



DETAILS AND PRINCIPLES REGARDING PROPOSED REVISED SERVICE CHARGES

OCTOBER 1, 2000

GENERAL

This document ("Details and Principles") provides additional detail to expand upon the *Notice of Revised Service Charges* issued on October 1, 2000 (the "Notice"). Under Section 36 of the *Civil Air Navigation Services Commercialization Act*, S.C. 1996, c. 20 (the "ANS Act"), NAV CANADA is required to produce a document containing more details in relation to the proposed revised charges set forth in the Notice, including a justification in relation to the charging principles set out in Section 35 of the ANS Act.

Except for the revisions proposed in the Notice, all the existing charges and related terms and conditions, as set out in earlier Announcements pertaining to charges, remain in effect.

This document sets out the following: (1) a general overview of NAV CANADA, (2) supporting information for the proposed revisions, (3) a justification of the proposal in relation to the charging principles, (4) information regarding cost of services, (5) information regarding the determination of charging units, and (6) information regarding the Notice and on making representations to NAV CANADA.

Section 36 of the ANS Act specifies that persons interested in making representations in writing to NAV CANADA with regard to the Notice may do so by forwarding their submissions to the address set out in the Notice. Submissions must be received by NAV CANADA not later than November 30, 2000.

1. GENERAL OVERVIEW OF NAV CANADA

NAV CANADA is a non-share capital, private corporation which is responsible for the provision of civil air navigation facilities and services for aircraft in Canadian airspace or any other airspace for which Canada is responsible for providing air navigation services.

The system of governance at NAV CANADA is the result of a unique corporate structure intended to make the company a self-sustaining commercial enterprise that is accountable to its stakeholders. The Corporation is governed by a 15-member Board of Directors consisting of 10 directors nominated by stakeholders representing aviation users, bargaining agents and the federal government, 4 independent directors and the President & CEO. NAV CANADA also has an Advisory Committee elected by associate members, empowered to analyze and make reports and recommendations to the Board of Directors on any matter affecting the air navigation system.

The fundamental elements governing the mandate conferred on NAV CANADA by the ANS Act include the exclusive right to provide certain air navigation services, the ability to set and collect charges for air navigation services provided or made available by NAV CANADA or a person acting under the authority of the Minister of National Defence, and the obligation of the Corporation to provide these services. Rates of charges are set at levels sufficient to recover all costs (including debt servicing requirements and the repayment of principal), as determined in accordance with generally accepted accounting principles, to maintain a contingency reserve for unforeseen events, and to maintain appropriate credit ratings.

2. SUPPORTING INFORMATION FOR PROPOSED REVISIONS

The Announcement of Reduced Service Charges, dated August 16, 1999, provided for base reduced rates, as well as a temporary one-year adjustment representing an additional decrease in charges. The reduced charges were effective September 1, 1999, except for the annual and quarterly charges, which were effective March 1, 2000.

The temporary adjustment was extended to December 31, 2000, by the Announcement of Revised Service Charges dated August 18, 2000. This extension will save customers approximately \$16 million.

It is proposed to further extend the existing temporary adjustment to December 31, 2001, except for the annual and quarterly charges for which the adjustment would be extended to February 28, 2002.

This further extension would save customers approximately \$52 million.

Under this proposal, total costs of approximately \$916 million forecast for the current fiscal year (September 1, 2000 – August 31, 2001) would be covered by revenues of approximately \$891 million from the charges that will be paid during the fiscal year and a draw of approximately \$25 million on the Rate Stabilization Account.

The proposal is possible because:

- Actual revenues exceeded the Company's financial requirements for the last fiscal year (September 1, 1999 – August 31, 2000) by approximately \$30 million due to reduced costs and higher than expected traffic growth.
- Forecast total costs for the current fiscal year are lower than that corresponding to the current base rate.

The proposal would return all of last year's excess revenues to customers by December 31, 2001.

Extending the temporary adjustment to December 31, 2001, could also require a further draw in the order of \$10 million on the Rate Stabilization Account, reducing the balance of that Account below the target level of \$50 million. However, consistent with the purpose of the Account, this is considered to be within the range of acceptable annual variances around the target to permit stabilization of rates.

With the uncertainties of traffic forecasting as a result of the restructuring in the Canadian airline industry, it seems desirable to hold off further revising charges for another year. This approach is also supported by the difficulty in projecting the rate of transition from HF voice to data link for position reporting on the North Atlantic, which affects the differentiated International Communication Charge.

It is anticipated that the next fee proposal, i.e., for January 1, 2002, would establish revised fee levels. Base rates would be brought in line with break-even levels, and any temporary adjustment in charges, should there be a need for such, would be appropriately modified. It should be noted that the above-noted surplus being returned to customers is tracked by individual services (Terminal, Enroute, North Atlantic and International Communication), and it does not appear that any significant imbalance would develop. However, should any problem occur, this would be taken into account in the development of the next fee proposal in the Fall of 2001.

A new Notice of Revised Service Charges would be issued in the Fall of 2001 for consultation and any modifications subsequently approved by the NAV CANADA Board of Directors would be communicated in an Announcement, in accordance with the ANS Act.

3. PRINCIPLES GOVERNING NAV CANADA'S SERVICE CHARGES

The principles governing the establishment of new charges or the revision of existing charges by NAV CANADA are set out in Section 35 of the ANS Act. Each of the principles is presented below in italics, followed by an explanation of how the Notice complies with that particular principle.

- 35 (1) (a) *Charges must be in accordance with a methodology established and published by the Corporation that is explicit and that also includes the terms and conditions affecting charges;*

The Notice, required under Section 36 of the ANS Act, has been placed on the Internet and sent to aviation associations. On the basis of this information, any person subject to NAV CANADA's charges can calculate the amount that would be payable for a given flight.

- 35 (1) (b) *Charges must not be structured in such a way that a user would be encouraged to engage in practices that diminish safety for the purpose of avoiding a charge;*

For any given flight, NAV CANADA's proposed revised charges are not structured in such a manner that safety may be affected. For example, any flight involving a jet aircraft of a given weight between two points (e.g., Ottawa and Québec City) will be subject to the same Terminal Services Charge and Enroute Charge, regardless of whether the flight is IFR or VFR.

- 35 (1) (c) *Charges for the same services must not differentiate between domestic and international flights of air carriers;*

There is no differentiation in the proposed revised charges between domestic and international flights.

- 35 (1) (d) *Charges for the same services must not differentiate among Canadian air carriers or among foreign air carriers;*

There is no differentiation in the proposed revised charges for a flight based on which domestic or foreign carrier provides the flight.

- 35 (1) (e) *Charges must differentiate between the provision of services in relation to the landing and take-off of aircraft and the provision of services in relation to aircraft in flight, and must reflect a reasonable allocation of the costs of providing the services in those circumstances;*

The charges are based on an allocation of costs among the enroute, terminal and oceanic services. The rules for the attribution of costs to the services were arrived at by considering work loads, statistics based on activity reports, management judgment and ICAO guidelines.

The accounting firm of KPMG has provided an opinion that the allocation methodology adopted by NAV CANADA reasonably reflects the way in which services are provided, is consistent with approaches used by other air navigation service providers, and is appropriate for use as a basis for establishing the costs of these services. A copy of this opinion is available upon request from NAV CANADA.

- 35 (1) (f) *Charges in respect of recreational and private aircraft must not be unreasonable or undue;*

The proposed revised charges reflect the need for recreational and private aircraft to contribute, along with other users, to the costs of operating the Canadian civil air navigation system. NAV CANADA believes the charges are neither unreasonable nor undue.

- 35 (1) (g) *Charges for designated northern or remote services and for services directed to be provided under subsection 24(1) must not be higher than charges for similar services utilized to a similar extent elsewhere in Canada;*

Since NAV CANADA's charges are uniform throughout Canada, northern or remote services are subject to the same charges as services utilized elsewhere in Canada.

- 35 (1) (h) *Charges must be consistent with the international obligations of the Government of Canada;*

The most relevant international obligations are the Convention on International Civil Aviation of 1944 (the "Chicago Convention") and bilateral air services agreements between Canada and other states.

Article 15 of the Chicago Convention deals with charges for air navigation facilities, and establishes the principle that fees charged for the use of airport and air navigation services not be higher for foreign compared to domestic users engaged in similar international air services. The proposed revised charges comply with Article 15 because: (i) the charges in respect of international air services are not higher for foreign air carriers than they are for Canadian carriers engaged in similar international air services (i.e., the charges do not differentiate according to the flag of the carrier), and (ii) the charges relate to the availability or provision of air navigation services and are not imposed for the right of entry into Canadian airspace.

The proposed revised charges are also consistent with bilateral air services agreements between Canada and other states.

- 35 (1) (i) *Charges must not be set at a level that, based on reasonable and prudent projections, would generate revenues exceeding the Corporation's current and future financial requirements in relation to the provision of civil air navigation services.*

NAV CANADA's proposed revised charges have been set to recover the corporation's costs, including expenses determined according to Generally Accepted Accounting Principles (GAAP) and the costs of complying with certain financial requirements, as described in detail in Subsection 35(5) of the ANS Act.

- 35 (2) *The charging methodology may recognize that the value of the services differs among users.*

NAV CANADA's charging methodology does recognize that the value of the services differs among users.

- 35 (3) *Where the Corporation's charging methodology recognizes the value of the services and aircraft weight is used as a measure of the value of the services, the principle referred to in paragraph (1)(a) is deemed not to have been observed if aircraft weight is taken into account either directly proportionally or greater than directly proportionally.*

The International Communication Services Charges and the North Atlantic Enroute Facilities and Services Charge are levied on a per flight basis and do not take weight into account.

The Enroute and Terminal Services charges take weight into account, but less than proportionally. The Enroute Charge is based on a unit rate multiplied by the square root of aircraft weight multiplied by the distance in Canadian airspace. The Terminal Services Charge is based on a unit rate multiplied by aircraft weight raised to the 0.9 power. The Airport Surface Detection Equipment Charge is based on the same formula as that for the Terminal Services Charge (but with a different unit rate).

Pursuant to Subsection 35(7), Subsection 35(3) does not apply to flat fees. The Annual and Daily Charges represent flat fees.

- 35 (4) *For the purpose of subsection (3), "weight", in relation to an aircraft, means the maximum permissible take-off weight specified in the aircraft's certificate of airworthiness or in a document referred to in that certificate.*

Weight calculations will be based on the maximum permissible take-off weight specified in the aircraft's certificate of airworthiness or in a document referred to in that certificate. For more information, please refer to the September 2000 *Customer Guide to Charges*.

4. COST OF SERVICES

Actual costs for the 12 months September 1, 1998, to August 31, 1999, were allocated to services. The resulting percent distribution of costs by service was applied to the projected total costs of approximately \$916 million for FY00/01, to estimate the cost by service for the same period.

4.1 Cost Allocation Methodology

The cost allocation methodology developed in 1997, with minor revisions necessary to reflect the changes in the organizational structure, is summarized below. KPMG has provided an opinion to NAV CANADA that the allocation methodology adopted by NAV CANADA reasonably reflects the way in which services are provided, is consistent with approaches used by other air navigation service providers, and is appropriate for use as a basis for establishing the costs of these services. KPMG has also provided an opinion that the compilation of costs is in accordance with this cost allocation methodology.

4.1.1 Approach

An Activity Based Costing model was used to determine the full cost of NAV CANADA's three basic services:

- Enroute Services
- Terminal Services
- Oceanic Services (NAT and Int'l Comm)

The model recognizes four Service Delivery Centres through which the services are provided:

- Towers
- FSS's
- ACC's/TCU's
- Maintenance, Communication and Engineering Services

A two step allocation process was used in most cases to determine the cost of each of the three basic services:

- Costs were allocated to the four Service Delivery Centres
- Service Delivery Centre costs were then allocated to the three services

The costs of some activities were allocated directly to the services, e.g., Meteorological reporting and forecasting ("MET services") provided by Environment Canada.

4.1.2 Cost Allocation Process

Actual NAV CANADA expenses for the period September 1, 1998 to August 31, 1999 served as the basis for allocation of costs.

A summary of the cost allocation methodology, developed in 1997 and used in the current proposal, is provided below:

- The key NAV CANADA activities were identified and the operating costs (resources) were attributed to these activities.
- These operating costs were attributed to the Service Delivery Centres by identifying the drivers which best explain how these resources are consumed. These drivers are operational in nature and wherever possible are capable of being measured. The drivers were identified through analyses, interviews, questionnaires, etc. An example of such an activity driver is the time spent by staff at FSSs in performing their principal activities. These time allocations are then used to attribute the operating costs at FSSs to the activities performed there.

- The costed activities of the Service Delivery Centres were attributed to the three air navigation services using activity/operational drivers, which again were derived from analyses, interviews, questionnaires, etc.
- A number of processes carried out at the Regional Offices or at Ottawa Headquarters support the Service Delivery Centres. These support processes that are not included in Service Delivery Centres include part of Air Traffic Services and Technical Services as well as the traditional head office processes of Finance, Legal, Information Management, etc. These Non-Attributable Costs were allocated proportional to the directly attributed costs.
- The Ownership Costs of Assets (depreciation, amortization, and interest) are allocated to the services on the basis of the replacement costs of assets.

The following table provides a summary of the terminal/enroute split for major activities, as reflected in the cost allocation methodology.

TERMINAL/ENROUTE SPLIT OF MAJOR ACTIVITIES

<i>Allocation To Services</i>	<i>Terminal</i>	<i>Enroute</i>
<p>ACC's/TCU's</p> <ul style="list-style-type: none"> • The oceanic portion of Gander ACC was determined based on the proportion of controller positions dedicated to oceanic control (44%) • The remaining portion of Gander, other ACC's and the TCU's was allocated to terminal services and enroute services based on the proportion of dedicated terminal controller positions • Overall terminal/enroute split (excluding oceanic) 	25%	75%
<p>Towers</p>	100%	
<p>FSS's</p> <ul style="list-style-type: none"> • Allocation to terminal, enroute and oceanic based on standard times for principal FSS activities and activity volumes • Overall terminal/enroute split (excluding oceanic) 	40%	60%
<p>Nav aids</p> <ul style="list-style-type: none"> • Overall terminal/enroute split (excluding oceanic) 	65%	35%
<p>MET Services provided by Environment Canada</p> <ul style="list-style-type: none"> • Allocation based on cost of principal functions and judgment consistent with ICAO guidance regarding the terminal/enroute split • Overall terminal/enroute split 	24%	76%

Terminal, Enroute and Oceanic Services (NAT and Int'l Comm) for the period September 1, 1998 to August 31, 1999 accounted for 42.28%, 53.47%, and 4.25% (NAT: 2.80%, Int'l Comm: 1.45%) respectively, of the total costs.

4.2 Estimate Of Cost By Service For FY 00/01

The total costs of services are forecast at approximately \$916 million for FY00/01. Applying the percentage distribution of costs referred to above, the estimated costs for the individual services for FY00/01 are as follows:

ESTIMATE OF COSTS BY SERVICE FOR FY00/01 (September 1, 2000 - August 31, 2001) (\$ Millions)					
	Terminal	Enroute	Oceanic		Total
			NAT	Int'l Comm	
Allocation Percentage	42.28%	53.47%	2.80%	1.45%	100.00%
Costs	\$387.3	\$489.8	\$25.6	\$13.3	\$916

5. DETERMINATION OF CHARGING UNITS

5.1 Charges For Aircraft Weighing 3 Tonnes Or Less

5.1.1 Annual Charge For Canadian-Registered Aircraft

The number of aircraft weighing 3 tonnes or less subject to the annual charge is approximately 15,000.

5.1.2 Quarterly Charge For Foreign-Registered Aircraft

It is estimated that the number of quarterly charges, which apply to foreign-registered aircraft weighing 3 tonnes or less flying to Canada, is approximately 7000.

5.2 Daily Charge For Aircraft Weighing More Than 3 Tonnes In Respect Of Terminal And Enroute Services

There are daily charges for propeller aircraft weighing more than 3 tonnes and for very small jet aircraft weighing 7.5 tonnes or less. The estimated average number

of days flown per year varies and ranges up to some 300 for turboprop aircraft between 15 and 20 tonnes. Aircraft operators also have the option of being charged daily charges or movement-based charges.

Based on the results for the first seven months of 2000, the number of daily charges would be in the order of 155 000 on a full-year basis. The forecast assumes no growth in the number of daily charges for FY00/01.

5.3 Aircraft Movement-Based Charges in Respect of Terminal And Enroute Services For Aircraft Weighing More Than 3 Tonnes

Charging units were calculated for a base period of actual flight data and then forecasted forward to estimate charging units for FY00/01. These charging units pertain largely to jet aircraft as most propeller aircraft would be paying the Daily Charge.

Information was obtained on every aircraft movement subject to charges in order to estimate charging units for each flight. The sum of the charging units across all of the flights determines the number of charging units for the base period.

The forecast of charging units is as follows:

Service Charge	Forecast Charging Units for FY00/01	
	Charging Units	Annual Increase
Terminal	26 706 004	3.0%
Enroute	15 301 321 051	3.6%
NAT	325 618	4.0%
Int'l Comm	344 004	4.0%

5.3.1 Terminal Services Charge

Charging units for the Terminal Services Charge are expressed as the maximum permissible take-off weight to the power 0.9 ($MTOW^{0.9}$) for each departure from an aerodrome with staffed air navigation facilities.

The forecast year-over-year growth rate in charging units for FY00/01 is 3.0%, which would result in 26.7 million charging units.

5.3.2 Enroute Charge

Charging units for the Enroute Charge are calculated for each flight in Canadian-controlled airspace (excluding the Gander Oceanic FIR/CTA) based on the square root of the aircraft weight in tonnes multiplied by the distance in kilometres.

The forecast year-over-year growth rate in charging units for FY00/01 is 3.6%, which would result in 15 301.3 million charging units.

5.4 Oceanic Charges

The Oceanic Charges are levied on a per flight basis. Therefore, charging units are expressed as the number of flights.

Only North Atlantic flights are involved. Based on a forecast year-over-year growth rate of 4.0% for this sector, the number of flights for FY00/01 would be 325 618 for the NAT Charge and 344 004 for the Int'l Comm. Charge.

6. INFORMATION REGARDING THE NOTICE AND ON MAKING REPRESENTATIONS TO NAV CANADA.

The Notice and this document are available on-line and a copy may be downloaded from NAV CANADA's Internet site (www.navcanada.ca).

Information on the existing charges is provided in the *Customer Guide to Charges*, which is also available on the Internet site.

Additional 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: Director, Customer Relations

by e-mail: service@navcanada.ca
by facsimile: 1 - 613 - 563 - 3426
by telephone: 1 - 800 - 876 - 46934 (within North America, disregard the last digit)

Pursuant to Section 36 of the ANS Act, persons interested in making representations in writing to NAV CANADA with regard to the Notice 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

By facsimile: 1 - 613 - 563 - 7994.

Note: Representations must be received by NAV CANADA not later than the close of business on November 30, 2000.