



NOTICE OF NEW AND REVISED SERVICE CHARGES

JUNE 1, 1998

General

Pursuant to Section 36 of the *Civil Air Navigation Services Commercialization Act*, S.C. 1996, c. 20 ("the ANS Act"), the following document provides notice of NAV CANADA's proposed new and revised charges for air navigation services ("the Proposal"), to become effective November 1st, 1998. This Notice sets out the particulars of the Proposal with regard to these charges. A more detailed document setting out additional details in relation to the Proposal, including a justification of the charges proposal in relation to the charging principles established under Section 35 of the *ANS Act*, is available from NAV CANADA upon request from the address set out in Section 8 of this Notice. Persons interested in making representations to NAV CANADA with regard to the Proposal may do so by writing to the address set out in Section 8 of this Notice so as to be received by NAV CANADA not later than July 31, 1998.

NAV CANADA applies charges to the following categories of air navigation services: (i) terminal, (ii) enroute, and (iii) oceanic. This Notice provides for proposed new charges for small aircraft, proposed full cost recovery rates for existing charges, and proposed charges for extra services.

This Notice consists of eight sections:

- (1) Proposed **Charges** for aircraft weighing 3 metric tonnes (6,614 lbs) or less
- (2) Proposed **Charges** for propeller aircraft, including helicopters, weighing more than 3 metric tonnes (6,614 lbs) in respect of Terminal and Enroute Services
- (3) Proposed **Terminal Services Charge** and **Enroute Charge** for jet aircraft weighing more than 3 metric tonnes (6,614 lbs)
- (4) Proposed **Oceanic Charges**
- (5) Proposed **Charges for Extra Services**

(6) Proposed **Exemptions and Reductions**

(7) Proposed **Billing Information and Terms and Conditions of Payment** regarding charges

(8) **Additional Information** regarding the Proposal and on **Making Representations** to NAV CANADA

Note: All references to dollars refer to Canadian dollars.
All references to tonnes refer to metric tonnes.

1. PROPOSED CHARGES FOR AIRCRAFT WEIGHING 3 METRIC TONNES (6,614 lbs) OR LESS

1.1 Canadian-Registered Aircraft

A Canadian-registered aircraft weighing 3 tonnes or less will be subject to an annual charge for air navigation services provided or made available by NAV CANADA or by a person acting under the authority of the Minister of National Defence. The charge will vary by single and multi-engine aircraft and by aircraft weight.

The aircraft weight used is the maximum permissible take-off weight as reported in the Canadian Civil Aircraft Register.

The Annual Charges cover the 12-month period commencing November 1 each year and terminating October 31 the subsequent year, referred to as the annual fee period.

The Annual Charges will apply to aircraft in service for all or part of the annual fee period.

For new aircraft acquired within an annual fee period, the Annual Charges will be prorated based on the number of months or part thereof between the date of acquisition of the new aircraft and the end of the annual fee period.

The Annual Charges will not be prorated in respect of aircraft changing owner during an annual fee period, with the exception of the acquisition of new aircraft from a manufacturer or a dealer.

A dealer acquiring an aircraft for the purpose of sale will not be charged the Annual Charge for that aircraft.

The Annual Charges are set out in Table 1.

Table 1. Proposed Annual Charges for Canadian-Registered Aircraft Weighing 3 tonnes or less

Weight (metric tonnes)	Annual Charge	
	Single-Engine Aircraft	Multi-Engine Aircraft
0-2.0	\$ 60	\$ 120
2-1 - 3.0	\$ 150	\$ 300

1.2 Foreign-Registered Aircraft

With respect to foreign-registered smaller aircraft, their flight frequency in Canada, and hence their use of air navigation services in Canada, is generally much lower than that of Canadian-registered aircraft, as the aircraft are mostly operated in the country of domicile. Also, the vast majority visit Canada perhaps once per year for a limited period of time. Many U.S. aircraft, for example, enter Canada strictly to travel to Alaska and return. For these reasons, a quarterly charge is proposed.

A foreign-registered aircraft weighing 3 tonnes or less will be subject to a quarterly charge of 25 % of the charge set out in Table 1 for air navigation services provided or made available by NAV CANADA or by a person acting under the authority of the Minister of National Defence.

The aircraft weight used is the typical maximum permissible take-off weight for that aircraft type by reference to the Canadian Civil Aircraft Register.

The aircraft will be charged on the basis of the first recorded arrival into a Canadian aerodrome during each quarter of the annual fee period (as defined in Subsection 1.1). If the aircraft registration marks are not provided for each flight, each arrival will be charged the Quarterly Charge.

2. PROPOSED CHARGES FOR PROPELLER AIRCRAFT, INCLUDING HELICOPTERS, WEIGHING MORE THAN 3 METRIC TONNES (6,614 lbs) IN RESPECT OF TERMINAL AND ENROUTE SERVICES

A propeller aircraft weighing more than 3 metric tonnes will be subject to a daily charge for Terminal and Enroute Services for each day it makes one or more departures at one or more aerodromes with air navigation services staffed either by NAV CANADA or by a person acting under the authority of the Minister of National Defence, hereafter referred to as chargeable days.

An annual minimum charge of \$150 for single-engine aircraft and \$300 for multi-engine aircraft will apply to Canadian-registered aircraft weighing more than 3 metric tonnes for each annual fee period (as defined in Subsection 1.1). For foreign-registered aircraft, the corresponding minimum charge will be a quarterly charge equal to 25% of these amounts.

Propeller aircraft means fixed-wing piston-engine aircraft, turboprop aircraft and helicopters.

The Daily Charge will vary by single and multi-engine aircraft and by aircraft weight.

The aircraft weight will be determined in accordance with Subsection 3.3.

For the purposes of applying the Daily Charge, a day is defined as each 24-hour period commencing at 0800 GMT.

The Daily Charges are set out in Table 2.

Table 2. Proposed Daily Charges for Propeller Aircraft Greater than 3 tonnes

Weight (metric tonnes)	Daily Charge	
	Single-engine aircraft	Multi-engine aircraft
3.1 - 4.0	\$ 15	\$ 30
4.1 - 5.0	\$ 20	\$ 40
5.1 - 6.0	\$ 30	\$ 60
6.1 - 7.0	\$100	\$ 200
7.1 - 8.6	\$150	\$ 300
8.7 - 12.0	N/A	\$ 600
12.1 - 15.0	N/A	\$ 900
15.1 +	N/A	\$1,200

To ensure that the Daily Charge is applied to a propeller aircraft only once per chargeable day, the aircraft registration marks are required for each flight by the aircraft. Any flight for which this information is not provided will be subject to the same charges that apply to jet aircraft (Section 3) instead of the Daily Charge.

Illustrations of the Daily Charges are provided in Attachment II.

3. PROPOSED TERMINAL SERVICES CHARGE AND ENROUTE CHARGE FOR JET AIRCRAFT WEIGHING MORE THAN 3 METRIC TONNES (6,614 lbs)

A jet aircraft weighing more than 3 metric tonnes will be subject to a Terminal Services Charge and an Enroute Charge as described in Subsections 3.1 and 3.2.

An annual minimum charge of \$150 for single-engine aircraft and \$300 for multi-engine aircraft will apply to Canadian-registered aircraft weighing more than 3 metric tonnes for each annual fee period (as defined in Subsection 1.1). For foreign-registered aircraft, the corresponding minimum charge will be a quarterly charge equal to 25% of these amounts.

3.1 Terminal Services Charge

The Terminal Services Charge is levied for flights departing from aerodromes with air navigation facilities staffed either by NAV CANADA or by a person acting under the authority of the Minister of National Defence, i.e., aerodromes with air traffic control towers and/or flight service stations (FSSs), except the airport located at Portage-La

Prairie, Manitoba. Aerodromes which currently meet this criterion are listed in Attachment I.

Terminal services are air navigation services provided or made available to an aircraft at or in the vicinity of an aerodrome, excluding aircraft overflying the aerodrome, such as i) dedicated arrival/departure control services provided by Area Control Centres and Terminal Control Units or ii) aerodrome services including, for example, airport advisories and air traffic control from a tower.

The existing Terminal Services Unit Rate is \$7.74 per charging unit.

Charge Calculation

The Terminal Services Charge for a departure is the unit rate multiplied by the number of charging units for that departure.

The number of charging units for each departure is the aircraft's weight expressed in metric tonnes raised to the 0.9 power (i.e., weight^{0.9}).

Weight in relation to an aircraft is determined in accordance with Subsection 3.3 of this Notice.

The proposed Terminal Services Unit Rate, effective November 1, 1998, is \$13.65 per charging unit.

Illustrations of the application of the Terminal Services Charge are provided in Attachment II.

3.2 Enroute Charge

The Enroute Charge is applied to flights in Canadian-sovereign airspace or any other airspace in respect of which Canada has responsibility for the provision of air navigation services (hereinafter referred to as Canadian-controlled airspace), excluding the Gander Oceanic FIR/CTA, and relates to the cost of enroute services provided or made available by NAV CANADA or by a person acting under the authority of the Minister of National Defence.

Enroute services are air navigation services other than terminal and oceanic services. The existing Enroute Unit Rate is \$0.03263 for overflights and \$0.02174 for flights with a departure or a landing in Canada.

The proposed single Enroute Charge applies to overflights and flights which land or take off in Canada. With respect to flights which land or take off in Canada, the Enroute Charge applies to flights between two airports, at least one of which is an airport where NAV CANADA applies the Terminal Services Charge (refer to Subsection 3.1).

For the purpose of NAV CANADA charges, airport means a certified aerodrome, or an uncertified aerodrome with air navigation services staffed either by NAV CANADA or by a person acting under the authority of the Minister of National Defence.

Exemption for flights between two points in the continental United States transiting Canadian airspace

- Currently, flights (other than flights landing or taking off in Alaska of aircraft that weigh more than 200 tonnes) between two points in the continental United States transiting Canadian airspace are exempt from NAV CANADA's Enroute Charge for overflights.
- Should the United States introduce an enroute fee on flights between two points in Canada transiting U.S. airspace, NAV CANADA would terminate this exemption and commence charging the enroute fee (as applicable to overflights) on such flights, following an announcement in accordance with the *ANS Act*.

Enroute Charge Calculation

The Enroute Charge for a flight is the unit rate multiplied by the number of charging units for that flight.

The number of charging units for each flight is the square root of the aircraft weight expressed in metric tonnes multiplied by the distance in kilometres (i.e., $\text{weight}^{0.5} \times \text{distance}$).

Weight in relation to an aircraft is determined in accordance with Subsection 3.3.

For flights between two points in Canada, distance is calculated as the great circle distance between the departure and arrival airports, regardless of whether the flight transits U.S. airspace.

For international flights which enter or exit Canadian-controlled airspace (excluding the Gander Oceanic FIR/CTA), distance is calculated as the sum of the great circle distances of each leg of the flight in that airspace, based on the flight plan, position reports or other records pertaining to the flight.

Enroute distances are reduced to take into account areas around both the arrival and departure airports in Canada in accordance with the following:

- At airports where the Terminal Services Charge applies (refer to Attachment I):
 - If dedicated arrival/departure control services are provided, as indicated in Attachment I, the reduction is 65 km (approximately 35 nautical miles);
 - If dedicated arrival/departure control services are not provided, the reduction for the airport is 35 km (approximately 20 nautical miles).

- At airports where the Terminal Services Charge does not apply, the reduction is nil.

The proposed Enroute Unit Rate, effective November 1, 1998, is \$0.03506 per charging unit.

This single unit rate applies to both the overflights and flights which land or take off in Canada.

Illustrations of the application of the Enroute Charge are provided in Attachment II.

3.3 Weight Calculation Options

Weights used in calculating a charge will be determined in one of two ways, at the operator's election. The options are:

Option 1: Average weight by aircraft type within the operator's fleet -

The weight of a specific aircraft type would be calculated by NAV CANADA as the average maximum permissible take-off weight for each aircraft of the same type expected to be operated in Canadian-controlled airspace (excluding aircraft that transit only the Gander Oceanic FIR/CTA) during the fleet validity period. The weight as stated in the fleet submission, is expressed in metric tonnes rounded to the first decimal place.

This is the administratively simpler option.

Option 2: Specific weight of each aircraft -

The weight of the aircraft is defined as the maximum permissible take-off weight of that aircraft as stated in the fleet submission, in metric tonnes rounded to the first decimal place.

Under this option, in addition to providing fleet submissions, the operator must include the correct aircraft registration marks on all flight plans (or, should flight plans not be filed, in other communication provided to identify the aircraft). It should be noted that, with respect to propeller aircraft over 3 tonnes, information on the aircraft registration marks for each flight will be necessary to qualify for the daily charge, regardless of which weight calculation option is chosen.

Provision of Information:

Fleet submissions are necessary to determine the aircraft weight that is used in the fee calculation for each flight billed by NAV CANADA. In the absence of a fleet submission, or where under Option 2, the aircraft registration marks are not recorded on the flight plan, NAV CANADA calculates the charge for the flight based upon the highest published maximum permissible take-off weight for an aircraft of the same type.

It should be noted that fleet submissions are not needed for aircraft weighing 3 metric tonnes or less.

NAV CANADA issues a letter to customers twice a year requesting current fleet submissions. The validity periods are:

- March 1 to August 31
- September 1 to February 28 (or 29)

At least one month prior to the start of each six-month period, the aircraft operator must provide a fleet submission to NAV CANADA listing each aircraft expected to be operated in Canadian-controlled airspace (excluding aircraft that transit only the Gander Oceanic FIR/CTA). In the fleet submission, the operator indicates the registration marks and the maximum permissible take-off weight of each aircraft, as specified in the aircraft's certificate of airworthiness or in a document referred to in that certificate. *The operator is also required to select one of the two weight calculation options as noted above.*

4. PROPOSED OCEANIC CHARGES

NAV CANADA currently levies two Oceanic charges – the North Atlantic Enroute Facilities and Services Charge (NAT) and the International Communication Services Charge (Int'l Comm). Oceanic charges are based on a flat fee per flight, and apply to both propeller and jet aircraft.

The NAT Charge is for air navigation services provided or made available by NAV CANADA or a person acting under the authority of the Minister of National Defence to any aircraft during the course of a flight in the Gander Oceanic Flight Information Region/Control Area (FIR/CTA).

The existing NAT charge is \$88.33 per flight.

The Int'l Comm Charge is for air-ground radio frequencies, provided or made available by NAV CANADA or by a person acting under the authority of the Minister of National Defence at one or more aeronautical stations to an aircraft during the course of an international flight, other than a flight between Canada and the continental United States, to obtain communication services.

The existing Int'l Comm charge is \$58.49 per flight.

The proposed NAT Charge is \$83.81 per flight and the proposed Int'l Comm Charge is \$50.61 per flight, effective November 1, 1998.

Where, in the course of a flight, an aircraft lands or takes off from an airport in Canada located north of the sixtieth parallel of north latitude and lands or takes off from an

airport in Greenland, the charges per flight will be 40% of the proposed Oceanic Charges otherwise payable.

An illustration of the application of the Oceanic Charges is provided in Attachment II.

5. PROPOSED CHARGES FOR EXTRA SERVICES

Charges for Services Requested Outside Normal Hours of Operation

Incremental costs will be charged to users who request services outside normal hours of operation, in addition to the applicable air navigation services charges.

Charges for Services Requested above the Level of Service Policy

The cost of services in excess of the Level of Service Policy will be separately identified and recovered through the existing charging methodology for air navigation services.

Such costs will be recovered on a site specific basis with respect to terminal services and on a system-wide basis with respect to enroute or oceanic services.

Charges for Airshows

Any incremental costs will be recovered. However, an exemption will be provided for any applicable air navigation services charges to flights taking part in such events.

6. PROPOSED EXEMPTIONS AND REDUCTIONS

6.1. Exemptions

Certain categories of flights are exempt from air navigation services charges.

Under Subsection 32(2) of the *ANS Act*, air navigation services charges are not imposed on:

- a) a user who is a person acting under the authority of the Minister of National Defence; or
- b) a user in respect of a state aircraft of a foreign country, unless the foreign country has been designated otherwise by a Canadian federal Order in Council under Subsection 32(3) of the *ANS Act*.

NAV CANADA has requested the government to identify the countries whose state aircraft can be charged NAV CANADA fees. Once the necessary authorization is provided by the government, NAV CANADA will issue an announcement in accordance with the ANS Act. A list of the foreign countries whose state aircraft will no longer be exempt, and which will be required to pay ANS charges, will be posted on our web site.

Air navigation services charges do not apply in respect of the following flights:

- i) Search and rescue flights operated under the direction of the Department of National Defence or police authorities responsible for locating missing persons.
- ii) Flights operated for a registered charity within the meaning of the *Income Tax Act* (Canada) or equivalent foreign statute; proof of such status to be provided to NAV CANADA.

In addition, it is proposed to not apply air navigation services charges to:

- Gliders, ultralights and balloons.
- Flights taking part in airshows.

6.2. Reductions in the Terminal Services Charge

Reductions are applied to training and test flights, as follows:

Training Flights:

For a flight operation performed exclusively for the purpose of the training or testing of a person or persons (such as flight crew) to obtain, upgrade or renew a licence, including pilot proficiency checks, a charge will be applied only on the first departure at any given airport.

However, training flights that transit from a main airport to a smaller airport because training flights are not allowed at the main airport will be exempt from the Terminal Services charge at the main airport.

Test Flights:

A rebate of 50 per cent is applied to flights performed exclusively for the following purposes:

- testing aircraft following overhauls, modifications, repairs and inspections for which a certificate of compliance is to be given; or

- enabling aircraft to qualify for the issue or renewal of a certificate of airworthiness.

To qualify for these reductions in the Terminal Services Charge, flights must not be for commercial gain, i.e. earning revenue, nor for positioning of aircraft.

7. PROPOSED BILLING INFORMATION AND TERMS AND CONDITIONS OF PAYMENT

7.1 BILLING INFORMATION

7.1.1 ANNUAL CHARGES (Subsection 1.1):

The Annual Charges will be billed in November each year commencing in November 1998.

7.1.2 QUARTERLY CHARGES (Subsection 1.2)

The Quarterly Charges will be billed the month following the quarter air navigation services are provided or made available to the aircraft.

7.1.3 DAILY CHARGES AND OTHER CHARGES (Sections 2, 3 and 4)

Invoices will be issued every month for flights occurring in the preceding month.

7.2 TERMS AND CONDITIONS OF PAYMENT

Remittances may be made in either Canadian dollars or equivalent U.S. dollars. U.S. dollar payments will be converted at the exchange rate for buying Canadian dollars on the day the remittance is deposited into a NAV CANADA bank account.

Payments made by mail or through any financial institution will be credited to the customer account on the date of receipt by NAV CANADA.

All charges, except for interest and administration charges, are due and payable by the thirtieth (30th) day after the date on which the invoice is issued in respect of the charges (the "due date").

When payment in full is not received by the due date, interest shall commence being charged on the first day after the due date on the amount outstanding.

Interest shall be calculated at an annual rate of 18 per cent.

When a payment is made on an overdue account, the period for which interest is charged shall end on the day the payment is received.

NSF cheques and stop payments will be debited to customer accounts together with a \$25 administrative charge and any applicable interest charges.

Interest and administrative charges are due upon receipt of invoice for same.

Pursuant to Section 55 of the *ANS Act*, the owner and operator of an aircraft are jointly and severally liable for the payment of any charge for air navigation services imposed by NAV CANADA in respect of the aircraft.

NAV CANADA may apply to the courts for an order authorizing the corporation to seize and detain aircraft in respect of unpaid and overdue charges. For Oceanic Charges and Enroute Charges applicable to overflights, which are collected by the UK Civil Aviation Authority (the "CAA"), the CAA may seize and detain aircraft in respect of unpaid and overdue bills.

8. ADDITIONAL INFORMATION REGARDING THE PROPOSAL AND ON MAKING REPRESENTATIONS TO NAV CANADA.

A more detailed document entitled *Details and Principles Regarding Proposed New and Revised Service Charges* ("Details and Principles Document") is available in hard copy. An electronic copy will also be available on NAV CANADA's Internet site (<http://www.navcanada.ca>).

Hard copies of the Details and Principles Document may be obtained by contacting NAV CANADA:

in writing: NAV CANADA
P.O. Box 3411, Station "D"
Ottawa, Ontario
Canada
K1P 5L6

Attention: Commercial Relations

by E-mail: service@navcanada.ca

by facsimile: 1 - 613 - 563 - 3426

by telephone: 1 - 800 - 876 - 46934

Pursuant to Section 36 of the *ANS Act*, persons interested in making representations to NAV CANADA with regard to the Proposal may do so in writing to the following address:

NAV CANADA
P.O. Box 3411, Station "D"
Ottawa, Ontario
Canada
K1P 5L6

Attention: Director, Rates and Revenues

The facsimile number for written representations is 1 - 613 - 563 - 7994.

Note: Representations must be received by NAV CANADA by not later than the close of business on July 31, 1998.

AERODROMES WITH STAFFED AIR NAVIGATION FACILITIES¹**TOWERS****FSSs****Atlantic**

Gander
 St. John's
 Halifax *
 Moncton

Charlo
 Charlottetown
 Deer Lake
 Gander
 Fredericton
 Halifax
 Saint John
 St. John's
 St. Anthony
 Sydney
 Wabush

Québec

Dorval *
 Mirabel *
 Québec *
 Sept-Iles
 St-Honoré *
 St-Hubert *
 St-Jean *

Gatineau *
 Iles-de-la-Madeleine
 Iqaluit
 Kuujuaq
 Kuujuarapik
 La Grande Rivière
 Mont Joli
 Montréal (Dorval)
 Québec
 Roberval
 Rouyn
 Sept-Iles
 Val d'Or

TOWERS**FSSs****Ontario**

Buttonville *	Kingston
Hamilton	London
London	North Bay ROCC
North Bay	Sault Ste. Marie
Oshawa *	St. Catharines
Ottawa *	Timmins
Sault Ste. Marie	Toronto/Buttonville
Sudbury	
Toronto LBPIA *	
Toronto City Centre*	
Waterloo	
Windsor *	

Central

Regina *	Baker Lake
Saskatoon *	Brandon
St. Andrews *	Churchill
Thunder Bay *	Kenora
Winnipeg *	La Ronge
	Prince Albert
	Rankin Inlet
	Regina
	Resolute Bay
	Saskatoon
	Sioux Lookout
	Thompson
	Thunder Bay
	Winnipeg Int'l

TOWERS**FSSs****Western**

Calgary *
Edmonton Int'l *
Edmonton City Centre *
Springbank *
Villeneuve
Whitehorse
Yellowknife

Dawson Creek
Edmonton Int'l
Ft. McMurray
Fort Nelson
Fort Simpson
Fort Smith
Fort St. John
Grande Prairie
Hay River
High Level
Inuvik
Lethbridge
Lloydminster
Medecine Hat
Norman Wells
Peace River
Red Deer
Springbank/Calgary
Whitecourt
Whitehorse
Yellowknife

Pacific

Abbotsford *
Boundary Bay *
Kelowna
Langley *
Pitt Meadows *
Prince George
Vancouver *
Vancouver Harbour *
Victoria *

Abbotsford
Campbell River *
Castlegar
Cranbrook
Kamloops
Nanaimo *
Penticton
Port Hardy
Prince George
Prince Rupert/Seal Cove
Smithers
Terrace
Vancouver
Vict. Harbour *
Williams Lake

In addition to the aerodromes listed, the Terminal Services Charge applies to departures from aerodromes receiving air navigation services from the Department of National Defence, including, but not limited to, the following:

Bagotville*	Greenwood*	Borden
Cold Lake*	Moose Jaw*	Petawawa
Comox*	Shearwater*	Valcartier
Goose Bay*	Gagetown	
Trenton*	Namao (Edmonton)	

Notes:

1. The list was prepared in May 1998 and is subject to change.
2. **At aerodromes marked with an asterisk (*), flights receive dedicated arrival/ departure control services, and qualify for a 65 km enroute distance reduction; the reduction for other listed aerodromes is 35 km.**

ILLUSTRATIVE NAV CANADA CHARGES

(The following information is to assist the reader in understanding the application of the proposed charges, effective November 1, 1998, as set out in this Notice.)

ILLUSTRATIVE DAILY CHARGES FOR PROPELLER AIRCRAFT WEIGHING MORE THAN 3 METRIC TONNES (Section 2):

Manufacturer	Model	No. of Engines	Aircraft Weight (tonnes)	Proposed Daily Charge
Piston				
Piper	PA31 350	2	3.17	\$30
Dehavilland	DHC 3 Otter	1	3.63	\$15
Beech	18	2	3.97	\$30
Pezetel	M 18A	1	4.70	\$20
Grumman	TBM 3E	1	7.98	\$150
Douglas	DC3	2	12.20	\$900
Douglas	B26B,C	2	15.88	\$1,200
Turboprop				
Cessna	208	1	3.79	\$15
Piper	PA31T	2	4.08	\$40
Beech	100	2	4.81	\$40
Dehavilland Otter	DHC 6 Twin	2	5.67	\$60
Swearingen	SA226TC	2	5.67	\$60
Fairchild	Metro III	2	6.50	\$200
British Areosp.	Jetstream 31	2	6.95	\$200
Beech	1900	2	7.60	\$300
British Areosp.	Jetstream 41	2	10.89	\$600
Dehavilland	DHC 8-102	2	15.65	\$1,200
Aerospatiale	ATR 42- 300	2	16.70	\$1,200
Dehavilland	DHC 8-300	2	18.64	\$1,200
Hawker Siddeley	HS 748	2	21.09	\$1,200
Helicopters				
Bell	204B	1	3.86	\$15
Bell	205A	1	4.63	\$20
Sikorsky	S76A	2	4.76	\$40
Bell	212	2	5.08	\$60
Aerospatiale	AS 332C	2	8.43	\$300
Boeing Helicopters	BV 107 II	2	8.62	\$300
Sikorsky	S61N, L	2	9.98	\$600

For some models of aircraft the weight varies and may lead to different fees for the same model. Fees given above are for the aircraft weight given in the table, which is the most common weight.

ILLUSTRATIVE TERMINAL SERVICES AND ENROUTE CHARGES FOR JET AIRCRAFT WEIGHING MORE THAN 3 METRIC TONNES:

Terminal Charge (Subsection 3.1):

The charge is calculated as follows:

$$R \times W$$

R = unit rate

W = weight factor = $MTOW^{0.9}$

The weight factor (W) is calculated by raising the aircraft weight to the power 0.9; for a more detailed explanation of the weight calculation please refer to Subsections 3.1 and 3.3.

The proposed unit rate (R) is \$13.65.

Enroute Charge (Subsection 3.2):

The charge is calculated as follows:

$$R \times W \times D$$

R = unit rate

W = $MTOW^{0.5}$

D = distance expressed in km

The weight factor (W) is calculated by taking the square root of the aircraft weight; for a more detailed explanation of the calculation of aircraft weight, please refer to Subsections 3.2 and 3.3.

The distance factor (D) is the great circle distance flown in Canadian-controlled airspace (excluding the Gander Oceanic FIR/CTA) in kilometres, net of reductions pertaining to terminal services, as set out in Subsection 3.2.

The proposed unit rate (R) is \$0.03506

OCEANIC CHARGES (Section 4):

The proposed charges per flight:

NAT: \$83.81

Int'l Comm: \$50.61

ILLUSTRATIVE NAV CANADA CHARGES

<u>TORONTO (YYZ) -LONDON, ENGL. (LHR) RETURN</u>	<u>B747</u>
<i>WEIGHT (W) = 395.0 TONNES DISTANCE (D) = 2129 KM</i> <i>(IN CDN CONTROLLED AIRSPACE EXCL. GANDER OCEANIC)</i>	
OCEANIC CHARGES:	
CHARGES PER FLIGHT	
NAT :	\$83.81
Int'l Comm :	\$50.61
return (x 2)	= \$268.84
TERMINAL SERVICES CHARGE (Toronto):	
<i>UNIT RATE (R) : \$13.65</i>	
FORMULA	
$R \quad \times \quad W \quad =$ $13.65 \times 395.0^{0.9} =$	13.65×217.239
	= <u>\$2,965.31</u>
ENROUTE CHARGE:	
<i>UNIT RATE (R) : \$ 0.03506</i>	
FORMULA	
$R \quad \times \quad W \quad \times \quad D$ $0.03506 \times 395.0^{0.5} \times (2129-65) =$	$\$1,438.20$
	return (x 2) = <u>\$2,876.40</u>
TOTAL CHARGES (YYZ-LHR-YYZ)	
	= <u>\$6,110.55</u>

ILLUSTRATIVE NAV CANADA CHARGES

VANCOUVER (YVR) - MONTREAL (YUL) RETURN

B767

WEIGHT (W) = 141.0 TONNES

DISTANCE (D) = 3679 KM

TERMINAL SERVICES CHARGE (Vancouver and Montreal):

UNIT RATE (R) : \$13.65

$$\begin{array}{l} \text{FORMULA } R \times W = \\ 13.65 \times 141.0^{0.9} = 13.65 \times 85.96 = \$1,173.36 \\ \text{return (x 2)} = \quad \quad \quad \mathbf{\$2,346.72} \end{array}$$

ENROUTE CHARGE:

UNIT RATE (R) : \$ 0.03506

$$\begin{array}{l} \text{FORMULA } R \times W \times D \\ .03506 \times 141.0^{0.5} \times (3679-130) = \$ 1,477.50 \\ \text{return (x 2)} = \quad \quad \quad \mathbf{\$ 2,955.00} \end{array}$$

TOTAL CHARGES (YVR-YUL-YVR) = \$ 5,301.72

OTTAWA (YOW) - IQALUIT (YFB) RETURN

B727-100

WEIGHT (W) = 76.9 TONNES

DISTANCE (D) = 2096 KM

TERMINAL SERVICES CHARGE (Ottawa and Iqaluit):

UNIT RATE (R) : \$13.65

$$\begin{array}{l} \text{FORMULA } R \times W = \\ 13.65 \times 76.9^{0.9} = 13.65 \times 49.812 = \$679.93 \\ \text{return (x 2)} = \quad \quad \quad \mathbf{\$1,359.86} \end{array}$$

ENROUTE CHARGE

UNIT RATE (R) : \$ 0.03506

$$\begin{array}{l} \text{FORMULA } R \times W \times D \\ .03506 \times 76.9^{0.5} \times (2096-100) = \$613.67 \\ \text{return (x 2)} = \quad \quad \quad \mathbf{\$1,227.34} \end{array}$$

TOTAL CHARGES (YOW-YFB-YOW) = \$2,587.20

ILLUSTRATIVE NAV CANADA CHARGES

<u>OTTAWA (YOW) -WASHINGTON (IAD) RETURN</u>			<u>CL65</u>
<i>WEIGHT (W) = 23.0 TONNES</i>		<i>DISTANCE (D) = 80 KM</i>	
TERMINAL SERVICES CHARGE (Ottawa):			
<i>UNIT RATE (R) : \$13.65</i>			
FORMULA	R x W	=	
	13.65 x 23.0 ^{0.9}	=	13.65 x 16.81 = \$229.45
ENROUTE CHARGE:			
<i>UNIT RATE (R) : \$ 0.03506</i>			
FORMULA	R x W x D	=	
	.03506 x 23.0 ^{0.5} x (80-65)	=	\$2.52
	return (x 2)	=	<u>\$5.04</u>
TOTAL CHARGES (YOW-IAD-YOW)			= \$234.49

<u>WINNIPEG (YWG) - HAMILTON (YHM) RETURN</u>			<u>B727</u>
<i>WEIGHT (W) = 76.9 TONNES</i>		<i>DISTANCE (D) = 1520KM</i>	
TERMINAL CONTROL CHARGE (Winnipeg & Hamilton):			
<i>UNIT RATE (R) : \$13.65</i>			
FORMULA	= R x W	=	
	= 13.65 x 76.9 ⁹	=	13.65 x 49.812 = \$679.93
	return (x 2)	=	\$1,359.86
ENROUTE CHARGE:			
<i>UNIT RATE (R) : \$ 0.03506</i>			
FORMULA	= R x W x D	=	
	= .03506 x 76.9 ^{0.5} x (1520-130)	=	\$427.36
	return (x 2)	=	<u>\$854.72</u>
TOTAL CHARGES (YWG-YHM-YWG)			= \$2,214.58

ILLUSTRATIVE NAV CANADA CHARGES

CHICAGO-PARIS (RETURN)

B747

WEIGHT (W) = 395 TONNES

DISTANCE (D) = 2247 KMS

OCEANIC CHARGES :

CHARGES PER FLIGHT

NAT : \$83.81

Int'l Comm : \$50.61

return (x 2) = \$268.84

ENROUTE CHARGE :

UNIT RATE (R) : \$ 0.03506

FORMULA = R x W x D
 = 0.03506 x (395)^{0.5} x 2247 = \$1,565.72
return (x2) = \$3,131.44

TOTAL ANS COSTS (ORD-CDG-ORD) = \$3,400.28