



DETAILS AND PRINCIPLES REGARDING PROPOSED REVISED SERVICE CHARGES

MAY 1999

GENERAL

This document (*“Details and Principles”*) provides additional detail to expand upon the **Notice of Revised Service Charges** issued in May, 1999 (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 revisions to the 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 provisions of the *Announcement of New and Revised service Charges*, dated September 1998 (the *“Announcement”*), and approved by the Minister of Transport pursuant to section 39 of the *ANS Act*, S.C. 1996, remain in effect.

This document sets out the following: (1) a general overview of NAV CANADA, (2) the methodologies used in determining charges, (3) a justification of the proposed charges in relation to the charging principles, (4) information regarding cost of services, (5) information regarding the determination of charging units, (6) additional information regarding the *Notice* and how to make 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 July 16, 1999.

1. NAV CANADA AND THE COMMERCIALIZATION OF THE CIVIL AIR NAVIGATION SYSTEM

NAV CANADA is a non-share capital, private corporation which acquired the civil air navigation system for a purchase price of \$1.5 billion from the Government of Canada on November 1, 1996.

NAV CANADA 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. Before November 1, 1996, air navigation services were provided by the Canadian government and funded mainly through the Air Transportation Tax (ATT), charged to airline passengers, which was rescinded on November 1, 1998. NAV CANADA now provides these services which are paid for solely by air navigation charges levied on aircraft operators.

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, 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 NAV CANADA to provide these services. NAV CANADA sets rates of charges 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 develop a contingency reserve for unforeseen events, and to maintain appropriate credit ratings. To this end, NAV CANADA has the ability to set and collect charges for air navigation services in accordance with the charging principles set out in the *ANS Act*.

2. NOTICE OF REVISED SERVICE CHARGES

2.1 General

In its May 1999 *Notice*, NAV CANADA stated that it is proposing to revise existing charges for the following categories of services: (i) terminal; (ii) en route, and (iii) oceanic.

The *Notice* consists of eight sections:

- (1) Annual Charge for Canadian-Registered Aircraft Weighing 3 Metric Tonnes or Less
- (2) Annual Charge for Private Aircraft not Used for Business Purposes
- (3) Daily Charge in Respect of Terminal and Enroute Services
- (4) Aircraft Movement-Based Charges in Respect of Terminal and Enroute Services
- (5) Annual Minimum Charge in Respect of Terminal and Enroute Services
- (6) Oceanic Charges
- (7) Exemptions and Reductions
- (8) Additional Information Regarding the *Notice* and on Making Representations to NAV CANADA

Details on the *Notice* are provided in the subsequent sections of this document.

Note: All references to FY 99/00 refers to NAV CANADA's fiscal year September 1, 1999 to August 31, 2000.

All references to dollars refer to Canadian dollars.

All references to tonnes refer to metric tonnes.

2.2. METHODOLOGIES USED IN DETERMINING CHARGES

2.2.1. ANNUAL CHARGE FOR CANADIAN-REGISTERED AIRCRAFT WEIGHING 3 METRIC TONNES OR LESS

- (a) The amount of the Annual Charge of \$60 for aircraft weighing between 0.6 and 2.0 tonnes will be reduced to \$58, effective March 1, 2000, with an adjustment representing an additional decrease of \$2 applicable for the period March 1, 2000 to February 28, 2001.
- (b) The amount of the Annual Charge of \$200 for aircraft weighing over 2.0 and up to 3.0 tonnes will be reduced to \$195, effective March 1, 2000, with an adjustment representing an additional decrease of \$8 applicable for the period March 1, 2000 to February 28, 2001.

2.2.2. ANNUAL CHARGE FOR PRIVATE AIRCRAFT NOT USED FOR BUSINESS PURPOSES

The amount of the Annual Charge of \$60 will be reduced to \$58, effective March 1, 2000, with an adjustment representing an additional decrease of \$2 applicable for the period March 1, 2000 to February 28, 2001.

2.2.3. DAILY CHARGE IN RESPECT OF TERMINAL AND ENROUTE SERVICES

- (a) The amount of the Daily Charge for propeller aircraft, including helicopters, weighing more than 3 tonnes (6,614 lbs) will be reduced as indicated below, effective September 1, 1999, with an adjustment representing an additional decrease applicable for the period September 1, 1999 to August 31, 2000:

Weight (metric tonnes)	Current Charge	Proposed Charge	
		Charge effective Sep. 1, 1999	Additional Adjustment Sep.1, 1999 - Aug. 31, 2000
over 3.0 to 5.0	\$ 30	\$ 29	- \$ 1
over 5.0 to 6.2	\$ 60	\$ 58	- \$ 2
over 6.2 to 8.6	\$ 250	\$ 240	- \$ 9
over 8.6 to 12.0	\$ 600	\$ 580	- \$ 22
over 12.0 to 15.0	\$ 900	\$ 870	- \$ 34
over 15.0 to 18.0	\$1,100	\$ 1,060	- \$ 41
over 18.0	\$1,500	\$ 1,450	- \$ 56
Maximum Daily Charge for helicopters	\$ 60	\$ 58	- \$ 2

- (b) The amount of the Daily Charge of \$150 for jet aircraft weighing 6.2 tonnes or less will be reduced to \$145, effective September 1, 1999, with an adjustment representing an additional decrease of \$6 applicable for the period September 1, 1999 to August 31, 2000.
- (c) The amount of the Daily Charge of \$250 for jet aircraft weighing 7.5 tonnes or less and over 6.2 tonnes will be reduced to \$240, effective September 1, 1999, with an adjustment representing an additional decrease of \$9 applicable for the period September 1, 1999 to August 31, 2000.

2.2.4. AIRCRAFT MOVEMENT-BASED CHARGES IN RESPECT OF TERMINAL AND ENROUTE SERVICES

- (a) The amount of the Terminal Services Unit Rate of \$13.65 for aircraft weighing more than 3 tonnes will be reduced to \$13.38, effective September 1, 1999, with an adjustment representing an additional decrease of \$0.54 applicable for the period September 1, 1999 to August 31, 2000.

Table 1 presents the Terminal Services rate base, the number of estimated charging units and the unit rate.

Table 1	
Calculating the Terminal Services Charge	
Rate Base ¹	\$335,074,056
Number of Estimated Charging Units ²	25,042,904
Unit Rate Effective September 1, 1999	\$13.38

Notes:

- 1. See Section 4 for information on the derivation of the cost base for terminal services. The rate base is equal to the cost base less \$50.3M, reflecting flat fees, miscellaneous revenues and a 1% contingency.
- 2. Section 5 discusses how the charging units have been estimated.

Table 1.1 presents the Terminal Services adjustment base, the number of estimated charging units and the adjustment, representing an additional decrease applicable for the period September 1, 1999 to August 31, 2000.

Table 1.1 Calculating the Adjustment for the Terminal Services Charge for FY 99/00	
Adjustment Base ¹	(\$13.4M)
Number of Estimated Charging Units ²	25,042,904
Adjustment Effective Sep. 1, 1999 to Aug. 31, 2000	(\$0.54)

Notes:

1. See Section 4 for information on the derivation of the total adjustment for terminal services. The adjustment base is lower reflecting the flat fees.
2. Section 5 discusses how the charging units have been estimated.

- (b) The amount of the Enroute Unit Rate of \$0.03506 for aircraft weighing more than 3 tonnes will be reduced to \$0.03204, effective September 1, 1999, with an adjustment representing an additional decrease of \$0.00120 applicable for the period September 1, 1999 to August 31, 2000.

Table 2 presents the Enroute rate base, the number of estimated charging units and the unit rate.

Table 2 Calculating the Enroute Charge	
Rate Base ¹	\$452,915,505
Number of Estimated Charging Units ²	14,135,939,596
Unit Rate Effective September 1, 1999	\$0.03204

Notes:

1. See Section 4 for information on the derivation of the cost base for enroute services. The rate base is equal to the cost base less \$10.5M, reflecting flat fees, miscellaneous revenues and a 1% contingency.
2. Section 5 discusses how the charging units have been estimated.

Table 2.1 presents the Enroute Services Adjustment Base, the number of estimated charging units and the adjustment, representing an additional decrease applicable for the period September 1, 1999 to August 31, 2000.

Table 2.1	
Calculating the Adjustment for the Enroute Charge for FY 99/00	
Adjustment Base ¹	(\$17.0M)
Number of Estimated Charging Units ²	14,135,939,596
Adjustment Effective Sep. 1, 1999 to Aug. 31, 2000	(\$0.00120)

Notes:

1. See Section 4 for information on the derivation of the total adjustment for enroute services. The adjustment base is lower reflecting the flat fees.
2. Section 5 discusses how the charging units have been estimated.

2.2.5. ANNUAL MINIMUM CHARGE IN RESPECT OF TERMINAL AND ENROUTE SERVICES

The amount of the annual minimum charge of \$300 will be reduced to \$195, effective March 1, 2000, with an adjustment representing an additional decrease of \$8 applicable for the period March 1, 2000 to February 28, 2001.

2.2.6. OCEANIC CHARGES

- (a) The amount of the North Atlantic Enroute Facilities and Services (NAT) Charge of \$83.81 will be reduced to \$77.44, effective September 1, 1999, with an adjustment representing an additional decrease of \$2.98 applicable for the period September 1, 1999 to August 31, 2000.

Table 3 presents the rate base for the NAT Charge, the number of estimated chargeable flights and the unit charge.

Table 3	
Calculating the NAT Charge	
Rate Base ¹	\$23,757,663
Number of Estimated Chargeable Flights ²	306,788
Unit Charge Effective September 1, 1999	\$77.44

Notes:

1. See Section 4 for information on the derivation of the cost base. The rate base is equal to the cost base less \$0.09M, reflecting miscellaneous revenues and a 1% contingency.
2. Section 5 discusses how the chargeable flights have been estimated.

Table 3.1 presents the NAT adjustment base, the number of estimated chargeable flights and the adjustment, representing an additional decrease applicable for the period September 1, 1999 to August 31, 2000.

Table 3.1	
Calculating the Adjustment for the NAT Charge for FY 99/00	
Adjustment Base ¹	(\$0.915M)
Number of Estimated Chargeable Flights ²	306,788
Adjustment Effective Sep. 1, 1999 to Aug. 31, 2000	(\$2.98)

Notes:

1. See Section 4 for information on the derivation of the total adjustment for NAT services.
2. Section 5 discusses how the charging units have been estimated.

(b) The amount of the International Communication Services (Int'l Comm) Charge of

\$50.61 will be reduced to \$41.95, effective September 1, 1999, with an adjustment representing an additional decrease of \$1.61 applicable for the period September 1, 1999 to August 31, 2000.

Table 4 presents the rate base for the Int'l Comm Charge, the number of estimated chargeable flights and the unit charge.

Table 4	
Calculating the Int'l Comm Charge	
Rate Base ¹	\$13,706,407
Number of Estimated Chargeable Flights ²	326,732
Unit Charge Effective September 1, 1999	\$41.95

Notes:

1. See Section 4 for information on the derivation of the cost base. The rate base is equal to the cost base less \$0.03M, reflecting miscellaneous revenues and a 1% contingency.
2. Section 5 discusses how the chargeable flights have been estimated.

Table 4.1 presents the Int'l Comm adjustment base, the number of estimated chargeable flights and the adjustment, representing an additional decrease applicable for the period September 1, 1999 to August 31, 2000.

Table 4.1	
Calculating the Adjustment for the Int'l Comm Charge for FY 99/00	
Adjustment Base ¹	(\$0.527M)
Number of Estimated Chargeable Flights ²	326,732
Adjustment Effective Sep. 1, 1999 to Aug. 31, 2000	(\$1.61)

Notes:

1. See Section 4 for information on the derivation of the total adjustment for Int'l Comm services.
2. Section 5 discusses how the charging units have been estimated.

2.2.7. EXEMPTIONS AND REDUCTIONS

The reduction of 50% in the Terminal Services Charge applied to test flights will be revised to an exemption from charges for air navigation services for such flights, effective September 1, 1999.

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. The *Notice* sets out the proposed revisions to service charges. These revisions will reduce the level of the charges and will not affect the charging methodology and the terms and conditions affecting the charges. The methodology for applying the charges and the terms and conditions in respect of payment are provided in the *Announcement* dated September 1998 and the *Customer Guide to Charges* (March 1999). On the basis of this information, any person subject to NAV CANADA's charges can calculate the amount 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 proposed revised 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.

The Enroute Charge and the Oceanic Charges (NAT and Int'l Comm) pertain to services made available or provided to aircraft in flight, whereas the Terminal Services Charge relates to services for aircraft arriving at and departing from an airport. The flat charges (Annual, Quarterly, Daily) represent composite NAV CANADA charges, with 85% representing terminal services and 15% representing enroute services.

- 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*.

The costs recovered through NAV CANADA's charges comply with the list of eligible financial requirements in Subsections 35(5) and 35(6) 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 NAT and Int'l Comm charges 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 Charges are 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.

Pursuant to Subsection 35(7), Subsection 35(3) does not apply to flat fees. The Annual, Quarterly 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 *Customer Guide to Charges* (March 1, 1999).

- 35 (5) *For the purpose of paragraph (1)(i), the financial requirements of the Corporation in relation to the provision of civil air navigation services include, without duplication, the Corporation's*
(a) costs incurred before the transfer date,
(b) operations and maintenance costs,
(c) management and administration costs,
(d) debt servicing requirements and financial requirements arising out of contractual agreements relating to the borrowing of money,
(e) depreciation costs on capital assets,

- (f) financial requirements necessary for the Corporation to maintain an appropriate credit rating,*
 - (g) tax liability,*
 - (h) reasonable reserves for future expenditures and contingencies, and*
 - (i) other costs determined in accordance with accounting principles recommended by the Canadian Institute of Chartered Accountants or its successor,*
- to the extent that they relate to the provision of those services, less the amount determined in accordance with subsection (6).*

- 35 (6) *The amount to be deducted for the purpose of subsection (5) is the aggregate of*
- (a) all grants, contributions and subsidies of a monetary nature received by the Corporation,*
 - (b) all transition period payments pursuant to section 98,*
 - (c) all interest income and investment income earned by the Corporation, and*
 - (d) all profits earned by the Corporation, other than in respect of the provision of civil air navigation services.*

As noted in the explanation provided above with respect to Subsection 35 (1)(i) of the ANS Act, the proposed revised charges comply with the provisions of Subsections 35(5) and 35(6). Section 4 of this document provides information on deriving the cost base for the services.

4. COST OF SERVICES

In developing the fee proposal, actual costs for the 12 months September 1, 1997 to August 31, 1998 were allocated to services. The resulting percent distribution of costs by service was applied to the projected total costs of \$886.4 million for FY99/00, to estimate the cost by service for the same period.

4.1 Cost Allocation Methodology

The cost allocation methodology developed in 1997 was also used for the current proposal, and 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, 1997 to August 31, 1998 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.

Table 5 provides a summary of the terminal/enroute split for major activities, as reflected in the cost allocation methodology.

TABLE 5
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 (51%) • 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, 1997 to August 31, 1998 accounted for 43.48%, 52.28%, and 4.24% (NAT: 2.69%, Int'l Comm: 1.55%) respectively, of the total cost.

4.2 Estimate Of Cost By Service For FY 99/00

The total cost of services is estimated at \$886.4 million for FY99/00. Applying the percentage distribution of costs referred to above, the estimated costs for the individual services for FY99/00 are as follows:

TABLE 6 ESTIMATE OF COSTS BY SERVICE FOR FY99/00 (September 1, 1999 - August 31, 2000) (\$ Millions)					
	Terminal	Enroute	Oceanic		Total
			NAT	Int'l Comm	
Allocation Percentage	43.48%	52.28%	2.69%	1.55%	100.00%
Costs	\$385.4	\$463.4	\$23.9	\$13.7	\$886.4

4.3 Estimate Of Adjustment For FY 99/00

Actual revenues are forecasted to exceed the Company's financial requirements for the current fiscal year (September 1, 1998 - August 31, 1999) due to reduced costs and higher than expected traffic growth. As a result, an adjustment to the charges is proposed, representing an additional reduction applicable for one year.

The adjustment, applicable to the charges for FY99/00 only, is estimated at \$34.0 million. Applying the percentage distribution of costs referred to in Subsection 4.2, the estimated distribution of the adjustment to the individual services are as follows:

TABLE 7 ESTIMATE OF ADJUSTMENT FOR FY99/00 (September 1, 1999 - August 31, 2000) (\$ Millions)					
	Terminal	Enroute	Oceanic		Total
			NAT	Int'l Comm	
Allocation Percentage	43.48%	52.28%	2.69%	1.55%	100.00%
Adjustment	(\$14.8)	(\$17.8)	(\$0.9)	(\$0.5)	(\$34.0)

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 16,000

5.1.2 Quarterly Charge For Foreign-Registered Aircraft

It is estimated that approximately 11,000 foreign-registered aircraft weighing 3 tonnes or less visit Canada each year. The vast majority of these aircraft would fly to Canada perhaps once per year for a limited period of time.

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

The number of propeller aircraft weighing more than 3 tonnes is in the order of 1400 . The estimated average number of days flown per year varies and ranges up to some 300 for turboprop aircraft between 15 and 20 tonnes.

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 FY99/00. These charging units pertain largely to jet aircraft as most propeller aircraft would be paying the Daily Charge.

The base period was from March 1, 1998 to February 28, 1999.

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 is based on traffic growth projections as follows:

Traffic Sector	Percent change year over year	
	1999 Mar-Dec	2000
Domestic	0.0%	(0.5%)
Transborder (Canada - U.S.)	3.0%	2.5%
Other International (landing/taking off in Canada)	3.0%	2.5%
North Atlantic	6.0%	5.5%
Pacific	3.0%	2.5%

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.

Domestic, transborder and other international flights contribute to these charging units. The growth rates for these sectors, weighted by their relative contribution to the total charging units, were applied to the base period charging units.

This produced the forecast of Terminal Services charging units for FY 99/00 of 25M 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.

Domestic, transborder, other international, North Atlantic and Pacific flights contribute to these charging units. The above-noted growth rates for these sectors, weighted by their relative contribution to the total charging units, were applied to the base period charging units.

This produced the forecast of enroute charging units for FY99/00 of 14,136M 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. Applying the above-noted growth rates for this sector to the number of flights in the base period produced the forecast for FY99/00 of 306,788 flights for NAT and 326,732 flights for Int'l Comm.

6. ADDITIONAL INFORMATION REGARDING THE NOTICE AND HOW TO MAKE REPRESENTATIONS TO NAV CANADA.

This document is available in both on-line and hard copy versions. An electronic 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.

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: 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)

Making written representations to NAV CANADA regarding proposed reduction in service charges set out in the *Notice*:

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 by 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 July 16, 1999.