS SITUATION IN UKRAINE. Canadian Air Operators and owners of aircraft registered in Canada are prohibited to enter FIR:

- Dnipropetrovsk (UKDV), Kiev (UKBV), Lviv (UKLV), Odesa (UKOV) and Simferopol (UKFV), in the airspace of Ukraine;
- FIR Rostov (URRV), in the airspace of Russia; and,
- Are prohibited from operating within 200nm of the boundaries of FIR UKDV and FIR UKBV in FIR Moscow (UUWV).

Potential risk from anti-aviation weaponry and military operations.

5.13 **Yemen – Level 2 – Issued February 9, 2021**

SECURITY – HAZARDOUS SITUATION IN YEMEN. Canadian Air Operators and owners of aircraft registered in Canada are recommended not to enter FIR Sana’a (OYSC), northwest of the line created by the waypoints PAKER-ORBAT-NORMA on jet route UT702. Potential risks from anti-aviation weaponry and military operations.

6. **FURTHER INFORMATION**

For further information, please contact:

Transport Canada
Conflict Zone Information Office
330 Sparks St., Ottawa, ON
K1A 0N8

E-mail: ConflictZoneInfoOffice-BureauInfoZonesConflit@tc.gc.ca

André Baril  
Director General, Aviation Security

Nicholas Robinson  
Director General,  
Civil Aviation
AERONAUTICAL INFORMATION CIRCULAR 15/22

DECOMMISSIONING OF NAV CANADA VERY HIGH FREQUENCY AND AUTOMATED DEPENDENT SURVEILLANCE – BROADCAST STATIONS LOCATED IN SOUTHERN GREENLAND

(Replaces AIC 13/22)

Introduction

Since 2012, NAV CANADA has maintained ground-based automated dependent surveillance – broadcast (ADS-B) and very high frequency (VHF) stations for the provision of air traffic services (ATS) in a portion of the Gander oceanic control area (OCA) overlaying southern Greenland.

With the implementation of space-based ADS-B services in 2019, combined with controller pilot data link communications (CPDLC), the requirement for a ground-based infrastructure to permit reduced separations in that airspace no longer exists.

Effective 19 May 2022 at 0901 Coordinated Universal Time (UTC), the following frequencies will be decommissioned:

- 118.42 MHz
- 134.95 MHz

Effective 29 December 2022 at 0901 UTC, the following frequency will be decommissioned:

- 134.475 MHz

The appropriate aeronautical publications will be amended.

For further information, please contact:

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 14/22

COMMON FREQUENCY AREAS
WITHIN A 50 NAUTICAL MILE RADIUS OF MONTREAL

The purpose of this aeronautical information circular (AIC) is to inform pilots of the creation of two new common frequency areas (CFA) around Montreal.

Background

The very large volume of low-level aircraft around Greater Montreal, performing various aerial activities such as flight training, gliding, hang gliding, parachuting, departures and arrivals at the many aerodromes etc., combined with the amount and range of communications on the enroute frequency (126.7 MHz) makes it extremely difficult to place relevant communications of position and intentions in a timely manner. The situational awareness of the pilots is diminished and this increases the risk of conflict between aircraft.

As a result, a consultation between NAV CANADA, Transport Canada and users has been carried out in recent months with the objective of creating CFAs around Greater Montreal.

A CFA is an area within which a radio frequency is assigned to replace the enroute frequency. All pilots are encouraged to make their position and intention communications on this frequency, keeping it brief, giving only relevant information and avoiding "conflicting traffic please advise..." or other similar phraseology that takes unnecessary airtime on the frequency.

Description of the Common Frequency Areas

On 19 May 2022, two CFAs come into effect, covering a large area up to 50 NM from Montreal. The areas are depicted below. The two areas extend from the ground up to 5,500 ASL (altitude above sea level) and are separated by the south shore of the St. Lawrence River. The frequency for CFA Montreal-Nord is 122.1 MHz. The frequency for CFA Montreal-South is 122.575 MHz.

All relevant information can be found in up-to-date aeronautical publications such as VTA (VFR terminal area) chart, VNC (VFR navigation) chart and the Canada Flight Supplement (CFS).

Pilots are encouraged to use the CFA frequency when entering the described area. The use of a CFA does not replace air traffic control frequencies, nor MF (mandatory frequency) and ATF (aerodrome traffic frequency) frequencies; CFA only replaces the use of the 126.7 MHz frequency and is not monitored by air traffic services (ATS).
Note: Excerpt from the back of the Montreal VTA chart (AIR 1903)
Note: Excerpt from the front of the Montreal VTA chart (AIR 1903)
For further information, please contact:

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 12/22

NOTICE OF FURTHER EXPANSION OF AUTOMATIC DEPENDENT SURVEILLANCE – BROADCAST (ADS-B) SERVICES BELOW FLIGHT LEVEL 290

(Supersedes AIC 6/22)

Introduction

NAV CANADA has commenced incremental provision of air traffic service (ATS) surveillance services using space-based automatic dependent surveillance – broadcast (ADS-B) below flight level (FL) 290 in Canadian Domestic Airspace (CDA). The first flight information region (FIR) was the Montreal FIR in December 2021.

This aeronautical information circular (AIC) provides details on the expected implementation schedule for ADS-B service provision in controlled airspace below FL 290 within the remaining Canadian FIRs:

<table>
<thead>
<tr>
<th>FIR</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver FIR</td>
<td>on or soon after 12 April 2022</td>
</tr>
<tr>
<td>Edmonton FIR</td>
<td>on or soon after 15 May 2022</td>
</tr>
<tr>
<td>Winnipeg FIR</td>
<td>on or soon after 23 May 2022</td>
</tr>
<tr>
<td>Moncton FIR</td>
<td>on or soon after 15 June 2022</td>
</tr>
<tr>
<td>Gander FIR</td>
<td>on or soon after 15 June 2022</td>
</tr>
<tr>
<td>Toronto FIR</td>
<td>to be determined (TBD)</td>
</tr>
</tbody>
</table>

Background

The provision of space-based ADS-B service below FL 290 expands ATS surveillance service into areas where it was previously not available, thereby providing greater situational awareness for air traffic controllers with safety and efficiency benefits for pilots. An incremental approach to implementation has been undertaken to allow for ongoing evaluation of overall system performance, gather air operator and air traffic controller feedback, and address potential technical issues.

Benefits are expected to include:

- Increased ATS situational awareness through improved accuracy of aircraft position and trajectory.
- Earlier warnings and alerts to ATS of unexpected aircraft deviations.
- Improved emergency response for tracking and locating aircraft in distress.
- Implementation of common surveillance technology to current and new airspace for a more seamless operating environment.
- Increased flexibility for desired operations due to availability of ATS surveillance separation.
Equipage and Operator Participation

Operators intending to receive ADS-B service in the portions of the Edmonton FIR airspace depicted below require:

- An antenna emitting 1090 MHz extended squitter that is able to broadcast out toward space-based ADS-B receivers. Bottom mount transponders alone are insufficient.
- Traffic alert and collision avoidance system (TCAS) reporting that it is serviceable and enabled as a means to predict antenna diversity prior to the ADS-B mandate, commencing February 2023.

Operators are to file the following ADS-B equipage in Item 10 of the International Civil Aviation Organization (ICAO) flight plan, as appropriate:

- B1 ADS-B with dedicated 1090 MHz ADS-B “out” capability
- B2 ADS-B with dedicated 1090 MHz ADS-B “out” and “in” capability

Entry of Flight Identification (FLTID)

ADS-B avionics transmit the Flight Identification (flight number) set in the avionics or flight management system. The air traffic control (ATC) system uses that identification to correlate ADS-B position with the information contained in a filed flight plan.

When entering the Flight Identification (flight number), pilots should ensure it exactly matches the Aircraft Identification in the ATS flight plan. Example of Aircraft Identification/flight number: FPL-ABC201-IS.

Example Transponder Flight Identification
Area of Applicability

ADS-B services will be enabled below FL 290 in the areas within the Vancouver, Edmonton, Winnipeg, Montreal, Moncton and Gander FIRs depicted below.

Further Information

For further information, please contact:

NAV CANADA
Attn: Noel Dwyer, National Manager
ATS Standards Delivery
E-mail: noel.dwyer@navcanada.ca

Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
NAV CANADA, the country’s provider of civil air navigation services, conducted an aeronautical study that reviewed the requirements for non-directional beacons (NDBs) and very-high frequency (VHF) omnidirectional ranges (VORs).

The study concluded that given the comprehensive radar surveillance coverage, and the capabilities of area navigation (RNAV) with global navigation satellite system (GNSS) equipped aircraft, many navigation aids (NAVAIDs) are no longer required and should be decommissioned.

Where a current NAVAID identified in the study serves as an instrument approach aid or anchors an airway segment, NAV CANADA will ensure that an RNAV (GNSS) instrument approach procedure (IAP) or RNAV airway segment is published, where required, before the identified NAVAID is removed.

Implementation is ongoing and will progress for the next several years. The eighth phase is described below. Subsequent aeronautical information circulars (AICs) will be published for each upcoming phase.

**Phase 8:**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>NAVAID Facility Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>YXQ</td>
<td>Beaver Creek NDB</td>
</tr>
<tr>
<td>PY</td>
<td>Fort Chipewyan NDB</td>
</tr>
<tr>
<td>YJT</td>
<td>Stephenville VOR</td>
</tr>
<tr>
<td>ZJT</td>
<td>Stephenville (Harmon) NDB</td>
</tr>
<tr>
<td>QX</td>
<td>Gander NDB</td>
</tr>
<tr>
<td>PN</td>
<td>Port Menier NDB</td>
</tr>
<tr>
<td>YRC</td>
<td>St-Honore NDB</td>
</tr>
<tr>
<td>GP</td>
<td>Gaspe NDB</td>
</tr>
<tr>
<td>YMW</td>
<td>Maniwaki NDB</td>
</tr>
<tr>
<td>RI</td>
<td>Rivièr-du-Loup NDB</td>
</tr>
<tr>
<td>YY</td>
<td>Mont-Joli NDB</td>
</tr>
<tr>
<td>YYY</td>
<td>Mont-Joli VOR</td>
</tr>
<tr>
<td>YNC</td>
<td>Wemindji NDB</td>
</tr>
<tr>
<td>BX</td>
<td>Blanc-Sablon NDB</td>
</tr>
<tr>
<td>YHR</td>
<td>Chevery NDB</td>
</tr>
<tr>
<td>UHA</td>
<td>Quahtaq NDB</td>
</tr>
<tr>
<td>ZXE</td>
<td>Saskatoon (Barnes) NDB</td>
</tr>
<tr>
<td>YYF</td>
<td>Penticton NDB</td>
</tr>
<tr>
<td>YDR</td>
<td>Broadview VOR</td>
</tr>
<tr>
<td>ZPA</td>
<td>Prince Albert (Glass) NDB</td>
</tr>
<tr>
<td>TZ</td>
<td>Gibraltar Point NDB</td>
</tr>
</tbody>
</table>
Phase 8 will take effect on 14 July 2022 at 0901Z Coordinated Universal Time (UTC). The appropriate aeronautical publications will be amended.

For further information, please contact:

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
NAV CANADA, the country’s provider of civil air navigation services, conducted an assessment of the hours of operation of the community aerodrome radio station (CARS) at the Grise Fiord, Nunavut aerodrome (CYGZ). The assessment concluded that the hours of operation of the CARS can be modified to better service the aerodrome.

The hours of the CARS at Grise Fiord aerodrome will be changed to:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time Z</th>
<th>Time during daylight savings time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, Tuesday, Thursday and Friday</td>
<td>1300Z to 2100Z</td>
<td>1200Z to 2000Z</td>
</tr>
<tr>
<td>Wednesday</td>
<td>1700Z to 0100Z</td>
<td>1600Z to 0000Z</td>
</tr>
<tr>
<td>Closed on federal observed holidays</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This change will take effect 14 July 2022 at 0901 Coordinated Universal Time (UTC). The appropriate aeronautical publications will be amended.

For further information, please contact:

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
TIME-BASED SEPARATION IMPLEMENTATION AT
TORONTO/LESTER B. PEARSON INTERNATIONAL AIRPORT (CYYZ)

Amended Wake Turbulence Separation Standards

Time-Based Separation
On or soon after 0500Z Coordinated Universal Time (UTC) on 14 May 2022, timed-based separation (TBS) will be the wake turbulence separation standard used between aircraft pairs on final approach to all runways at Toronto/Lester B. Pearson International Airport (CYYZ) and will be based on the Enhanced Wake Separation groups of aircraft (A-G) previously published in aeronautical information circular (AIC) 28/20. Confirmation of the specific date and time will be published by NOTAM. All other phases of operation besides approach will be subject to Standard Wake Separation.

Background
During medium and strong headwind conditions, CYYZ experiences a decrease in the landing rate when operating with distance-based separation, because arriving flights are spaced a specified distance apart regardless of the wind conditions. When there is a strong headwind, the aircraft's movement relative to the ground is reduced resulting in increased time separation for each arrival pair. This increased time separation between arrivals reduces the landing rate and creates a lack of stability in the runway throughput when operating near capacity.

TBS dynamically adjusts separation distances using time, rather than distance, to keep landing rates consistent in strong headwinds. TBS forms part of a product developed by the UK’s National Air Traffic Services (NATS) and Leidos, known as Intelligent Approach (IA), which was first introduced at Heathrow Airport (EGLL) in 2015 and, through collaboration with NAV CANADA, IA has been adapted for use in CYYZ beginning in May 2022.

TBS minima for wake turbulence were developed to mitigate the loss of runway throughput in headwind conditions by delivering time intervals between arrivals that are consistent with distance-based separation in low wind conditions. TBS has been demonstrated to be a suitable alternative to distance-based separation minima at EGLL where the headwind component is a determining factor.

TBS provides resilience to headwinds by reducing the wake turbulence separation based on the live wind conditions and therefore improves operational and safety performance. By keeping the time constant, the actual distance between aircraft will alter depending on the strength of the wind. In practice it will be rare for today's distance-based separations to be reduced by more than a mile and the distance between aircraft pairs will never be below minimum surveillance separation.

Note: Safety margins are added to the system for the calculation of the visual indicators provided to ATC to address variability of flying time and wind condition. This ensures the minimum is unlikely to erode in the event of a wind strength change.

TBS will achieve improved wake risk over and above ICAO distance-based separation minima and has been assured as safe for wake turbulence encounters risk based on direct measurement of wake turbulence at EGLL between 2008 and 2012. EGLL has not seen any material change in the number of wake turbulence encounter reports due to this change introduced in 2015.
Proven Benefits

TBS for arrivals has been in continuous operation at EGLL since March 2015 and has been very successful in demonstrating the safety and efficiency of the operation.

<table>
<thead>
<tr>
<th>Proven Benefits of TBS at London/Heathrow (EGLL)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improved on time performance and lower fuel costs for airlines.</td>
<td>• Effective management of controller workload for ANSPs.</td>
</tr>
<tr>
<td>• Consistent delivery of increased capacity.</td>
<td>• Fewer delays and reduces cancellations by maintaining a resilient and consistent landing rate.</td>
</tr>
<tr>
<td>• Increased punctuality.</td>
<td>• Improved landing rates to increase resilience and scheduled movements.</td>
</tr>
<tr>
<td>• Allows increased passenger numbers with larger aircraft while maintaining landing rates.</td>
<td>• Allows an airport to safely refine separations between aircraft.</td>
</tr>
<tr>
<td>• Average tactical capacity gain of 2 aircraft landings per hour in all wind conditions.</td>
<td>• An improvement of 1.5-2.5% in airport punctuality.</td>
</tr>
<tr>
<td>• An average saving of over 1,410 seconds per day in arrival separation on final approach.</td>
<td>• Fewer delays and cancellations.</td>
</tr>
</tbody>
</table>

All of which help to achieve the best customer experience possible.

Changes to Procedures

TBS will be implemented at CYYZ on final approach on or later than 14 May 2022 and will be based on the ICAO Enhanced Wake Separation Groups (A-G) achieving improved management of wake risk over and above distance-based separations.

Standard Wake Turbulence Separation standards are based on four categories; light, medium, heavy, and super and will continue to be used on departure at CYYZ and throughout Canada. Separation and spacing rules between arriving aircraft and departing aircraft are unchanged.

Toronto Terminal and Tower air traffic controllers (ATC) will use IA to support the consistent and accurate delivery and monitoring of separation and spacing constraints through the display of indicators to the controllers. IA helps safely optimize arrival separation and spacing in all conditions and for all runway configurations, delivering capacity, safety, and resilience benefits without the need for expensive changes to ground infrastructure.

Changes for Flight Crews

Landing at an airport that is using TBS requires little or no change to flight deck procedures. Aircraft continue to be vectored or cleared onto final approach (depending on the type of approach) in the same way and at the same speeds as under the previous distance-based scheme. There are also no changes to current phraseology used between ATC and pilots.

The main difference under TBS is that ATC will separate aircraft on final approach by time, not distance. In practice this means that aircraft may appear closer on traffic alert and collision avoidance systems (TCAS) during headwind conditions although the actual separation will be constant in time.

Pilots should expect to be positioned closer behind preceding aircraft on final approach as headwinds increase. The tables below give some example separations in different wind conditions. TBS minima are based on a conversion of the current Enhanced Wake Turbulence separation minima in a light headwind condition (5 – 7 kts).
Examples of TBS conversion from distanced based minima

<table>
<thead>
<tr>
<th>Nautical Miles</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBS equivalent (seconds)</td>
<td>68</td>
<td>90</td>
<td>113</td>
<td>135</td>
<td>158</td>
<td>180</td>
</tr>
</tbody>
</table>

Examples of TBS distances (NM) in different winds

<table>
<thead>
<tr>
<th>Headwind</th>
<th>Heavy – Heavy</th>
<th>Heavy – Lower Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 kts</td>
<td>4.0</td>
<td>5.0</td>
</tr>
<tr>
<td>25 kts</td>
<td>3.5</td>
<td>4.4</td>
</tr>
<tr>
<td>45 kts</td>
<td>3.0</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Wake Encounter Reporting

With the change from distance-based separations to time-based separations there have been extensive safety studies particularly around the subject of wake turbulence encounters. However, as with any change to an operational concept, safety monitoring of events will be performed with the implementation of TBS.

Note: Pilots must continue to report wake encounters in the same manner they do today.

Runway Occupancy and Speed Compliance

TBS will not affect runway occupancy time, but as always, it is important to promptly exit the runway to reduce the risk of go-arounds by the following aircraft.

ATC speed instructions are mandatory and must be followed. Adherence to speed control instructions is key to achieving TBS benefits and allows ATC to operate close to the minimum separation standards meaning fewer go-arounds and improved airport efficiency. Conversely, noncompliance creates a need for increased separation. Thus, it is imperative that crews advise ATC before joining the approach if they are unable to comply with the speed, to allow for additional spacing to be provided. Final approach speeds are controlled to reduce the risk of catch up, which could result in a loss of separation or become a contributing factor for a go-around or a serious runway incident.

Note: Minimum runway occupancy times (ROT) and strict speed compliance on final approach are required by all aircraft due to reduced spacing between aircraft pairs. Pilots must advise ATC if they are unable to comply prior to joining final approach.
Further Information

For further information, please contact:

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
AERONAUTICAL INFORMATION CIRCULAR 8/22

OBLIQUE ANGLE INTERSECTION USE AT CONTROLLED AIRPORTS

The purpose of this aeronautical information circular (AIC) is to inform pilots of procedure changes at controlled airports regarding the use of oblique angle intersections.

Background

Runway incursions continue to increase year-over-year in Canada. They are of great concern to all aviation stakeholders and continue to be part of the Transportation Safety Board (TSB) watchlist.

In consultation and collaboration with a cross-functional group of internal and external stakeholders, NAV CANADA is implementing procedure changes to reduce the risk of runway incursions by limiting the use of oblique angle intersections by aircraft that limit the ability of the flight crew to see the active runway threshold and final approach.

The addition of these procedures to NAV CANADA’s Manual of Air Traffic Services (MATS) is aligned with recommendations in ICAO DOC 9870 – Manual on the Prevention of Runway Incursions.

Procedure Changes at Controlled Airports

Effective 27 April 2021, tower controllers must not permit aircraft to use oblique angle intersections (including taxiways or intersecting runways) to access an active runway if the departure threshold and final approach are not visible to the flight crew, except under the following circumstances:

- There are no other routes to access the runway without having to taxi or back track onto an active runway
- There is a non-routine situation that requires the use of oblique angle intersections because no practical alternative exists. This may include a MEDEVAC flight, a closed taxiway or a disabled aircraft or vehicles.

Request to Pilots

Pilots are urged not to request or use oblique angle intersections that limit their ability to see the active runway threshold and final approach at both controlled and uncontrolled airports. A collaborative approach by the aviation industry will help mitigate the risk of collisions from runway incursions.

Expiry

This AIC expires on 31 October 2022.
Further Information

For further information, please contact:

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
Objective

Refresher on reporting requirements for pilots operating instrument flight rules (IFR) aircraft into uncontrolled aerodromes.

Context

Recent incidents have shown that some pilot confusion may exist with regard to reporting requirements for a pilot-in-command of an IFR flight to provide a report when conducting IFR approach and landing operations at uncontrolled aerodromes. Although NAV CANADA’s flight service specialists (FSS) and air traffic controllers (ATC) routinely coordinate arrival information for IFR flights into uncontrolled airports, this does not absolve a pilot of fulfilling Canadian Aviation Regulations (CARs) requirements.

Procedure

Subsection 2 of CARs 602.104 (below) applies when conducting IFR approach and landing operations at uncontrolled aerodromes, regardless of whether or not the aerodrome lies within a mandatory frequency (MF) area:

<table>
<thead>
<tr>
<th>The pilot-in-command of an IFR aircraft who intends to conduct an approach to or a landing at an uncontrolled aerodrome shall report</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) the pilot-in-command’s intentions regarding the operation of the aircraft</td>
</tr>
<tr>
<td>(i) five minutes before the estimated time of commencing the approach procedure, stating the estimated time of landing,</td>
</tr>
<tr>
<td>(ii) when commencing a circling manoeuvre, and</td>
</tr>
<tr>
<td>(iii) as soon as practicable after initiating a missed approach procedure; and</td>
</tr>
<tr>
<td>(b) the aircraft’s position</td>
</tr>
<tr>
<td>(i) when passing the fix outbound, where the pilot-in-command intends to conduct a procedure turn or, if no procedure turn is intended, when the aircraft first intercepts the final approach course,</td>
</tr>
<tr>
<td>(ii) when passing the final approach fix or three minutes before the estimated time of landing where no final approach fix exists, and</td>
</tr>
<tr>
<td>(iii) on final approach.</td>
</tr>
</tbody>
</table>

Example

Sept Iles Radio, Inuit 832, we are still with Montreal Center, descending through 15,000’, 40 miles west, planning the ILS09. Estimating landing in 7 minutes.
For further information, please contact:

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
THUNDER BAY, ON (CKE6) WATER AERODROME
COMMUNICATION PROCEDURE CHANGE

The following is an amendment to the COMM entry for the Thunder Bay, ON (CKE6) Water Aerodrome in the Canadian Water Aerodrome Supplement (CWAS), publication effective date 24 March 2022:

| COMM | ATF | 122.8 | 5 NM | 3600 ASL excluding Thunder Bay CZ |

Previously, the CWAS COMM section for CKE6 indicated that in addition to the UNICOM frequency, communication was required with the Thunder Bay, ON (CYQT) aerodrome control tower or radio on frequency 118.1 MHz. Communication with the CYQT control tower or radio from CKE6 was often unreliable, led to frequency congestion, and was not required for aircraft that remained clear of the CYQT control zone. In addition, the reference to UNICOM has been changed to ATF.

Pilots are reminded that if intending to operate within the CYQT Control Zone, there is no change to the communication requirements for that airspace.

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
# AERONAUTICAL INFORMATION CIRCULAR 32/21

## PRE-TAXI CLEARANCE IMPLEMENTATION AT FLIGHT SERVICE STAFFED AIRPORTS IN CANADA

As a result of various stakeholder feedback sessions, NAV CANADA is continuing its endeavour to implement pre-taxi clearance (PTC) availability at staffed flight service station (FSS) sites in the country, where applicable. As part of this initiative, PTC is currently available at the following sites as of 31 August 2021:

<table>
<thead>
<tr>
<th>FIR</th>
<th>Site</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZQX</td>
<td>Deer Lake FSS</td>
<td>CYDF</td>
</tr>
<tr>
<td>CZQM</td>
<td>Saint John FSS</td>
<td>CYSJ</td>
</tr>
<tr>
<td></td>
<td>Charlottetown FSS</td>
<td>CYYG</td>
</tr>
<tr>
<td>CZUL</td>
<td>Gatineau FSS</td>
<td>CYND</td>
</tr>
<tr>
<td></td>
<td>Iqaluit FSS</td>
<td>CYFB</td>
</tr>
<tr>
<td></td>
<td>Mirabel FSS</td>
<td>CYMX</td>
</tr>
<tr>
<td></td>
<td>Sept-Iles FSS</td>
<td>CYZV</td>
</tr>
<tr>
<td>CZYZ</td>
<td>Kingston FSS</td>
<td>CYGK</td>
</tr>
<tr>
<td></td>
<td>North Bay FSS</td>
<td>CYYB</td>
</tr>
<tr>
<td></td>
<td>St. Catherines FSS</td>
<td>CYSN</td>
</tr>
<tr>
<td></td>
<td>Sudbury FSS</td>
<td>CYSB</td>
</tr>
<tr>
<td></td>
<td>Timmins FSS</td>
<td>CYTS</td>
</tr>
<tr>
<td>CZEG</td>
<td>Fort Nelson FSS</td>
<td>CYYE</td>
</tr>
<tr>
<td></td>
<td>Fort St. John FSS</td>
<td>CYXJ</td>
</tr>
<tr>
<td></td>
<td>Grande Prairie FSS</td>
<td>CYQU</td>
</tr>
<tr>
<td></td>
<td>High Level FSS</td>
<td>CYOJ</td>
</tr>
<tr>
<td></td>
<td>Inuvik FSS</td>
<td>CYEV</td>
</tr>
<tr>
<td></td>
<td>Lethbridge FSS</td>
<td>CYQL</td>
</tr>
<tr>
<td></td>
<td>Lloydminster FSS</td>
<td>CYLL</td>
</tr>
<tr>
<td></td>
<td>Medicine Hat FSS</td>
<td>CYXH</td>
</tr>
<tr>
<td></td>
<td>Norman Wells FSS</td>
<td>CYVQ</td>
</tr>
<tr>
<td></td>
<td>Peace River FSS</td>
<td>CYPE</td>
</tr>
<tr>
<td></td>
<td>Whitecourt FSS</td>
<td>CYZU</td>
</tr>
<tr>
<td></td>
<td>Yellowknife FSS</td>
<td>CYZF</td>
</tr>
<tr>
<td>CZVR</td>
<td>Castlegar FSS</td>
<td>CYCG</td>
</tr>
<tr>
<td></td>
<td>Cranbrook FSS</td>
<td>CYXC</td>
</tr>
<tr>
<td></td>
<td>Port Hardy FSS</td>
<td>CYZT</td>
</tr>
<tr>
<td></td>
<td>Smithers FSS</td>
<td>CYYD</td>
</tr>
<tr>
<td></td>
<td>Terrace FSS</td>
<td>CYXT</td>
</tr>
</tbody>
</table>
It is imperative that operators understand that the delivery of a PTC is **NOT** an authorization to depart when ready.

PTC clearances will be appended with the following instruction – **"DO NOT DEPART UNTIL DEPARTURE VALIDATION IS RECEIVED"**.

When taxiing for departure, operators will receive a clearance validation relayed by the flight service specialist in the form of **“(ACID) valid (SID, if applicable) DEPARTURE RUNWAY (XX)”,** for example.

Should a PTC clearance require an amendment prior to departure, the flight service specialist will relay a new clearance for which a departure validation will be required. Due to their lengthy nature and complexity, PTC will not be available for pilots filing instrument flight rules (IFR) flight itineraries.

The *Canada Flight Supplement* (CFS) will be amended to indicate the availability of PTC at an airport through a flight service station in the near future.

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Stephanie Castonguay  
Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 25/21

CHANGES TO CANADIAN SIGMET, AIRMET AND TAF BULLETINS

In order to comply with standards and recommended practices from International Civil Aviation Organization (ICAO) Annex 3 and World Meteorological Organization (WMO) No 386, the Meteorological Services of Canada (MSC) will make modifications to significant meteorological information (SIGMET), AIRMET, and aerodrome forecast (TAF) bulletins, as well as change some abbreviations used in these products. The changes will be effective on 02 December 2021.

The following is a brief summary of changes that will be made to Canadian SIGMET, AIRMET and TAF bulletins.

Abbreviation Changes

Several of the abbreviations currently in use for these products and others will be slightly modified or added to ensure compliance with ICAO used abbreviations. The table below provides only a few examples of the changing abbreviations and does not constitute an exhaustive list.

<table>
<thead>
<tr>
<th>Abbreviation Changes</th>
<th>New Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancel/led (currently CNCL/CNCLD) to</td>
<td>CNL</td>
</tr>
<tr>
<td>Icing (currently ICG) to</td>
<td>ICE</td>
</tr>
<tr>
<td>Intensifying (currently INTSFYG) to</td>
<td>INTSF</td>
</tr>
<tr>
<td>Low level wind shear (currently LLWS) to</td>
<td>L LVL WS</td>
</tr>
<tr>
<td>Moving (currently MOVG) to</td>
<td>MOV</td>
</tr>
<tr>
<td>Vertical visibility (currently not in MANAB) to</td>
<td>VV</td>
</tr>
<tr>
<td>Width or wide (currently WID/WD) to</td>
<td>WID</td>
</tr>
</tbody>
</table>

SIGMET/AIRMET

1. **Lines (corridor):** SIGMET and AIRMET using a line (also known as a corridor) will now describe the entire width of the line instead of the distance on both sides of the line.

   **Example 1**

<table>
<thead>
<tr>
<th>Current:</th>
<th>CZWG WINNIPEG FIR MDT ICG OBS WTN 75 NM OF LINE N5539 W09933 N5314 W09703 FL040/080 QS INTSFYG=</th>
</tr>
</thead>
<tbody>
<tr>
<td>New:</td>
<td>CZWG WINNIPEG FIR MOD ICE OBS WI 150NM WID LINE BTN N5539 W09933 N5314 W09703 FL040/080 STNR INTSF=</td>
</tr>
</tbody>
</table>

2. **Use of polygons:** Polygons and corridors will now be allowed for use in Tropical Cyclone SIGMET (WC).

   **Example 2**

<table>
<thead>
<tr>
<th>Current:</th>
<th>CZQX GANDER DOMESTIC FIR TC ALBERTO OBS N4714 W05424 CB TOP FL200 WTN 60NM OF CENTRE MOV ENE 20KT WKNG FCST 2310Z TC CENTRE N4725 W05119=</th>
</tr>
</thead>
</table>
3. **Movement**: The elements “forecast time” and “forecast position” will no longer be used in conjunction with the element “movement or expected movement” in Tropical Cyclone SIGMET (WC).

**Example 3**

<table>
<thead>
<tr>
<th>Current:</th>
<th>New:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZQX GANDER DOMESTIC FIR TC ALBERTO OBS N4714 W05424 CB TOP FL200 WTN 60NM OF CENTRE MOV E 20KT WKNG FCST 2310Z TC CENTRE N4725 W05119=</td>
<td>CZQX GANDER DOMESTIC FIR TC ALBERTO PSN N4714 W05424 CB OBS WI 60NM OF TC CENTRE TOP FL200 WKN FCST AT 2310Z TC CENTRE PSN N4725 W05119 CB WI 50NM OF TC CENTRE=</td>
</tr>
</tbody>
</table>

4. **CB radius**: The final CB radius around the forecast TC centre in Tropical Cyclone SIGMET (WC) will now be specified, regardless of whether it is different from the initial CB radius or not.

**Example 4**

<table>
<thead>
<tr>
<th>Current:</th>
<th>New:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZQX GANDER DOMESTIC FIR TC ALBERTO OBS N4714 W05424 CB TOP FL200 WTN 60NM OF CENTRE MOV E 20KT WKNG FCST 2310Z TC CENTRE N4725 W05119=</td>
<td>CZQX GANDER DOMESTIC FIR TC ALBERTO PSN N4714 W05424 CB OBS WI 60NM OF TC CENTRE TOP FL200 WKN FCST AT 2310Z TC CENTRE PSN N4725 W05119 CB WI 50NM OF TC CENTRE=</td>
</tr>
</tbody>
</table>

5. Several other minor changes will be made to the meteorological part of the Tropical Cyclone (WC) and Volcanic Ash (WV) SIGMET such as the addition of the terms AT, PSN and MT and editorial changes to all SIGMET and AIRMET such as the removal of the space between certain terms or the addition of a space for lower visibilities with a fraction in the AIRMET.

**Example 5**

<table>
<thead>
<tr>
<th>Current:</th>
<th>New:</th>
</tr>
</thead>
</table>
TAF

1. **Cancelled and NIL TAF:** Cancellation and NIL TAF will show either CNL or NIL only in the body of the TAF and the reason will be included in the remarks section.

   **Example 6**

<table>
<thead>
<tr>
<th>Current:</th>
<th>TAF AMD CYTL 201630Z 2014/2102 FCST CNCLD DUE CLD HGT SENSOR INOP RMK FCST BASED ON AUTO OBS. NXT FCST BY 210000Z=</th>
</tr>
</thead>
<tbody>
<tr>
<td>New:</td>
<td>TAF AMD CYTL 152330Z 1521/1608 <strong>CNL</strong> RMK CLD SENSOR INOP. NXT FCST BY 160200Z=</td>
</tr>
</tbody>
</table>

   **Example 7**

<table>
<thead>
<tr>
<th>Current:</th>
<th>TAF CYTL 160138 1602/1614 FCST NOT AVBL DUE NO OBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>New:</td>
<td>TAF CYTL 160138Z <strong>NIL</strong> RMK <strong>NO OBS.</strong> NXT FCST BY 160800Z=</td>
</tr>
</tbody>
</table>

2. **Amended and delayed TAF:** Amended and delayed TAF will now be sequenced using AAx for amended TAF and RRx for delayed TAF.

   **Example 8**

<table>
<thead>
<tr>
<th>Current:</th>
<th>AAA always used for amended TAF and no indicator used for delayed TAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>New:</td>
<td>FTCN33 CWAO 061800 <strong>AAC</strong> and FTCN33 CWAO 061800 <strong>RRB</strong></td>
</tr>
</tbody>
</table>

3. **Visibility:** A space will be added to the visibilities when given with a whole number and a fraction.

4. **Remarks:** The remark section will integrate abbreviations that are compliant with ICAO.

5. **Bulletin numbers:** To mitigate the potential issues of increased use of numbers and letters brought by some of the changes above, new bulletin numbers will be created to further divide the TAFs with the addition of a 2x series for each flight information region (FIR), with the exception of Moncton FIR. Additionally, TAFs issued for Department of National Defence (DND) aerodromes will have a unique bulletin.

   **Bulletin used for TAFs** | **Flight Information Region**
   ---------------------------|----------------------------------
   FTCN21 and FTCN31          | Vancouver FIR
   FTCN22 and FTCN32          | Southern part of the Edmonton FIR
   FTCN23 and FTCN33          | Northern part of the Edmonton FIR
   FTCN24 and FTCN34          | Winnipeg FIR
   FTCN25 and FTCN35          | Toronto FIR
   FTCN26 and FTCN36          | Montreal FIR
   FTCN37                     | Moncton FIR
   FTCN28 and FTCN38          | Gander domestic FIR
   FTCN39                     | Department of National Defence
Manuals of Standards

The Manual of Standards and Procedures for Aviation Weather Forecasts (MANAIR) and the Manual of Word Abbreviations (MANAB) will be updated to reflect all the changes. An advanced copy of both manuals will be available in early fall at the following link: <https://www.canada.ca/en/environment-climate-change/services/weather-manuals-documentation.html>.

Further Information

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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
Introduction

This aeronautical information circular (AIC) replaces AIC 33/20 and AIC 37/20, as it combines the information regarding the new runway surface condition (RSC) NOTAM format and the associated phraseology accompanying the new format, including how to report the Canadian Runway Friction Index (CRFI) by runway thirds.

On 12 August 2021, in order to meet the important safety elements and intent of the International Civil Aviation Organization (ICAO) Global Reporting Format (GRF), Canada will transition to RSC NOTAM for reporting runway surface conditions. As RSC NOTAM will have a different format from SNOWTAM and “NOTAMJ,” a description of how to interpret the information is being provided. Information for flight operations personnel is provided in Transport Canada AC 700-057 – Global Reporting Format (GRF) for Runway Surface Conditions: Guidance for Flight Operations which can be found at <https://tc.canada.ca/en/aviation/reference-centre/advisory-circulars#700-series>. Reporting requirements for airport and aerodrome operators are thoroughly described in the Transport Canada Advisory Circular (AC) 300-019 – Global Reporting Format (GRF) for Runway Surface Condition Reporting which can be found at <https://tc.canada.ca/en/aviation/reference-centre/advisory-circulars#300-series>.

Purpose

The purpose of this information is to improve understanding on the new RSC NOTAM format and the associated phraseology that will be used by air traffic services (ATS).

RSC NOTAM Dissemination and Format

RSC NOTAM will be disseminated in the following series:

- RSC NOTAM disseminated to international stakeholders, to the USA, and within Canada will be **Series S: INTL** (approximately 35 aerodromes)
- RSC NOTAM disseminated to the USA and within Canada will be **Series A: INTL-USA** (approximately 500 aerodromes)
- RSC NOTAM disseminated within Canada only will be **Series B: National** (approximately 300 aerodromes)

An aerodrome’s NOTAM dissemination category determines which series the RSC NOTAM will be disseminated under. This information can be found in the aerodrome series table in AIP Canada, Part 1, General (GEN), Section 3.1.3.4, which can be found at:

<www.navcanada.ca>
Aeronautical Information
AIP Canada
AIP Canada – Current and Next Issues
All RSC NOTAM have Q-Code FAXX, traffic IV, purpose NBO, and scope of A. The validity period of the NOTAM is a maximum of either 8 hours or 24 hours depending on the reporting method and classification of the aerodrome (subject to the published aerodrome operating hours). Item B) of an RSC NOTAM will indicate the beginning of the RSC NOTAM duration period and Item C) will indicate the end of the RSC NOTAM duration period. If there are significant changes a new RSC NOTAM will be issued. As multiple runways are reported in a single RSC NOTAM, it is possible that the NOTAM will be disseminated in multi-parts.

Item E) of an RSC NOTAM contains three sections:

- RSC information;
- CRFI information; and
- Remarks.

Note that all runways at an aerodrome that have winter maintenance are reported in both the RSC and CRFI sections.

The RSC section contains the following information:

1. RSC Header, which includes the Runway (RWY) identifier:
   a) RWY in use designator, when reporting by thirds (e.g., RSC 33), or
   b) Full RWY designator when reporting by full runway length (e.g., RSC 07/25).
2. Runway condition code (RWYCC) for each runway third (only if reporting is by thirds).
3. Up to two runway surface descriptions, including percent coverage and, if applicable, the associated depth (per third if reporting by thirds, per runway if reporting by full runway length).
4. Cleared runway width (if reduced).
5. Snow drifts, windrows, and/or snowbanks on the runway (where applicable).
6. Other localized conditions (where applicable).
7. Any treatments applied to the runway (where applicable).
8. Conditions for the remaining width of the runway (where applicable).
9. Snowbanks adjacent to the runway (as applicable).
10. RWY remarks including if the RWYCC was upgraded or downgraded (where applicable).
11. The RSC validity time.

The validity period of the RSC report is in the format MMM DD HHMM – MMM DD HHMM. This is provided as multiple runways are presented in a single report with each runway potentially having a different validity period.

As decided by the aerodrome operator, this information can be reported by thirds or by full runway length. RWYCCs are reported on a scale from 0 to 6, where 0 represents the most slippery conditions and 6 represents the least slippery conditions (equivalent to a dry runway). RWYCCs are only reported on paved runways where the runway is reported by thirds.

When RWYCCs are reported, the code is assigned based on the predominant runway surface descriptions. If more than two runway surface descriptions are present on a runway third, the two most prevalent or severe conditions are reported. If the percent coverage on a runway third is less than or equal to 25%, the conditions are reported and a RWYCC of 6 is assigned. If the percent coverage on a runway third exceeds 25%, the RWYCC is based on the runway surface description with the higher coverage or the more slippery condition, as circumstances warrant. The final RWYCC is then confirmed, upgraded, or downgraded based on other information, including: CRFI measurements, braking action reports, and directional control observations.
Runway surface condition descriptions are reported with the associated percentage of coverage and, when applicable, the associated depth in inches. The following RSC descriptions are used:

<table>
<thead>
<tr>
<th>RSC Description</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPACTED SNOW</td>
<td>SLUSH ON TOP OF ICE</td>
</tr>
<tr>
<td>DRY</td>
<td>STANDING WATER</td>
</tr>
<tr>
<td>DRY SNOW</td>
<td>WATER ON TOP OF COMPACTED SNOW</td>
</tr>
<tr>
<td>DRY SNOW ON TOP OF COMPACTED SNOW</td>
<td>WET</td>
</tr>
<tr>
<td>DRY SNOW ON TOP OF ICE</td>
<td>WET ICE</td>
</tr>
<tr>
<td>FROST</td>
<td>WET SNOW</td>
</tr>
<tr>
<td>ICE</td>
<td>WET SNOW ON TOP OF COMPACTED SNOW</td>
</tr>
<tr>
<td>SLIPPERY WHEN WET</td>
<td>WET SNOW ON TOP OF ICE</td>
</tr>
<tr>
<td>SLUSH</td>
<td></td>
</tr>
</tbody>
</table>

If an aerodrome has multiple runways, all runways are reported in a single RSC NOTAM. If multiple runways are reported, they are reported in the order of ascending pairs.

**Example:**

RSC 04...
RSC 22...
RSC 12...
RSC 30...

The CRFI section contains the following information:

1. RWY identifier
2. Temperature
3. CRFI reading
4. Observation time of the CRFI reading

CRFI can be reported by thirds or by full runway length. Some circumstances require airports to report CRFI by thirds, and this requirement is not linked to the RSC reporting method. In other words, it is possible for CRFI to be reported by thirds, while the RSC is reported for full runway length and vice versa. When a CRFI measurement is not able to be taken for any reason, regardless of reporting method, it is annotated by the acronym “NR,” which means “Not Reported.” Refer to the Canadian Aviation Regulations (CARs) section 322.416 of the Airport Winter Maintenance Standard for further information on CRFI reporting.

The remarks section contains the following information:

1. Taxiway conditions reported in their own remarks section.
2. Apron conditions reported in their own remarks section.
3. General remarks reported in its own remarks section.
RSC NOTAM Example:

(S1017/20 NOTAMN
Q) CZZZ/QFAXX/IV/NBO/A/000/999/4519N07543W005
A) CYAA B) 2102121450 C) 2102122250
E) RSC 03/21 60 PCT 1/4IN DRY SNOW. 70FT WIDTH. REMAINING WIDTH 1/4IN DRY SNOW ON TOP OF COMPACTED SNOW. VALID FEB 12 1345 – FEB 12 2145.

RSC 05 3/5/3 30 PCT 1/8IN DRY SNOW, 50 PCT 1/8IN SLUSH, 40 PCT 1/8IN DRY SNOW. 175FT WIDTH. CHEMICALLY TREATED AT HHMM. REMAINING WIDTH 1/4IN DRY SNOW ON TOP OF COMPACTED SNOW. RWYCC DOWNGRADED, RWY MARKINGS OBSCURED. VALID FEB 12 1445 – FEB 12 2245.

RSC 23 3/5/3 40 PCT 1/8IN DRY SNOW, 50 PCT 1/8IN SLUSH, 30 PCT 1/8IN DRY SNOW. 175FT WIDTH. CHEMICALLY TREATED AT HHMM. REMAINING WIDTH 1/4IN DRY SNOW ON TOP OF COMPACTED SNOW. RWYCC DOWNGRADED, RWY MARKINGS OBSCURED. VALID FEB 12 1445 – FEB 12 2245.

RSC 15 5/5/5 30 PCT 1/8IN DRY SNOW, 30 PCT 1/8IN DRY SNOW, 30 PCT 1/8IN DRY SNOW. 190FT WIDTH. CHEMICALLY TREATED AT HHMM. REMAINING WIDTH 1/4IN DRY SNOW ON TOP OF COMPACTED SNOW. VALID FEB 12 1245 – FEB 12 2045.

RSC 33 5/5/5 30 PCT 1/8IN DRY SNOW, 30 PCT 1/8IN DRY SNOW, 30 PCT 1/8IN DRY SNOW. 190FT WIDTH. CHEMICALLY TREATED AT HHMM. REMAINING WIDTH 1/4IN DRY SNOW ON TOP OF COMPACTED SNOW. VALID FEB 12 1245 – FEB 12 2045.

ADDN NON-GRF/TALPA INFO:
CRFI 03/21 -8C .30 OBS AT 2102121345.
CRFI 05 -8C .32/NR/.30 OBS AT 2102121445.
CRFI 23 -8C .30/NR/.32 OBS AT 2102121445.
CRFI 33 -8C .40/.40/.39 OBS AT 2102121245.

RMK: ALL TWY 1/8IN DRY SNOW, CHEMICALLY TREATED AT HHMM. TWY F, D BRAKING ACTION POOR.
RMK: ALL APN 1/8IN DRY SNOW, CHEMICALLY TREATED AT HHMM, BRAKING ACTION POOR.
RMK: CLEARING/SWEEPING IN PROGRESS.
ATS Phraseology for above RSC NOTAM Example

If Runway 03 is in use (reported by full runway length):

RUNWAY SURFACE CONDITION, RUNWAY ZERO-THREE-TWO-ONE, SIX-ZERO PERCENT ONE-QUARTER INCH DRY SNOW, SEVEN-ZERO FOOT WIDTH, REMAINING WIDTH ONE-QUARTER INCH DRY SNOW ON TOP OF COMPACTED SNOW, AT ONE-THREE-FOUR-FIVE.

FRICTION INDEX RUNWAY ZERO-THREE-TWO-ONE, TEMPERATURE MINUS EIGHT, WAS DECIMAL THREE-ZERO AT ONE-THREE-FOUR-FIVE.

If Runway 05 is in use (reported by thirds):

RUNWAY SURFACE CONDITION, RUNWAY ZERO-FIVE, CONDITION CODE THREE-FIVE-THREE, THREE-ZERO PERCENT ONE-EIGHTH INCH DRY SNOW, FIVE-ZERO PERCENT ONE-EIGHTH INCH SLUSH, FOUR-ZERO PERCENT ONE-EIGHTH INCH DRY SNOW, ONE-SEVEN-FIVE FOOT WIDTH, CHEMICALLY TREATED AT ONE-FOUR-TWO-ZERO, REMAINING WIDTH ONE-QUARTER INCH DRY SNOW ON TOP OF COMPACTED SNOW, RUNWAY CONDITION CODE DOWNGRADED, RUNWAY MARKINGS OBSCURED, AT ONE-FOUR-FOUR-FIVE.

FRICTION INDEX RUNWAY ZERO-FIVE, TEMPERATURE MINUS EIGHT, WAS DECIMAL THREE-TWO, NOT REPORTED, DECIMAL THREE-ZERO, AT ONE-FOUR-FOUR-FIVE.

The terminology used in an automatic terminal information service (ATIS) message for RSC will be the same as the phraseology seen above. In an ATIS message, the RSC information will appear after stating the landing/departing runway or determined runway.

Other Resources:

- Canadian NOTAM Operating Procedures (CNOP):
- Advisory Circular 300-019:
- Advisory Circular 700-057:
- Aerodrome Standards – Division IV – Airport Winter Maintenance:
- Transport Canada AIM - MAP 3.8 Runway Surface Condition (RSC) / RSC NOTAM:
Further Information

For further information, please contact:

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
NAV CANADA, the country's provider of civil air navigation services, conducted an aeronautical study that examined the requirement for very high frequency (VHF) direction finding (VDF) equipment used to provide navigational assistance to pilots, served by some control towers and flight service stations (FSS).

The study concluded that due to the proliferation of global navigation satellite system (GNSS) positioning equipment, VDF is no longer required for the provision of navigational assistance. As a result, the use of the VDF equipment should be discontinued and reference to VDF removed from all aeronautical publications.

Locations are described below.

<table>
<thead>
<tr>
<th>Location</th>
<th>Airport Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon, MB</td>
<td>CYBR</td>
</tr>
<tr>
<td>Cranbrook, BC</td>
<td>CYXC</td>
</tr>
<tr>
<td>Deer Lake, NL</td>
<td>CYDF</td>
</tr>
<tr>
<td>Fort Nelson, BC</td>
<td>CYYE</td>
</tr>
<tr>
<td>Fort St. John, BC</td>
<td>CYXJ</td>
</tr>
<tr>
<td>Fredericton, NB</td>
<td>CYFC</td>
</tr>
<tr>
<td>Inuvik, NT</td>
<td>CYEV</td>
</tr>
<tr>
<td>Kenora, ON</td>
<td>CYKQ</td>
</tr>
<tr>
<td>Kingston, ON</td>
<td>CYGK</td>
</tr>
<tr>
<td>Lethbridge, AB</td>
<td>CYQL</td>
</tr>
<tr>
<td>Muskoka, AB</td>
<td>CYQA</td>
</tr>
<tr>
<td>Norman Wells, NT</td>
<td>CYVQ</td>
</tr>
<tr>
<td>Oshawa, ON</td>
<td>CYOO</td>
</tr>
<tr>
<td>Penticton, BC</td>
<td>CYYF</td>
</tr>
<tr>
<td>Prince Albert, SK</td>
<td>CYPA</td>
</tr>
<tr>
<td>Rankin Inlet, NU</td>
<td>CYRT</td>
</tr>
<tr>
<td>Red Deer, AB</td>
<td>CYQF</td>
</tr>
<tr>
<td>Rouyn-Noranda, QC</td>
<td>CYUY</td>
</tr>
<tr>
<td>St. Catharines, ON</td>
<td>CYSN</td>
</tr>
<tr>
<td>St-Honoré, QC</td>
<td>CYRC</td>
</tr>
<tr>
<td>Sioux Lookout, ON</td>
<td>CYXL</td>
</tr>
<tr>
<td>Sudbury, ON</td>
<td>CYSB</td>
</tr>
<tr>
<td>Timmins, ON</td>
<td>CYTS</td>
</tr>
<tr>
<td>Val-d’Or, QC</td>
<td>CYVO</td>
</tr>
<tr>
<td>Wabash, NL</td>
<td>CYWK</td>
</tr>
<tr>
<td>Whitehorse, YK</td>
<td>CYXY</td>
</tr>
<tr>
<td>Williams Lake, BC</td>
<td>CYWL</td>
</tr>
<tr>
<td>Yellowknife, NT</td>
<td>CYZF</td>
</tr>
</tbody>
</table>

Note: Cette information est aussi disponible dans l’autre langue officielle.
This change will take effect on 07 October 2021 at 0901Z Coordinated Universal Time (UTC). The appropriate aeronautical publications will be amended.

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```
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Chris Bowden
Acting Director, Aeronautical Information Management and Flight Operations
AERONAUTICAL INFORMATION CIRCULAR 22/21

CANADA/USA BORDER COMPUTER NAVIGATION FIXES

Background

Computer navigation fixes (CNF) are depicted on some area charts located on airways that cross the Canada/USA boundary. CNFs usually begin with the letters “CF” followed by three consonants, such as CFZDK, and differ from regular pronounceable waypoints.

Some chart producers may choose to include CNFs on aeronautical charts in parentheses/square brackets. As such, these CNFs are depicted on some third-party charts and have been included in Canada/USA boundary flight management system (FMS) airway definitions and aircraft databases.

Issue

While Canada/USA boundary CNFs are charted and contained in some FMS navigation databases, pilots and dispatch personnel should be aware of the following:

- They are not to be used in the definition of an airway for flight planning purposes.
- They are not needed by flight management systems to define and navigate airways.
- They are not to be used by pilots for navigation purposes. Pilots are not to ask for a clearance to these points even if they are contained in the FMS routing.

NAV CANADA is actively working with the Federal Aviation Administration (FAA) and chart producers on a solution to eliminate CNFs at the Canada/USA boundary.

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
TRIAL TO REMOVE FLIGHT PLANNING REQUIREMENT OF EASTBOUND NORTH AMERICAN ROUTES (NAR)

(Replaces AIC 34/20)

Background

For several decades, eastbound aircraft transitioning from North America to Europe have been required to flight plan a North American Route (NAR) with the associated oceanic entry point (OEP) of their preferred oceanic track, as outlined in the Canada Flight Supplement (CFS).

Given the expressed desire of operators to have the ability to flight plan more efficiently and optimize their routings, NAV CANADA and the Federal Aviation Administration (FAA) have embarked on a project to remove this flight planning requirement on a trial basis, as outlined below.

Trial Details

Beginning in January 2020, departures from several North American cities will have the ability to optimize their routings to the OEP. This will be a gradual introduction of departure points and operators as the trial moves forward in five stages. Additional departure airports may be considered as the trial moves forward and the impact of the change has been adequately evaluated.

<table>
<thead>
<tr>
<th>Stage Number</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>6 January 2020 to</td>
<td>All flights operated by Air Canada, departing from CYYZ and CYUL, operating within the organized track structure (OTS), will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td></td>
<td>19 January 2020</td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>20 January 2020 to</td>
<td>All flights departing from CYYZ and CYUL, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td></td>
<td>2 February 2020</td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td>3 February 2020 to</td>
<td>All flights as indicated in Stage 1 and Stage 2 in addition to American airlines flights departing from KORD, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td></td>
<td>16 February 2020</td>
<td></td>
</tr>
<tr>
<td>Stage 4</td>
<td>17 February 2020 to</td>
<td>All flights departing from CYYZ, CYUL and KORD, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td></td>
<td>1 March 2020</td>
<td></td>
</tr>
<tr>
<td>Stage 5</td>
<td>2 March 2020 to 16</td>
<td>All flights departing from CYYZ, CYUL, KORD, KDTW and KMSP, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td></td>
<td>March 2020</td>
<td></td>
</tr>
<tr>
<td>Stage Number</td>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>Stage 6</td>
<td>September 2020</td>
<td>All flights as indicated in Stage 1–5 in addition to KATL, KCVG, KDFW, KIAH, KMIA, KSAV, all airports within Mexico, Central America, and northwest (NW) Caribbean, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td>Stage 7</td>
<td>16 October 2020 to 29 October 2020</td>
<td>All flights as indicated in Stage 1–6 in addition to KJFK, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td>Stage 8</td>
<td>30 October 2020 to 12 November 2020</td>
<td>All flights as indicated in Stage 1–7 in addition to KEWR, KMEM, and KSDF, operating within the OTS, will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td>Stage 9</td>
<td>13 November 2020 to 1 March 2021</td>
<td>All flights as indicated in Stage 1–8 in addition to KBOS, KPHL, and KIAD operating within the OTS will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
<tr>
<td>Stage 10</td>
<td>2 March 2021 to 2 November 2021</td>
<td>All flights from all airports will not be required to file the associated NAR listed on the daily Track Message.</td>
</tr>
</tbody>
</table>

The trial may be discontinued via NOTAM at any time, based on the operational impact of the trial.

**Further Information**

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Stephanie Castonguay  
Director, Aeronautical Information Management and Flight Operations
NOTICE OF OPERATIONAL TRIAL: NEW RUNWAY HOLD POSITION MARKINGS, PLACEMENT AND LIGHTING
TORONTO/LESTER B. PEARSON INTERNATIONAL AIRPORT

Purpose of the Circular

This circular is to advise pilots of an operational test of new hold position markings, placement and lighting at the airport and confirm method of operation.

Background

To reduce the risk of runway incursions, an operational trial of angled mandatory hold positions (see illustration on the following page) will be undertaken on Taxiway D4 and Taxiway D5 on the south side of Runway 06L/24R, commencing in April 22, 2021. The trial will also be further advertised via NOTAM.

This design concept results from a collaborative effort of the Toronto Pearson local runway safety team, which consists of industry safety experts, to address recommendations from a Transportation Safety Board safety issues investigation.

Characteristics of the trial of angled hold positions designs are as follows:

- One half of the hold position marking is angled 30 degrees toward the path of the approaching aircraft;
- Inset LED wide-angle lens combination runway guard lights (i.e., flashing yellow) / stop bar (i.e., solid red) spaced at 1.5 metres along the entire span of the hold position for a total of 26 fixtures, as compared to the current 10 fixture design at 3.0 metres spacing;
- These lights will flash yellow in an alternating pattern when Runway 06L/24R is not in use and show solid red when Runway 06L/24R is in operation; and
- The entire mandatory hold position has been moved from a distance 115 metres from the centerline of Runway 06L/24R to 90 metres, the more common international standard.

These changes have been tested with aircraft and flight crews in a controlled environment and evaluated by the members of Toronto Pearson’s Local Runway Safety Team to provide superior visibility and indication of the required holding point to flight crews exiting Runway 06R/24L.

For the duration of the operational trial (specific end time yet to be determined), the Greater Toronto Airports Authority (GTAA) welcomes and encourages all flight crews using these rapid exit taxiways to provide feedback to air traffic controllers (ATCs), or more detailed observations directly to the GTAA at report_it@gtaa.com.
Toronto Pearson Operational Trial of Angled Hold Positions at Taxiway D4 and Taxiway D5

Stephanie Castonguay
Director, Aeronautical Information Management and Flight Operations
EFFECTS OF APPROACH LIGHT SYSTEM INTENSITY ON INSTRUMENT FLIGHT PROCEDURE MINIMA

Introduction

A functioning high-intensity approach lighting (HIAL) system with all its intensity levels available allows the lowest approach minima to be used. When the HIAL system becomes inoperative, or selection of its intensity levels is restricted to only one level, the approach minima may need adjustment to remove the benefit provided by the HIAL system.

Purpose of the Circular

This aeronautical information circular (AIC) reminds Canadian airspace users to adjust the approach minima when a HIAL system becomes inoperative. This includes situations when the HIAL system is operating at a fixed intensity level without the normal ability for the pilot to select or request an intensity level suitable for the prevailing weather conditions while conducting the approach.

Background

Several conditions must be met before a runway can be certified as a precision runway. In addition to the obstacle environment, there are certain requirements related to visual aids. One of these requirements is the presence of a functioning HIAL system, including its capability to operate at different intensity levels. With all of the applicable elements present, the runway can be certified as a precision runway and instrument landing system (ILS), and localizer precision with vertical guidance (LPV) approach minima can achieve decision heights (DH) as low as 200 feet and visibilities as low as ½ statute mile (SM) (2600 feet runway visual range [RVR]).

Other instrument flight procedure (IFP) types with a DH or height above touchdown zone elevation (HAT) of 250 feet or higher also benefit from a HIAL system. Although their DH/HAT is not reduced, their advisory visibility may be reduced by up to ½ SM.

However, when the HIAL system becomes inoperative, a precision runway is no longer precision and the IFP minima must be adjusted up to non-precision values. Likewise, minima for IFPs that have had their advisory visibility reduced by up to ½ SM must be adjusted to remove this benefit.

Instructions for accomplishing these adjustments are found in the following publications:

- AIP Canada, Part 3 Aerodromes (AD), Section 2.22.4, “High Intensity Approach Lights (HIAL) Inoperative”
- Canada Air Pilot, Instrument Procedures, General Pages, Section “Operating Minima – Approach—HIAL Inoperative”
Details

Although the inability of the pilot to request (through air traffic services [ATS]) or select (via aircraft radio control of aerodrome lighting [ARCAL]) HIAL system intensity levels while conducting an approach is not the same as the HIAL system being inoperative, the same adjustments must be made to the approach minima. When only one intensity level is available in a HIAL system, the runway is no longer a precision runway and any reduction to the advisory visibility provided by the HIAL system no longer applies.

When only one intensity level is available in a HIAL system, or when a HIAL system becomes inoperative, a notice to airmen (NOTAM) is issued by the airport operator (Canadian NOTAM Operating Procedures [CNOP], Section 5.7.5, "Approach Lighting"). Limitations on the intensity levels of a HIAL system may be caused by a system malfunction or may be the result of an ATS unit evacuation, after which ATS personnel cannot manually adjust the intensity level at the pilot’s request. In either case, after being informed through NOTAM of an inoperative HIAL system or its intensity limitations, the pilot must make adjustments to approach minima as explained in the above noted publications.

Expiry Date

This AIC expires 21 April 2022.

Further Information

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Vanessa Robertson
Director Air Traffic Services (ATS) Standards
NOTICE OF TRIAL FOR PROPOSED AMENDED PREFERENTIAL RUNWAY SYSTEM AT TORONTO/LESTER B. PEARSON INTERNATIONAL AIRPORT

(Replaces AIC 8/20)

Purpose of the Circular

This circular is to advise pilots of the trial start for the proposed amended Preferential Runway System at Toronto/Lester B. Pearson International Airport (CYYZ), effective 27 February 2020 at 00:00 local time.

Background

As part of the Toronto Noise Mitigation Initiatives (Six Ideas) and the 2018–2022 Noise Management Action Plan, the Greater Toronto Airports Authority (GTAA) is proposing an amendment to the existing Preferential Runway System in place at CYYZ (nightly from 00:00 local time to 06:29 local time). A trial is being conducted beginning 27 February 2020 at 00:00 local time. On the start date, the amended preferential runway system will replace the existing preferential runway system. The GTAA will assess the trial and collect feedback throughout. Should the trial be deemed successful, the GTAA will apply to Transport Canada for a permanent amendment.

The objective of a preferential runway system is to direct aircraft away from noise-sensitive areas during the initial departure and final approach phases of flights (Transport Canada Aeronautical Information Manual (TC AIM) TP 14371E, section RAC 7.6.1, “Noise Abatement Procedures—Departure — General”). The current system is decades old, surrounding communities have grown significantly since then, and the airport has added two new runways in that time. The GTAA believed it was necessary to ensure that the existing preferential runway system was still meeting the intended objective as defined by Transport Canada in the TC AIM.

After an extensive analysis of population numbers and the noise levels that communities were experiencing, the GTAA determined that the existing first and second choice runways (Runway 05 and Runway 15L for arrivals, and Runway 23 and Runway 33R for departures), were still the best options for directing aircraft away from noise sensitive, highly populated areas. The existing third choice, Runway 06L/24R, is no longer a preferential runway; however, it is available as an alternate when Runway 05/23 is unavailable.

Amended Preferential Runway System

The amended system will package the runways differently. Rather than a system that lists three options for departures and three for arrivals in order of preference, the GTAA has developed runway pairings (arrival/departure configurations) and provisioned for one runway in each direction. This will allow NAV CANADA to still adhere to the system while selecting optimal runways based on weather conditions and infrastructure availability.

The proposed amended preferential runway system is illustrated in Figure 1:
Figure 1: Proposed Amended Preferential Runway System

The following tables provide a comparison of the existing and amended systems:

### Existing Preferential Runway System

<table>
<thead>
<tr>
<th>Preference</th>
<th>Arrivals</th>
<th>Departures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>05</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>15L</td>
<td>33R</td>
</tr>
<tr>
<td>3</td>
<td>06L</td>
<td>24R</td>
</tr>
</tbody>
</table>

### Amended Preferential Runway System

<table>
<thead>
<tr>
<th>Preference</th>
<th>Arrivals</th>
<th>Departures</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>05 (06L/R)*</td>
<td>33R (33L)</td>
<td>Use as a Pair</td>
</tr>
<tr>
<td>2</td>
<td>15L (15R)</td>
<td>23 (24L/R)</td>
<td>Use as a Pair</td>
</tr>
</tbody>
</table>

* Runways in brackets are available when the corresponding preferential runway is not available.

### Provision for Weather and Infrastructure Availability**

<table>
<thead>
<tr>
<th>Option</th>
<th>Arrivals</th>
<th>Departures</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northerly</td>
<td>33R (33L)</td>
<td>33R (33L)</td>
<td>Single Runway Operation</td>
</tr>
<tr>
<td>Southerly</td>
<td>15L (15R)</td>
<td>15L (15R)</td>
<td>Single Runway Operation</td>
</tr>
<tr>
<td>Westerly</td>
<td>23 (24R/L)</td>
<td>23 (24R/L)</td>
<td>Single Runway Operation</td>
</tr>
<tr>
<td>Easterly</td>
<td>05 (06L/R)</td>
<td>05 (06L/R)</td>
<td>Single Runway Operation</td>
</tr>
</tbody>
</table>

** NAV CANADA may use any of these runways, as required, when the first and second preference pairs are unavailable or not an appropriate choice.
The amendment to the preferential runway system is part of a commitment that the GTAA has made to surrounding communities to continue to meet the objectives of the preferential runway system, improve the reliability of the system, and be transparent through publicly available usage reports.

The GTAA’s Noise Management Action Plan is available on Toronto Pearson’s website at: <https://www.torontopearson.com/noisemanagement/#>. When available, further details or links to information relating to the trial can be found on the Toronto Pearson website at: <www.torontopearson.com/conversations>.

**Expected Action**

Operators shall comply with the amended nighttime preferential runway system, which is in effect every day from 00:00 to 06:29 local time. Approval during this time is required for any requests for non-preferential runway departures, arrivals, or both. These requests are to be directed to:

GTAA Airport Duty Manager  
Tel.: 416-776-3030

Stephanie Castonguay  
Director, Aeronautical Information Management and Flight Operations
NOTICE OF MANDATE TO APPLY AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) PROCEDURES AT TORONTO/LESTER B. PEARSON INTERNATIONAL AIRPORT

(Replaces AIC 26/20)

1.0 Date of Applicability

The airport collaborative decision making (A-CDM) procedures described in this aeronautical information circular (AIC) are applicable as follows:

- A-CDM live operations will be effective as of 05 April 2021.

2.0 Purpose of the Circular

This AIC outlines the A-CDM procedures to be followed by operators at Toronto/Lester B. Pearson International Airport (CYYZ).

Additional information on the details of the A-CDM Project at CYYZ can be found at <http://torontopearson.com/acdm/>.

For anything not covered in this circular, detailed explanation can be found in the Transport Canada Aeronautical Information Manual (TC AIM), Aerodromes chapter, section 10 <https://www.tc.gc.ca/ca-publications/AIM_2020-1_E_AGA.pdf>.

The A-CDM web portal for operational purposes can be found at <https://acdm.gtaa.com/>.

3.0 A-CDM Single Point of Contact

The 24/7 dedicated single point of contact for A-CDM is the Manager Operations – Airport Flow (MO-AF):

Tel.: 416-776-ACDM (2236)
E-mail: manageroperationsairportflow@gtaa.com

4.0 Exemptions From A-CDM Procedures

Helicopters and flights identified by any one of the following designators in Item 18 of their flight plan, or by any other agreed means that may be applicable, are exempt from adhering to the A-CDM procedures:

<table>
<thead>
<tr>
<th>Designator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS/FR</td>
<td>Fire fighting</td>
</tr>
<tr>
<td>STS/HEAD</td>
<td>Flight with Head of State status</td>
</tr>
<tr>
<td>STS/HOSP</td>
<td>Flight on an actual medical mission</td>
</tr>
<tr>
<td>STS/MEDEVAC</td>
<td>Flight operated for life critical medical emergency evacuation</td>
</tr>
<tr>
<td>STS/SAR</td>
<td>Flight engaged in a search and rescue mission</td>
</tr>
<tr>
<td>STS/STATE</td>
<td>Flight engaged in military, customs or police services</td>
</tr>
<tr>
<td>STS/FLTCK</td>
<td>Aircraft performing NAVAID flight check</td>
</tr>
</tbody>
</table>
5.0 Flight Crew Procedures

5.2 Adherence to TOBT/TSAT

To prevent unnecessary, and potentially significant delays, flight crews are reminded of the importance of keeping their Target Off Blocks Time (TOBT) accurate. Failure to comply with the actions associated with TOBT/Target Start-up Approval Time (TSAT) will result in new times being allocated.

5.3 TOBT/TSAT Visibility

- Where Advanced Visual Docking Guidance System (AVDGS) is available TSAT times will be displayed at TOBT -10 minutes, or TOBT -20 minutes if TSAT time is ≥ TOBT + 20 minutes.
- Through communication with the operator and their designated representative(s).

5.4 Call Ready Procedure

- TOBT +/- 5 minutes contact Apron Coordinator to confirm that the flight is ready with aircraft location.
- Monitor appropriate Apron frequency to await push-back and start-up approval.

5.5 Push-back / Start-Up Approval

- TSAT +/- 5 minutes Apron will provide push-back and start-up approval without a call from the flight crew.
- Sky Service midfield/3 Bay Hangar Apron aircraft shall start-up without requiring an instruction to do so from Apron in the TSAT +/- 5-minute window.
- Aircraft located at uncontrolled areas (Taxiway K, South FBO, Vista Cargo, Air Canada Hangar) shall contact North or South Ground as appropriate in the TSAT +/- 5-minute window for taxi clearance.
- Failure to commence the push-back/start-up process within 2 minutes must be reported to the appropriate Apron or Ground frequency. Failure to report will be assumed that the TSAT is no longer valid and the operator needs to provide a new TOBT from which a new TSAT will be generated.
- If there is an issue after the aircraft has cleared the gate area that would mean a longer than normal start-up procedure, flight crew must request guidance from Apron frequency or Apron Coordinator if located at uncontrolled areas.

5.6 De-icing Operations

De-icing procedures will have a significant impact on taxi times, airport throughput and A-CDM planning.

- De-icing requirements must be communicated to Clearance Delivery.
- Requests for a change in de-icing requirements (including no longer requiring de-icing) later in the process must be communicated to Apron Coordinator as soon as practicable.

5.7 Managing TSAT Delays

Delays can occur for many different reasons so there will be occasion when there is a significant time difference between TOBT and TSAT.

Flight crews at CYYZ can normally expect to remain at the gate whilst waiting for their TSAT. Should the gate be required for another purpose, flight crews can expect to remote hold on the airfield to await their TSAT.

Flow restrictions enroute, or at destination airports, are calculated into a flight's TSAT.
6.0 Contingency Operations

If the A-CDM system fails or becomes unreliable, the A-CDM procedures will be suspended. The suspension and eventual restarting of the procedures will be announced via the automatic terminal information service (ATIS) broadcast and a NOTAM.

During suspension of the A-CDM procedures, no TOBT and TSAT will be provided.

All aircraft are to report ready with Apron Coordinator when they are ready to commence push-back/start-up procedures.

Stephanie Castonguay
Director, Aeronautical Information Management and Flight Operations
REQUESTING PRIORITY HANDLING FOR
FLIGHTS CARRYING COVID-19 VACCINES

(Replaces AIC 3/21)

Introduction

This circular pertains to critical flights only, it does not apply to all flights carrying COVID-19 vaccines.

Some flights transporting Coronavirus disease 2019 (COVID-19) vaccines may require special handling, priority, or both. Although COVID-19 vaccine packaging is designed for transport, delays may put the vaccines at risk in some cases.

NAV CANADA and adjacent air navigation service providers (ANSPs) have jointly developed a multi-disciplinary, integrated approach to coordinate the safe and efficient air transportation of COVID-19 vaccine(s).

Indication of Priority COVID-19 Vaccine Flight Status

Flight operators are responsible for determining which flights carrying COVID-19 vaccines are critical. They should be very selective in their prioritization, to make it possible for ANSPs to provide the necessary, effective assistance to truly critical flights.

1. All flight operators should insert “STS/ATFMX RMK/VACCINE” in Item 18 of the Flight Plan to identify any flight they have determined to be a critical flight due to COVID-19 vaccine transport. This will assist the ANSPs in maintaining awareness on these priority flights.

2. These air operators are also requested to contact the NAV CANADA National Operations Center at NOC_Vaccine@navcanada.ca, at least 24 hours prior, to advise it of this request.

3. For international flights traversing the USA (this includes North Atlantic Oceanic airspace), the operators should also provide advanced notification of the critical flight(s) to the FAA’s Command Center. For flights traversing European Airspace managed by the EUROCONTROL Network Manager, operators do not need to provide advance notification because the ATFMX designator is recognized by EUROCONTROL automation and will be accommodated to the extent possible.

Unplanned Request

If an issue arises after departure, the flight crew may inform air traffic control (ATC) directly, which will use existing procedures to identify downstream impacts. If flying internationally, air operators are encouraged to notify the FAA’s Command Center, EUROCONTROL Network Manager Operations Center, or other appropriate authority of the airborne issue, and request assistance. ANSPs will expedite the handling of these flights to the extent possible considering real-time operational limitations and will coordinate with neighbouring ANSPs as necessary.

Example of a request for priority while in flight:

“Toronto Center, BIGAIR123, Requesting unplanned priority due to COVID-19 vaccine transportation”
For further information, please contact:

NAV CANADA
Customer Service
77 Metcalfe Street
Ottawa, ON K1P 5L6

Tel.: 800-876-4693
Fax: 877-663-6656
E-mail: service@navcanada.ca

Vanessa Robertson
Director Air Traffic Services (ATS) Standards
AERONAUTICAL INFORMATION CIRCULAR 28/18

TORONTO/LESTER B. PEARSON INTERNATIONAL (CYYZ)
NEW NIGHT-TIME APPROACH PROCEDURES

Purpose of Circular
This circular advises pilots of new night-time instrument approach procedures at Toronto/Lester B. Pearson International Airport (CYYZ).

Background
While traffic levels are significantly lower at night than during the day, aircraft noise can be more noticeable for some residents during these periods as ambient community and household noise levels are typically lower. Lower demand and fewer aircraft at night provide the opportunity to employ routes that impact fewer people.

New Procedures
Effective 8 November 2018, NAV CANADA will publish six new night-time approach procedures for CYYZ that better avoid residential areas. The new procedures will include:

- RNAV (GNSS) X RWY 05
- RNAV (GNSS) X RWY 06L
- RNAV (GNSS) X RWY 06R
- RNAV (GNSS) X RWY 23
- RNAV (GNSS) X RWY 24L
- RNAV (GNSS) X RWY 24R

Rather than using straight-in or “T” transitions, these approach procedures employ transitions to final that, in some cases, could include multiple legs in the initial approach segment. Pilots can expect to be cleared directly to the initial approach waypoint, then subsequently cleared for the approach including the appropriate transition.

Example clearance:
“GENERIC AIRLINES 123 PROCEED DIRECT RERAT. CLEARED RNAV X RWY 05 APPROACH, RERAT TRANSITION.”

Pilots would be expected to fly by RERAT and then follow the lateral and vertical profile of the area navigation (RNAV) approach procedure.
Example of multiple leg segments on the new night-time approach for runway 05

**Vertical Profile Considerations**

The flight path for these approaches has been designed to minimize the noise footprint for the approach phase of the arrival. Therefore, their vertical profile has not been optimized for the transition from the standard terminal arrival (STAR) procedures for CYZZ. As the clearance to the initial approach waypoint (IAWP) will typically be issued in the terminal area, pilots should anticipate a possible change in vertical profile, after setting direct, that may leave the aircraft high. In some instances, pilots may need to use additional drag to regain the vertical profile or request additional spacing from air traffic control (ATC) in some STAR/runway pairings.

**Times of Use**

The new CYZZ night-time approaches will be used between the hours of 12:30 a.m. and 6:30 a.m. local time. These procedures require relatively low traffic levels to be operationally feasible; spikes in traffic increase complexity and may result in vectors to final or other approach types to be used. If possible, usage would start earlier, but use will be limited to very low traffic periods overnight.

When the night-time approaches are in use, the CYZZ automatic terminal information service (ATIS) will advertise the appropriate RNAV (GNSS) X as the primary instrument flight rules (IFR) approach, and ATC will expect the aircraft to be set up for that approach. If unable to fly the approach advertised on ATIS, pilots are reminded of the requirement to advise Toronto Arrival on first contact that they are unable to comply with the ATIS, and that an alternate approach is necessary.

The night-time RNAV (GNSS) X approaches will only be advertised as the primary approach when conditions permit (cloud ceilings of 1,000 feet or more, visibility of 3 statute miles (SM) or better, GNSS expected to be available, etc.).
Further Information

For further information, please contact:

NAV CANADA
Customer Service
77 Metcalfe Street
Ottawa, ON K1P 5L6

Tel.: 800-876-4693
Fax: 877-663-6656
E-mail: service@navcanada.ca

James Ferrier
Director, Aeronautical Information Management