



TECHNICAL SYSTEMS CENTRE

Operational requirements

PRE-DEPARTURE CLEARANCE (PDC)

Introduction

PDC is a system that provides IFR departure clearances via datalink to subscribing airlines at selected airports. Nav Canada PDC uses the 622 communications protocol, with service currently limited to ARINC subscribers.

All information provided is in reference to the 622 protocol and procedures.

Messaging

The PDC message is sent from EXCDS to the airline host computer and then to the aircraft via datalink. PDC messages are generated by the Nav Canada EXCDS (Expanded Computer Display System) flight data system.

An essential feature of 622 PDC is the Flight Plan Unique Identifier (FPUI). This is a four-character (3 numerics + 1 alpha) value generated by EXCDS and included in the PDC message. The FPUI is the primary element in the voice readback to Air Traffic Control of the datalink clearance.

622 Message Format

MESSAGE ITEM	SAMPLE DATA
To (Airline Host address)	QU 1111111
From (Nav Canada address)	.22222222
Date-time (ddhhmm)	201949
Message Type/Sequence # (internal use)	PDC 121
ACID & SSR code	ABC914 4634
Departure Airport	CYYZ
Weight/Aircraft Type/Equipment	M/B777/R
ETD	P2315
(Not used)	000
Requested Altitude	350
Route	OAKVL V265 THORL EWC J53 PSK HEATT5
SID	USE SID L7
Departure Runway	DEPARTURE RUNWAY 24L
Destination Airport	DESTINATION KMIA
Remarks	THIS IS A TEST MESSAGE
FPUI	105U
Departure Instructions	CONTACT TORONTO CLEARANCE DELIVERY ON FREQUENCY 121.3 WITH IDENTIFIER 105U

Readback Example

"Toronto Clearance, Alphabet 914 with PDC, ATIS Tango, Gate 225, Identifier 105 Uniform"



TECHNICAL SYSTEMS CENTRE

Operational requirements

Costs

There are no Nav Canada user fees for PDC service.

Event Sequence

1. Filed Flight Plan is displayed in the Control Tower 45-60 minutes prior to ETD.
2. The controller activates the Flight Plan to generate the PDC message and FPUI.
3. The PDC message is sent from EXCDS to the airline host computer to the DLSP for transmission to the aircraft via datalink.
4. The PDC Message is printed on the cockpit ACARS.
5. The aircraft contacts Clearance Delivery and provides a voice readback of the PDC.

Airline Requirements

Airlines wishing to join the PDC program, or modify their existing PDC requirements, should contact the Manager, Air Traffic Control Operational Requirements (MATCOR) at the responsible Area Control Centre (ACC) as listed in the table below.

ACC	MATCOR	CONTACT INFO	PDC AIRPORTS
Vancouver	Tom Waldron	604.775.9634 waldrt@navcanada.ca	Vancouver International
Edmonton	Mike Krahm	780.890.8366 krahnm@navcanada.ca	Calgary International Edmonton International
Winnipeg	Bill Crawley	204.984.6503 crawlew@navcanada.ca	Winnipeg International Saskatoon
Toronto	Dave Parco	905.676.4563 parcod@navcanada.ca	Toronto Pearson
Montreal	Mike Chrumka	514.633.2872 chrumkm@navcanada.ca	Montreal Dorval
Moncton	Brian Kimball	506.867.7155 kimbab@navcanada.ca	Halifax International

The following information will be required:

1. Airports at which PDC service is requested
2. Aircraft types that will use the PDC service
3. Address of airline host computer capable of processing PDC clearances
4. Airline representative contact info (name, email, fax etc)



TECHNICAL SYSTEMS CENTRE

Operational requirements

Nav Canada

The Data Systems Coordinator (DSC) at the concerned ACC will:

- Add the new airline and/or qualifying aircraft types to the database
- Coordinate required testing between the airline, ATC and the DLSP
- Coordinate a service implementation date
- Assist with technical information and troubleshooting
- Arrange a familiarization tour of the associated Control Tower, if desired

PDC is tested and implemented for individual airlines at each participating airport. This involves selection of a test date and flight, notification of crews and ATC, sending and verifying PDC messages, and checking operation of all system components.

Some of the behaviours inherent in PDC operations include:

1. Only one PDC message can be issued per flight plan.
2. With the exception of SID and Departure Runway, any change to a PDC message data item will invalidate a previously issued datalink clearance.
3. Invalidation of a PDC will not generate a datalink message to the aircraft.
4. In the event of non-receipt, data inconsistency, or invalidation, ATC will voice-deliver the IFR clearance to the aircraft.

Looking Ahead

Future enhancements to Nav Canada PDC will include service to SITA subscribers and addition of the 623 on-demand communications protocol. Participating airlines will be contacted at the appropriate time.

For further general information, contact:

Nav Canada
Technical Systems Centre
Operational System Requirements

Shawn Kennedy 613.248.7211 kennesm@navcanada.ca or
Lanny Beischer 613.248.7227 beischl@navcanada.ca