



AIRLINE COST MANAGEMENT GROUP (ACMG)

**2019 DATA COLLECTION
FOR
FISCAL YEAR 2018 (FY2018)**

INSTRUCTIONS MANUAL

TABLE OF CONTENTS

SECTION 1: INTRODUCTION	4
1.1 The 2019 Data collection	4
1.2 Who should use this manual?	4
SECTION 2: METHODOLOGY AND REPORTING INSTRUCTIONS	5
2.1 Summary of data collection	5
2.2 Airline Cost Management Group reporting Forms 1 & 2	6
2.3 Categories of expenses	6
2.4 Allocation of expenses	7
2.5 Reporting instructions requiring special attention	7
2.6 Clarification of instructions	9
2.7 Submission of data to IATA	9
2.8 Codes	10
2.9 Reporting units	10
2.10 Responsibility for Data Integrity	10
SECTION 3: FORM 1 – TOTAL AIRLINE OPERATING REVENUE & EMPLOYMENT COSTS	11
3.1 Purpose of Form 1	11
3.2 Definitions - Form 1: Revenues	11
3.3 Definitions - Form 1: Employment Data	14
SECTION 4: FORM 2 – AIRCRAFT DATA	16
4.1 Purpose of Form 2	16
4.2 Reporting instructions - Form 2	16
4.3 Definitions - Form 2: Expenses	17
4.4 Definitions - Form 2: Traffic/Capacity	30
4.5 Definitions - Form 2: Operational Data	32
4.6 Definitions - Form 2: Operational Performance Data	34

APPENDICES	37
APPENDIX 1: LEASED ASSET CALCULATIONS	38
APPENDIX 2: CAPACITY CALCULATIONS	39
1. Available Tonne-Kilometres - paragraph 4.4 refers	39
2. Available Seat-Kilometres - paragraph 4.4 refers	41
APPENDIX 3: VOLUME EQUIVALENT PAYLOAD CALCULATION GUIDELINES	42
1. Aircraft Volumes:	42
2. Calculation example:	42

SECTION 1: INTRODUCTION

1.1 The 2019 Data collection

Data is collected for Fiscal Year 2018 (FY2018).

1.2 Who should use this manual?

This booklet is designed mainly to assist member airlines in completing Airline Cost Management Group Reporting Forms 1 & 2. It should also be used by all recipients of output benchmark reports in interpreting the data collection results.

Contents may be summarised as follows:

- Section 2 of this manual includes a description of the Airline Cost Management Group methodology and reporting forms, details of reporting instructions and target date and a list of data collection codes.
- Section 3: contains reporting requirements and corresponding definitions for Airline Cost Management Group Reporting Form 1.
- Section 4: contains reporting requirements and corresponding definitions for Airline Cost Management Group Reporting Form 2.
- Appendices: include additional information on reporting instructions.

* * *

SECTION 2: METHODOLOGY AND REPORTING INSTRUCTIONS

2.1 Summary of data collection

The Airline Cost Management Group collects traffic/capacity, operational and cost statistical data from member airlines covering their air transport operations - trucking and other forms of surface transport, such as buses or railway services, are excluded.

Form 1 collects the airline revenue and employment data in each division and their respective total salaries. In Form 2 data are collected for each defined aircraft type taking into consideration the detailed guidelines on allocation of expenses that have been agreed - see paragraph 2.4.

ACMG benchmark study focuses on **the core air transport operations only. Therefore each reporting airline should accordingly report cost data related directly to the core air transport operations.**

All the revenues and costs which are related to non-core air transport activities (such as any internal third party business conducted by each airline for its customers) should be reported under Other Operating Revenues and Incidental transport-related Operating Expenses. Please refer to paragraphs 3.2 and 4.3 for more details.

The purpose of ACMG data collection is to:

- Build an industry-wide database with detailed financial and operational data (expenses/cost, traffic, capacity, fleet, etc.);
- Assess and benchmark operational results and key performance indicators
- Analyse the cost structure by area of operations (flight, ground, system)
- Identify industry trends and cost drivers.

In submitting the reporting Forms 1 & 2 described below, data providers are requested to use the Front Sheet tab to indicate their name, telephone, and e-mail contact details which may be required during the data entry and validation process. Moreover, it is highly encouraged to provide additional contacts from your airline (for the purposes of ACMG Report distribution) as well as recommend ACMG initiative to your contacts in other airlines in order to gather as much industry data as possible.

2.2 Airline Cost Management Group reporting Forms 1 & 2

The data collection is based on:

- Form 1: designed to collect airline revenue, the number of employees in each division and their respective total salaries. Detailed definitions and reporting requirements are contained in Section 3 of this manual. The purpose of collecting such data is to calculate profitability and productivity ratios, as well as to look into more details of different streams of revenue.
- Form 2: designed to collect aircraft type data, including expenses, traffic/capacity and operational data. Some data, such as system operating expenses and operational performance, is to be provided as total values on an airline level (and not per aircraft). Detailed definitions and reporting requirements are contained in Section 4 of this manual.

2.3 Categories of expenses

The Airline Cost Management Group collects operating costs classified into 3 categories, which are defined as follows:

- Flight operating expenses are direct operating expenses; they are directly related to the aircraft and the flight activities of an airline such as flight crews, fuel, flight equipment, and navigation.
- Ground operating expenses are direct operating expenses; they are directly related to the ground activities of an airline such as maintenance and overhaul, airport charges, station and ground.
- System operating expenses are overhead and indirect operating expenses; they are not directly related to Flight or Ground Operating Costs. They include cabin attendants, passenger service, load insurance, reservations, ticketing, sales and promotion, IT and communications, general and administrative.

Besides these categories another cost grouping is introduced in order to elaborate on employment:

- Employment expenses are expenses directly related to the salaries of airline's employees. The number of staff and total salaries will be used to calculate productivity ratio, e.g. average number of maintenance and overhaul crew per aircraft. In addition by collecting revenue data, profitability ratio can be calculated.

2.4 Allocation of expenses

Most carriers have developed their own methods of allocating expenses to aircraft types by function or expense item and they should continue to use these in reporting their data to the Airline Cost Management Group.

Where such internal methods do not exist, refer to the table below for guidelines.

Item	Allocation Base
Flight Deck Crew	Aircraft Flight Hours - block and crew rotation
Fuel and Oil	Aircraft Flight Hours - block
Flight Equipment Insurance	Aircraft Flight Hours - block and landings
Maintenance and Overhaul	Aircraft Flight Hours – block
Flight Equipment	Aircraft Flight Hours – block
Depreciation	
Rentals Expenses	Aircraft Flight Hours – block
Station and Ground	- Aircraft movements weighted by payload - Load weighted aircraft movements
Cabin Attendants	Cabin crew block hours flown and crew rotation
Passenger Service	- Passenger kilometres by class of service, weighted where necessary to reflect the type of service provided.
Load Insurance	- Passenger Tonne Kilometres and Freight Tonne Kilometres
Reservations, Ticketing, Sales and Promotion	- Commissions related to passenger and cargo revenues earned through agents - Other costs related to total revenue weighted to reflect the proportions of own airline/agent sales
General and Administrative	- All operating costs other than depreciation or available tonne-kilometres

Members who cannot allocate Airport Charges, Aircraft Related Charges, Airport Related Passenger Charges and Air Navigation Charges should contact the IATA ACMG Secretariat for guidance.

2.5 Reporting instructions requiring special attention

- Leased equipment

In completing Airline Cost Management Group Reporting Forms, different types of leases should be treated as follow:

- The **Finance Lease** (or Full Pay-out Lease), under which the aircraft is leased for a period considered being the whole, or nearly the whole useful life of the asset. Normally the lessor (the legal owner) will be a finance house or leasing company, without expertise in the physical use of the aircraft. Since the lessee (the carrier) has the constructive, if not the legal, ownership of the aircraft he should report as though the aircraft was in fact owned. This will affect depreciation, interest and aircraft assets, and, for this type of lease **NO amount should be shown in *Aircraft Rentals*** - see Section 3 for detailed reporting requirements.
- The **Operating Lease** (or Dry Lease), under which the rentals are paid by a carrier for a period that is substantially less than the normal life of the aircraft. For instance, such leases could easily occur between two airlines. These lease/rental payments should be reported under ***Aircraft Rentals*** - see Section 3 for detailed reporting requirements.
- The **Wet Lease** under which an aircraft is usually leased on Aircraft, Crew, Maintenance and Insurance (ACMI) basis. All amounts under this kind of operation should be allocated under the **XXX aircraft type** and under the position ***Aircraft Rentals***.

- **Joint Operations**

We distinguish **two types of commercial agreements**: Blocked Space agreement and Code Share agreement (also known as Free Flow).

- **Blocked Space Agreement**: Agreement of purchasing a number of passenger seats / cargo space by a carrier (the Marketing Carrier) for the carriage of its traffic on an aircraft of a second carrier (the Operating Carrier). The agreement can either be on a fixed number of seats / fixed space for cargo (Hard Block) or a variable number (Soft Block). The Blocked Space concerned is clearly defined in the Agreement.
The Operating Carrier knows its saleable capacity and its own traffic, and the same for the Marketing Carrier. Each carrier can count his own RPKs, ASKs, and passenger load factor. Each carrier keeps its own tickets.
- **Free Flow**: The two carriers share their codes, and sell as many seats as they can. There is no prior defined Blocked Space in the Agreement. Each one manages the whole booking of the aircraft and the common aim is to fill the aircraft. Only the Operating Carrier is able to know the real RPKs and ASKs, when the aircraft leaves.

The Operating Carrier keeps the whole revenues and transfers a part of the revenues according to the Free Flow Agreement to the Marketing Carrier. The Free Flow code share corresponds to a later stage of the Code Shares Agreements.

2.6 Clarification of instructions

In this publication, reporting requirements have been explained in respect of definitions, calculation methods, etc. Nevertheless, various problems may arise requiring further clarification. Any question regarding the correct interpretation of definitions, reporting instructions and calculation methods to be applied should be directed to the IATA ACMG Secretariat (details below).

2.7 Submission of data to IATA

The deadline for submission of FY2018 Airline Cost Management Group data is

May 31, 2019

Airlines are encouraged to submit the toolset before the deadline. This allows IATA to update the database in the most efficient manner, speed up the processing of data and allow a more timely distribution of results.

Airlines are encouraged to add their name or code and date to the toolset filename, for example "ACMG_Data_Toolset_FY2018_AirlineXYZ_2019.05.15", and save the toolset as one of the following formats: **.xls**, **.xlsx** or **.xlsm**

Completed submissions should be e-mailed to:

E-mail: acmg@iata.org

Where necessary for clarification or explanation, please submit comments together with the toolset. The comments may be in the email or a separate file. Additionally, members are ***encouraged to comment if there are factors which significantly influenced results.***

2.8 Codes

The following codes are used on input forms and, in many cases, in the agreed output reports:

- Aircraft codes: Upon selecting 'Aircraft Type' in row 7 (yellow cells) of Form 2, the three-letter official IATA codes automatically populate the row above.
- Reporting period codes: Airline Cost Management Group input covers the previous fiscal year which should be coded using a 4 digit format, e.g. 2018.

2.9 Reporting units

Financial data

Carriers should report expenses and other financial data in **USD** on all reporting forms; furthermore, carriers should report in "**NUMBERS**" unit, unless specified in "**THOUSANDS**".

Traffic/capacity, and operational performance statistics

Please ensure that all figures (except ***fuel consumption, which must be in kilograms***) relate to the metric system. To assist Members, the conversion factors to be used are as follows:

1 U.S. gallon	= 3.1 kgs
1 U.S. gallon	= 3.785 litres
1 imperial gallon	= 1.201 U.S. gallons
1 imperial gallon	= 4.546 litres
1 pound	= 0.4536 kilograms
1 statute mile	= 1.6093 kilometres
1 nautical mile	= 1.852 kilometres
1 short ton	= 0.907 metric tonnes
1 long ton	= 1.016 metric tonnes
1 cubic foot	= 0.0283 cubic metres

2.10 Responsibility for Data Integrity

Each airline is responsible for meeting the reporting deadlines and for the accuracy and completeness of the data reported. Thorough validation checks should be completed before data submission. IATA ACMG Secretariat developed a 'DataCheck' included within Form 2 of the Data Collection Tool. Tests to check the reasonableness and consistency of reported data will also be carried out.

SECTION 3: FORM 1 – TOTAL AIRLINE OPERATING REVENUE & EMPLOYMENT COSTS

3.1 Purpose of Form 1

This form is used to gather the airline operating revenue, parts of non-operating revenue and expenses, and the number of employees in each division with their total salaries. Also, total block hours per year and total duty hours per year for flight deck crew and cabin attendants are collected.

3.2 Definitions - Form 1: Revenues

Please report all data in **USD**.

Total Airline Operating Revenue (*Cell C8 – automatically calculated from cells C5 – C7*)

Passenger Revenues - Ticket Sales (*Cell C5*)

All revenues earned from the transportation of passengers on both scheduled and charter operations, after the deduction of applicable discounts and rebates and inter-line prorated through-tariffs. In the case of promotional offers (i.e. "two-for-one"), the gross passenger revenue for both tickets is to be charged with the applicable discount so as to reflect the net revenue of the value of one ticket. For passengers travelling on tickets issued in exchange for frequent-flyer points, nil revenue is to be entered. Also includes monies collected from air passengers on surcharges of fuel and other surcharges that result in revenues retained by the air carrier i.e. where the carrier does not have the obligation to pass on the amounts so collected to the government or any other entity.

Excludes:

- the value of passenger tickets sold in advance; the value of such tickets shall be carried forward until such time as the flight takes place or the value is refunded or until the value of the unredeemed tickets is written back to revenues;
- taxes on the sale of passenger transportation; cancellation fees; revenues from the sale of food and drinks not included in the price of the ticket; revenues

from nominal service charges for persons travelling on a non-revenue basis (such as staff members);

- payments made for ground transportation, commission receivable from the carrier's sale of transportation on other air carriers' services, or other expenses connected with passenger handling or interrupted flights. Such expenses shall be charged to appropriate expenditure accounts.

Passenger Revenues - Ancillary Revenues (Cell C6)

All revenues arising from the transportation of passengers which are not included in the ticket price or have been added to the ticket price in exchange for additional services beyond the transportation aspect in the original fare class. This includes revenues from baggage in excess of the free baggage allowance, baggage fees, cancellation fees, change fees, revenues from the sale of food and drinks, in-flight entertainment and/or equipment, pillows and blankets, preferred seat selection or upgrades, priority boarding, lounge access, internet access, phone calls, (commissions from) duty-free sales, etc.

Cargo Revenues (Cell C7)

Revenue derived from freight and mail, in dedicated cargo operations as well as from belly cargo space of passenger aircraft.

Includes:

- revenues for the carriage of freight, after deduction of applicable discounts and rebates, and interline prorated through-tariffs
- express revenue and revenue from the carriage of diplomatic bags. Where the air carrier's staff has the privilege of sending personal consignments at reduced rates, such revenue shall be considered as normal freight revenue.
- all payments received from the carriage of all domestic and foreign mail at prevailing rates, irrespective of the fact that such rates may be fixed in advance or in arrears.

Please make sure that the reported Total Airline Operating Revenue relates directly to the core air transport operations only (passengers and cargo). If the air carrier is part of a group of companies encompassing other related activities, such as aircraft maintenance ("MRO"), catering, and reservation systems, etc., only the activities pertaining to the air carrier should be reported here (the reported data scope should match the data scope of reported Total Operating Expenses in Form 2).

All other operating revenues should be reported under Other Operating Revenues (see below).

Other Operating Revenues (Cell C9)

The sum of incidental transport-related revenues and miscellaneous operating revenues:

Incidental transport-related revenues

Revenues from a carrier's non-core transport-related activities. Gross revenues for all such activities not included above are to be reported here. Examples of incidental transport-related revenues are: revenues from the provision of aircraft to other carriers or parties from operations under their control, such as in chartering, interchange or operating lease agreements; revenues from capacity-equalization payments arising from pooled services; revenues received by the marketing carrier under code-shared, blocked-seat or joint services arrangements; and any other revenues not classified under above and related to the air transport activities of the reporting carrier.

Miscellaneous operating revenues

Net revenues (i.e. gross revenues less related expenses) from sources such as handling services for third parties, service and maintenance sales, surface transportation, catering services, properties, and sources other than air transport when these activities are performed by the air carrier entity of a group.

Non-operating Revenue and Expenses

For the purposes of better quality analysis and benchmarking the following two non-operating categories should be reported:

Fuel and oil hedging gain/(loss) (Cell C11)

Profits or losses obtained from any “financial hedging” or forward cover transactions associated with fuel purchase.

Foreign exchange gain/(loss) (Cell C12)

Profits or losses obtained from foreign exchange transactions, including foreign exchange hedge.

3.3 Definitions - Form 1: Employment Data

The airline staff is divided into following employee divisions:

Flight Deck Crew

Includes:

- All pilots and co-pilots including executive and managerial personnel who perform commercial flying duties from time to time.
- Flight engineers, radio operators and navigators including executive and managerial personnel who perform these duties infrequently.

Cabin Attendants

Pursers, stewards, stewardesses, hostesses.

Maintenance and Overhaul

Aircraft engineering, maintenance, overhaul and repair personnel including corresponding administration, accounting, time keeping, stores, planning, training and inspection staff. This category covers technical management, inspection and quality control, technical engineering, production planning and control, technical purchasing/stores, workshop, hangar and line maintenance staff.

Station and Ground Crew

Staff engaged in Station and Ground operations such as traffic handling (passenger and cargo), loading and servicing aircraft, including supervisors, dispatchers and ground radio operators.

Passenger Services

Personnel providing In-flight Catering operations (excluding flight attendants), and personnel providing information and services at airport terminals, such as check-in counter and gate agents, baggage claim, unaccompanied minors, wheelchair assistance, etc.

Reservations, Ticketing, Sales and Promotion

Reservations, ticketing sales, scheduling, tariffs, marketing, custom services, commercial and public relations staff including corresponding administration and management personnel.

IT and Communications

Personnel involved in administration of IT hardware, software, development of new systems, data warehousing and web related IT, communications such as networks (including data, telephone, voice over IP), satellite communications, datalink, and SITA.

General and Administrative

Personnel performing the general and administrative functions of the air carrier excluded in the categories listed above.

Finance

Personnel involved in all aspects of finance, such as financial analysis and planning, financial and management accounting, cost control, corporate finance, treasury etc.

Human Resources

Personnel involved in activities relating to employees, including recruitment and hiring, orientation of new employees, retention of staff and employee relations.

Procurement

Personnel involved in obtaining or buying goods and services for the airline, with responsibilities including purchase planning, price negotiation, supply chain and material management, inventory control etc.

Other

General and administrative personnel not included in the functions described above such as the senior management team, safety and security, legal and general counsel, government affairs, facility management.

Number of Employees (Cells C18 – C30)

Number of employees refers to all personnel (both permanent and temporary) on the payroll of an airline (average over the year).

Total Salaries and Compensations (Cells D18 – D30)

Total gross salaries and compensations per division.

Total Crew Block Hours per Year (Cells E18 and E21)

'Block Hour' is defined from the moment the aircraft for a revenue flight is pushed back from the gate or starts taxiing from its parking stand for take-off to the moment it comes to a final stop at a gate or parking stand after landing (equal to the flight time for the flight plus the taxi time). The **total crew block hours per year** are for flight deck crew and cabin attendants, respectively, and is not the same as total Aircraft Block Hours in Form 2.

Total Duty Hours per Year (Cells F18 and F21)

'Duty hour' is a period which starts when a crew member (either flight deck crew or flight attendant) is required by an airline to commence a duty and ends when the crew member is free from all duties. It normally starts when the crew member is required by an airline to report for a flight or a series of flights; it finishes at the end of the last flight on which he/she is an operating crew member.

Report the **total duty hours per year** for flight deck crew and cabin attendants, respectively. Please note that these Duty Hours are based on an entire flight deck crew/cabin attendants.

* * *

SECTION 4: FORM 2 – AIRCRAFT DATA

4.1 Purpose of Form 2

This form is used to collect details of expenses, traffic/capacity and operational data for each aircraft type. Some data, such as system operating expenses and operational performance, is to be provided as total values on an airline level (and not per aircraft).

4.2 Reporting instructions - Form 2

- Heading information on Form 2: please choose a relevant aircraft type from the dropdown menu (yellow cells in row 7).
- Financial data: reporting currency and units – see paragraph 2.9.
- Exclusion of capital charges: operating expenses on all forms must not include any element of 'capital charges', such as interest on loans, the interest element of lease payments, or replacement cost provisions.

4.3 Definitions - Form 2: Expenses

Various types of commercial agreements between two or more carriers (blocked space Code Shares, blocked space Agreements -BSA- or Joint Operations except Free Flow Code Shares) should be treated as outlined below.

– Blocked Space Agreements

- **Form 2: The submitting carrier reports when he is the: Operating Carrier**

Under Flight Operating Expenses:

All flight operating expenses

Under Ground Operating Expenses:

All ground operating expenses

Under System Operating Expenses:

All indirect operating expenses

- **Form 2: The submitting carrier reports when he is the: Marketing Carrier**

Under Flight Operating Expenses:

Costs incurred in the purchase of Blocked Space Code Shares, Blocked Space Agreements or Joint Operations under Rentals (Form 2, Row12).

– Free Flow Code Shares

- **Form 2: The submitting carrier reports when he is the: Operating Carrier**

Under Flight Operating Expenses:

All flight operating expenses

Under Ground Operating Expenses:

All ground operating expenses

Under Reservation, Ticketing, Sales & Promotion:

The commissions payable to others for sale of transportation on own services

- **Form 2: The submitting carrier reports when he is the: Marketing Carrier**

Under Flight Operating Expenses:

No entries are required

Under Ground Operating Expenses:

No entries are required

Under System Operating Expenses:

No entries are required

Flight Operating Expenses (*Row 14 – automatically calculated from rows 8 – 13*)

Detailed definitions for these data items are given below, while guidelines for allocation principles are included in Section 2.4 above.

Flight Deck Crew (*Row 8*)

Flight crew salaries and expenses. Include pay and allowances, pensions, insurance, travelling and other similar expenses (uniforms, etc.) of flight crews. Pay, allowances and other related expenses of cabin crews and passenger service personnel shall not be reported here. Include the training costs of flight crew (whether amortized or not).

Also included are expenses for flight deck crew administration, planning and scheduling.

“Pay” as outlined above includes all; payroll, overtime, shift pay, sector pay, and any other bonus or productivity related pay connected with employment. It also includes employer social insurance costs, contributions to pension funds, and any other employment related costs, which are the responsibility of the employer.

“Allowances” as outlined above include all expenses incurred in connection with commercial flight operations, including accommodation, subsistence, meals, per diem allowances, transport and uniform costs, etc.

Third party work - Flight Deck Crew: where third party work provided by your airline for crew training is substantial, both the expenses and the revenues arising from such work should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenue from this expenses category - and indicate that you have done so in the comments on your data.

Fuel and Oil (Row 9)

Expenses for all aircraft fuel and oil consumed by the aircraft, non-refundable duties and taxes pertaining thereto, including fuel throughput charges levied by the airports, “fuel-into-plane” costs, but excluding the cost of any “Financial Hedging” or Forward Cover transactions associated with fuel purchase. Include emissions charges and taxes here.

Profits or losses obtained from any “financial hedging” or forward cover transactions associated with fuel purchase should be reported under Form 1, C11: *Fuel and oil hedging gain(loss)*.

Flight Equipment Insurance (Row 10)

Includes insurance against accidental damage to flight equipment while in flight and on the ground; insurance against liability occurring from operation of aircraft or, in the case of non-insurance, the resulting expenses for which the air carrier is liable. Premiums for passenger liability insurance and passenger accident insurance paid by the air carrier are not to be reported here.

Do not include passenger or cargo liability insurance which is included on Row 34 in Form 2.

Flight Equipment Depreciation and Amortization (Row 11)

Includes the following charged to the current financial year:

Depreciation - Flight Equipment

The normal annual depreciation of assets.

Carriers should use their own policies for calculating the annual depreciation charge but this should be on the historical and not the replacement cost of the aircraft.

Include: full allowances for depreciation of owned flight equipment such as aircraft, engines, components and spare parts. Depreciation on consumable spares should be calculated only with respect to the amount assumed to be left in stock when use of the aircraft is discontinued.

Aircraft values: the value to be used shall include amounts paid or to be paid for the aircraft with built-in engines as well as planned modifications, buyer/customer furnished equipment, and cabin fittings. Such values shall also reflect capitalised interest on funds used for equipment deposits or progress payments prior to the introduction of the aircraft into revenue service.

Spare parts added to the aircraft values should be added an appropriate percentage to cover the investment cost for spare engines, propellers and rotatable spare parts, as experienced by each operator individually - this is normally between 15 and 25 percent.

Depreciation period: no depreciation should be charged once the aircraft is fully written down to its residual value. Where the aircraft remains in service after it is written down to its residual value, the remaining residual value should be written down to zero, over the anticipated remaining operational life of the aircraft.

Amortization of Capital Leases - Flight Equipment

The amortization of capital leases.

Finance lease payments as defined in Section 2.5 should be converted to depreciation charges and included here - see calculation procedure outlined below. Exclude operating lease rentals as defined in Section 2.5, which should be reported under Aircraft Rentals (Row 12).

Finance leased aircraft: payments made under such contracts, as defined in Section 2.5, should be reported as flight equipment depreciation using the following method - see also Appendix 1:

- The aircraft should be treated as an asset at the same historical cost as if it has been purchased outright. Depreciation in Forms 2 should be charged in the same manner as for purchased aircraft of the same type. The depreciation period may very likely not be the same as the period of the lease.
- If the value of the aircraft at the beginning of the lease cannot be determined, the interest rate implied in the lease contract can be used to discount all the lease payments back to the year in which the aircraft was first leased.

Include all lease payments from the year of first leasing up to and including any bargain purchase or renewal option. If the purchase of renewal option is at or close to market value ignore here and report as rentals in the year in which it incurred.

- The interest element of the lease payments is to be reported in financial expenses. The interest each year is the difference between the element of capital repayment and the total lease payment in the year. The interest thus calculated must be corrected downwards for the estimated lessor's costs and profits. The capital element is the difference between the discounted present value of the future lease payments at the beginning and end of the year being reported.
- If any part of the leased payment paid is for things other than aircraft, engines, components and spares, it should be included, as best may be, under operating expenses.

Note: this may leave the interest element of this part of rentals in operating expenses.

Aircraft Rentals (Row 12)

Includes expenses incurred for the rental of aircraft and crews from other carriers, such as in chartering, interchange and operating or short-term lease agreements. Rental/lease payments under finance leases are **not** included.

Air Navigation Charges (Row 13)

Includes fees levied against the air carrier for the provision of en-route facilities and services, including approach and aerodrome control charges.

Ground Operating Expenses (Row 29 – automatically calculated from rows 22, 25 and 28)

Detailed definitions for these data items are given below, while guidelines for allocation principles are included in Section 2.4 above.

Maintenance and Overhaul (Total) (Row 22 – automatically calculated from rows 16 – 20)

Includes the cost of keeping aircraft, engines, components and spares in an operative condition, the cost of repair and overhaul and the certificate of airworthiness overhaul

carried out under mandatory government requirements. Also includes the pay, allowances and related expenses of all staff engaged in flight equipment maintenance as well as the cost of repair, overhaul and maintenance of flight equipment by outside contractors and manufacturers. The direct and related indirect maintenance cost of ground facilities are not included here.

Maintenance Reserves reporting: if lessor demands Maintenance Reserves payments for leased aircraft, the net effect of accumulated maintenance reserves less reimbursements from lessor (after major maintenance events are completed), during the reporting period, should be added to the respective maintenance and overhaul categories: Base, Engine, and/or Component Maintenance.

Line Maintenance (Row 16)

The costs of labour, material and outside aircraft maintenance contracts at various stations to keep the aircraft in operations while it is in service (operation), including all services performed during normal transit periods or routine turnaround or regularly scheduled layover periods, which are necessary to meet the airworthiness and related maintenance requirements of an aircraft for the next flight.

Base Maintenance (Row 17)

The costs (labour, material and outside contracts) of maintenance done in a hangar environment while the aircraft is out of service.

Component Maintenance (Row 18)

The costs for labour, material and outside component repair costs to keep all aircraft components in operating condition, excluding engine maintenance costs.

Engine Maintenance (Row 19)

The costs of labour, material and outside maintenance contracts for keeping the engines operational.

Maintenance Administration (Overhead) (Row 20)

All costs not accounted that are associated with the direct management and support of aircraft maintenance, including but not limited to accounting, personnel, management, material management and similar common services (engineering, quality, training).

Note: Direct and related indirect maintenance of *ground facilities* should be reported under the sub-category of Station and Ground (Row 28) titled: Passenger Related Charges (Row 26).

Third party work - Maintenance and Overhaul: where third party work provided by your airline for maintenance and overhaul is substantial, both the expenses and the revenues arising from such work should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenues from this expense category - and indicate that you have done so in the comments on your data.

Airport Charges (Total) (Row 25 – automatically calculated from rows 23 and 24)**Aircraft Related Charges (Row 23)**

Charges and fees paid for the use of runways, taxiways and ramp areas, including charges paid for the parking of aircraft and their housing in airport-owned hangars, noise charges and night surcharges, if imposed, and excluding fuel throughput charges. Fuel throughput charges should be reported under Fuel & Oil on Row 9.

Airport Related Passenger Charges (Row 24)

Charges and fees paid for the use of air terminal and other passenger processing facilities (e.g., for passengers embarked or disembarked), including security charges where charged by the airport. Exclude charges for aircraft ramp and traffic handling, which is performed on an agency basis by an airport authority. These should be reported under the sub-category of Station and Ground (Row 28) titled: Passenger Related Charges (Row 26). Also exclude government imposed insurance surcharges, which should be reported under Load Insurance on Row 34.

Station and Ground *(Row 28 automatically calculated from rows 26 and 27)*

Station and Ground expenses includes items such as: pay, allowances and expenses of all station staff engaged in handling and servicing aircraft and load, including flight supervisors, dispatchers and ground radio operators; station accommodation costs; maintenance and insurance of airport facilities, where separately assessed; representation and traffic handling fees charged by third parties for handling the air services of the air carrier; station store charges, including local duties on equipment, transportation, packing and materials, rental of stores, storekeepers' pay, allowance and expenses, etc.

The 'Station and Ground' cost category is divided into two sub-categories: Passenger; and Cargo Handling. All 'Station and Ground' expenses (referenced above) pertaining to passengers and their baggage handling should be reported in the 'Passenger' section (Row 26). Whilst all expenses pertaining to cargo handling, including the 'Trucking' and 'Warehouse' expenses should be reported in "Cargo" section (Row 27). For more details on 'Trucking' and 'Warehouse' expenses, please refer below.

Cargo Handling – Warehouse

All expenses incurred whilst receiving freight, managing pallets and storing them in a facility. It also includes cost of operated stations; domestically and internationally, as well as the charges carriers pay to third parties for providing these services where needed (off-line stations, charter stations etc.).

Cargo Handling – Trucking

All expenses incurred whilst moving freight between stations, as well as to interline partners.

Do not include the cost of sales personnel employed at airports and associated costs, which should be included under Reservation, Ticketing, Sales and Promotion (Row 40).

Do not include the cost of Flight Deck Crew administration, planning and scheduling which is included on Row 8.

Third party work - Station and Ground: where third party work provided by your airline for Station and Ground operations is substantial, both the expenses and the revenues

arising from such work should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenues from this category - and indicate that you have done so in the comments on your data.

System Operating Expenses (Cell C47 – automatically calculated from cells C32, C39 – C41, and C46)

Please report the total values for the airline here. Also make sure that the reported Total Airline Operating Revenue relates directly to the core air transport operations only (passengers and cargo). If the air carrier is part of a group of companies encompassing other related activities, such as aircraft maintenance (“MRO”), catering, and reservation systems, etc., only the activities pertaining to the air carrier should be reported here (the reported data scope should match the data scope of reported Total Airline Operating Revenue in Form 1).

Cabin Attendants (Cell C32)

Includes pay and allowances, pensions, insurance, travelling and other similar expenses (uniforms, etc.) of cabin crew. Training costs of cabin crew (whether amortized or not) are also included here.

Pay as outlined above, includes all; payroll, overtime, shift pay, and any other bonus or productivity related pay connected with employment. It also includes employer social insurance costs, contributions to pension funds, and any other employment related costs, which are the responsibility of the employer.

“Allowances” as outlined above include all indirect expenses incurred in connection with cabin attendants commercial flight operations, including accommodation, subsistence, meals, per diem allowances, transport and uniform costs etc.

Passenger Service (Cell C39 – automatically calculated from cells C33 – C35, and C38)

Catering Cost (Cell C33)

Cost of flight kitchens (cost associated with In-flight Catering operations), meals and accommodation, including the cost of supplies and personal services furnished to passengers.

Load Insurance (Passenger + Cargo) (Cell C34)

Premiums for cargo liability insurance, premiums for passenger liability insurance and passenger accident insurance paid by the airline, and also includes government imposed insurance surcharges.

Passenger Inconvenience Cost (Cell C35 – automatically calculated from cells C36 and C37)

Expense of handling passengers incurred because of interrupted flights, including hotels, meals, taxi fares, passenger compensation and other expense items.

In the light of new regulations being brought about whereby airlines shall be required to pay considerable compensation to customers in case of cancellations and delays, the 'Passenger Inconvenience Cost' category is divided into two sub-categories namely: 'Legal Penalties/regulatory compensation (for example EU261) (Row 36); and Expenses for meals/hotels/taxi fares (Row 37).

The participant airlines are advised to report for each of the two sub-categories separately.

Furthermore, the loyalty program redemptions are NOT to be reported in any of the above two categories.

Other Passenger Services (Cell C38)

Includes the cost of other services provided to passengers (for example providing information and services at airport terminals, such as check-in counter and gate agents, baggage claim, unaccompanied minors, wheelchair assistance, etc.), namely pay, allowances and expenses of passenger service personnel, and all other services provided for the comfort of passengers in transit.

“Pay” as outlined above includes all; payroll, overtime, shift pay, and any other bonus or productivity related pay connected with employment in Passenger Services. It also includes employer social insurance costs, contributions to pension funds, and any other employment related costs, which are the responsibility of the employer.

“Allowances” as outlined above include all indirect and overhead expenses incurred in connection with Passenger Service operations, which mainly relates to In-flight Catering operations, including accommodation, subsistence, meals, per diem allowances, transport and uniform costs, etc.

Third party work - Passenger Service: where third party work provided by your airline for Passenger Services is substantial, both the expenses and the revenues arising from such work should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenues from this expense category - and indicate that you have done so in the comments on your data.

Reservation, Ticketing, Sales and Promotion (Cell C40)

Include the sum of the following items:

Commission Expenses

The net commission payable to others for the sale of transportation on the carrier's service less the commission receivable from the carrier's sale of transportation on other air carriers' services.

Other Expenses

Pay, allowances and related expenses of all staff engaged in reservations, ticketing and sales, scheduling, tariffs, marketing, custom services, commercial and public relations activities; accommodation costs; agency fees for outside services; advertising and publicity through various media, and expenses related thereto.

Third party work – Reservation, Ticketing, Sales and Promotion: where third party work provided by your airline for these functions is substantial, both the expenses and the revenues arising from such work should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenues from this cost category - and indicate that you have done so in the comments on your data.

IT and Communications (Cell C41)

Costs of IT such as hardware, software, labour, development of new systems, outsourced services, data warehousing and web related IT, and the costs of communications such as networks (including data, telephone, voice over IP), satellite communications, datalink, and SITA.

General and Administrative (Cell C46 – automatically calculated from cells C42 – C45)

Includes expenses incurred in performing the general and administrative functions of the air carrier and those expenses relating to matters of a general corporate nature, whether separately assessed or apportioned in conformity with the air carrier's accounting practices. Overhead costs directly related to other functions (flight operations, station and ground, maintenance and overhaul, passenger services, and reservation, ticketing, sales and promotion) are not included here.

Similarly, costs that are General and Administrative by nature shall only be reported here and not allocated to other functions as overheads.

Third party work - General and Administrative: where third party work provided by your airline in the field of consultancy / training using head office staff is substantial, these expenses and revenues should be excluded from the reported data. If you are unable to do this, because the cost of providing the service cannot be identified, then deduct the gross revenues from this cost category - and indicate that you have done so in the comments on your data.

Finance (Cell C42)

Expenses incurred in all aspects of finance, such as financial analysis and planning, financial and management accounting, cost control, corporate finance, treasury etc.

Human Resources (Cell C43)

Expenses incurred in activities relating to employees, including recruitment and hiring, orientation of new employees, retention of staff and employee relations.

Procurement (Cell C44)

Expenses incurred in obtaining or buying goods and services for the airline, in areas such as purchase planning, price negotiation, supply chain and material management, inventory control etc.

Other (Cell C45)

All expenses not captured under the above general and administrative categories, such as expenses incurred by the senior management team, safety and security, legal and general counsel, government affairs, facility management.

All other operating expenses related to the core activities not covered under any other cost categories should be captured here. Operating expenses **NOT** related to the core activities should be excluded here and reported under Incidental transport-related operating expenses in cell C50.

Exclude also all non-operating expenses, such as capital interest expense, fuel and oil “hedging” gain/loss, foreign exchange gain/loss, etc.

The only two non-operating categories which should be reported under Form 1 are:

- *Fuel and oil hedging gain(loss)* in Row 11
- *Foreign exchange gain(loss)* in Row 12

Total Operating Expenses (Cell C49 – automatically calculated from C14, C29 and C47)

This value should essentially reconcile to the Management Accounts “Operating Costs” except for those items that are to be excluded, or otherwise reported, as per the Definitions. e.g. the direct, indirect or overhead costs for services carried out for third parties by the reporting airline.

Incidental transport-related operating expenses are not included here, as they are associated with the non-core revenues received and reported under Other Operating Revenue.

Please note that Total Operating Expenses per aircraft type do not include System Operating Expenses as those are difficult to allocate under respective aircraft types.

Incidental transport-related operating expenses (associated with Other Operating Revenues reported in Form 1) (Cell C50)

Operating expenses associated with **only** the Incidental transport-related portion of Other Operating Revenues. Payments made for capacity equalization arising from pooled services are included here.

Exclude all non-operating expenses, such as capital interest expense, fuel and oil “hedging” gain/loss, foreign exchange gain/loss, etc.

The only two non-operating categories which should be reported under Form 1 are:

- *Fuel and oil hedging gain(loss)* in Row 11
- *Foreign exchange gain(loss)* in Row 12

4.4 Definitions - Form 2: Traffic/Capacity

Various types of commercial agreements between two or more carriers (blocked space Code Shares, blocked space Agreements -BSA- or Joint Operations except Free Flow Code Shares) should be treated as outlined below.

– Blocked Space Agreements

The submitting carrier reports when he is the: Operating Carrier

Under Capacity

The ASKs, ATKs of own capacity retained, e.g. the whole aircraft less the capacity sold to the Marketing Carrier

Under RPK

The RPKs relating to own capacity retained, e.g. the whole aircraft less the traffic sold by the Marketing Carrier

The submitting carrier reports when he is the: Marketing Carrier

Under Capacity

The saleable capacity purchased (ASKs, ATKs) from the Operating carrier, otherwise report total ASKs / ATKs purchased.

Under RPK

The RPKs of own capacity retained, e.g. the sold traffic relating to the purchasable capacity to the Operating Carrier

– **Free Flow Code Shares**

The submitting carrier reports when he is the: Operating Carrier

Under Capacity:

The ASKs, ATKs of the whole aircraft

Under RPK

The RPKs of the performed flight

The submitting carrier reports when he is the: Marketing Carrier

Under Capacity

No entries are required

Under RPK

No entries are required

Revenue Passenger-Kilometres – Total (Thousands) (Row 54)

Revenue Passenger-Kilometres equals the sum of the products obtained by multiplying the number of revenue passengers carried on each flight stage by the stage distance. **Number of Revenue Passengers Carried** is defined in paragraph 4.6.

Available Seat-Kilometres – Total (Thousands) (Row 55)

A seat-kilometre is available when a seat is flown one kilometre. Seat-kilometres available are equal to the sum of the products obtained by multiplying the number of passenger seats available for sale on each flight stage by the stage distance. It excludes seats not available for the carriage of passengers because of the mass of fuel or other loads.

Revenue Tonne-Kilometres (Thousands)

Revenue Tonne-Kilometres - Passenger - incl. Baggage (Thousands) (Row 56)

Revenue Tonne-Kilometres - Passenger are obtained by applying a standard mass per passenger, including normal and excess baggage, to the revenue passenger-kilometres performed. The airline should apply its own standard mass that is most appropriate for its average passenger profile and operational conditions

Revenue Tonne-Kilometres – Cargo – incl. Mail (Thousands) (Row 57)

Revenue Tonne-Kilometres – Cargo equal the sum of the products obtained by multiplying the number of tonnes of freight and mail carried for revenue on each flight stage by the stage distance. Excludes passenger baggage.

Revenue Tonne-Kilometres - Total (Thousands) (Row 58 – automatically calculated from rows 56 and 57)

Sum of Passenger and Cargo Revenue Tonne-Kilometres.

Available Tonne-Kilometres (Thousands)**Available Tonne-Kilometres - Total (Thousands) (Row 59)**

Capacity in terms of available tonne-kilometres based on the average total payload (above and below deck) per aircraft available for the carriage of revenue load (passengers, baggage, freight and mail), taking into account payload restrictions where applicable, and operational restrictions on the supply of capacity.

Where operational restrictions apply for freight handling, a maximum of one tonne for cargo allowance (not including baggage) should be applied where applicable. For calculations see Appendix 2 and Appendix 3.

4.5 Definitions - Form 2: Operational Data**Fuel Consumption (Kg) (Row 64)**

Total fuel consumption in kilograms, corresponding to the Fuel and Oil expenses reported under Row 9 above.

Aircraft Kilometres Flown (Row 65)

Total kilometres flown by aircraft type in revenue service. This information should correspond to reported seat-kilometres and tonne-kilometres units as detailed in Rows 54 to 59.

Aircraft Landings (Row 66)

Number of aircraft landings, including operational and fuel stops in revenue services.

Aircraft Block Hours (Row 67)

'Block Hour' is defined from the moment the aircraft for a revenue flight is pushed back from the gate or starts taxiing from its parking stand for take-off to the moment it comes to a final stop at a gate or parking stand after landing (equal to the flight time for the flight plus the taxi time). This total is for aircraft and is **not** the same as Total Crew Block Hours per year.

Aircraft Flight Hours (Row 68)

Number of total hours flown. An hour flown is computed from the moment the aircraft leaves the ground until it touches the ground again at the end of the flight. It may also be expressed as take-off to touchdown, or wheels-off to wheels-on time.

Available Days (Row 69)

Number of days the aircraft is available for use during the period in question, excluding the following:

- days between the date of purchase and the date actually placed in service;
- days after its last revenue flight prior to disposal;
- days out of service due to major accident or conversion;
- days when an aircraft is in the possession of others or not available due to government action such as grounding by government regulatory agencies.

All other days must be considered as "days available", including days required for maintenance or overhaul.

Average Aircraft Daily Utilization (Hours per day) (Row 70 – automatically calculated from rows 68 and 69)

The weighted average of flight hours divided by available days.

Active Aircraft (Row 71)

Number of aircraft that are in service or in maintenance.

Non-Active Aircraft (Row 72)

Number of aircraft that have been removed from operations, not for maintenance reasons but for economic reasons.

Total Number of Aircraft (Row 73 – automatically calculated from rows 71 and 72)

The sum of active and non-active aircraft.

Average Fleet Age (Row 74)

Average age of aircraft in the same fleet as of the last day of the airline's financial year. The total value is an automatic weighted average calculation based on the quantity of respective active aircraft types.

4.6 Definitions - Form 2: Operational Performance Data

Please report the total values for the airline.

Number of Revenue Passengers Carried (Cell C79)

Number of passengers for whose transportation an air carrier receives commercial remuneration.

Includes, for example:

- passengers travelling under publicly available promotional offers (for example "two-for-one") or loyalty programmes (for example, redemption for frequent flyer points);
- passengers travelling as compensation for denied boarding;
- passengers travelling at corporate discounts;
- passengers travelling on preferential fares (government, seamen, military, youth, student, etc.)

Excludes for example:

- persons travelling free;
- persons travelling at a fare or discount available only to employees of air carriers or their agents or only for travel business of the carriers;
- infants who do not occupy a seat.

Missed (Passenger) Connections (Cell C80)

The number of one-stop passengers who missed their connections (due to delays on the first flight in their itinerary).

Total Number of Connecting Passengers (Cell C81)

The total number of one-stop passengers. A passenger travelling on a flight with one flight number that makes a stop at an intermediate point is **not** a connecting passenger.

Misconnection Rate (Cell C82 – automatically calculated from cells C80 and C81)

The ratio between the number of missed (passenger) connections and the total number of connecting passengers, expressed as a percentage.

Mishandled Bags (Cell C83)

Checked baggage that is delayed, damaged, pilfered, lost or stolen in a year.

Total Number of Bags (Cell C84)

The total number of checked bags transported in a year.

Mishandled Bags Rate (Cell 85 – automatically calculated from cells C83 and C84)

The ratio between the number of checked baggage that is delayed, damaged, pilfered, lost or stolen and the total number of checked bags transported in a year.

Cancellations Prior to Scheduled Departure (Cell C86)

Total number of flights that were listed in a carrier's computer reservation system during the seven calendar days prior to scheduled departure and were cancelled **prior to** scheduled departure.

Cancellations After Scheduled Departure (following a delay) (Cell C87)

Total number of flights that were listed in a carrier's computer reservation system during the seven calendar days prior to scheduled departure and were cancelled **after** scheduled departure following a flight delay.

Total Flight Cancellations (Cell C88 – automatically calculated from cells C86 and C87)

Total number of flights that were listed in a carrier's computer reservation system during the seven calendar days prior to scheduled departure but were not operated.

On-Time Performance**D0 (On-Time Departure) (Cell C90)**

Percentage of all flights that depart on time, including early departures.

D15 (Departure with a delay of 15 minutes and less) (Cell C91)

Percentage of all flights that depart with a delay of 15 minutes and less, including early departures. D0 is included here.

D90 (Departure with a delay of 90 minutes and less) (Cell C92)

Percentage of all flights that depart with a delay of 90 minutes and less, including early departures. D0 and D15 is included here.

A0 (On-Time Arrival) (Cell C95)

Percentage of all flights that arrive on time, including early arrivals.

A15 (Arrival with a delay of 15 minutes and less) (Cell C96)

Percentage of all flights that arrive with a delay of 15 minutes and less, including early arrivals. A0 is included here.

A90 (Arrival with a delay of 90 minutes and less) (Cell C97)

Percentage of all flights that arrive with a delay of 90 minutes and less, including early arrivals. A0 and A15 is included here.

* * *

APPENDICES

Appendix	Page
1. Leased asset calculations	38
2. Capacity calculations:	39
i. Available Seat-Kms by class of service	
ii. Available Tonne-Kms - calculation guidelines	
3. Volume Equivalent Payload - calculation guidelines	42

APPENDIX 1: LEASED ASSET CALCULATIONS

As indicated in paragraph 2.5, lease financed aircraft should be considered as owned aircraft for Airline Cost Management Group reporting. The following example shows how to calculate aircraft asset values, depreciation and interest for reporting on Form 2:

LEASE ACCOUNT	1 Balance at beginning of year	2 Interest added at 9% on col. 1 balance	3 Lease payments	4 Capital re-payments ⁽²⁾	5 Closing balance
Year 1	10.000 ⁽¹⁾	0.900	(1.284)	0.384	9.616
2	9.616	0.865	(1.284)	0.419	9.197
3	9.197	0.828	(1.284)	0.456	8.741
4	8.741	0.787	(1.284)	0.497	8.244
5	8.244	0.742	(1.284)	0.542	7.702
6	7.702	0.693	(1.284)	0.591	7.111
7	7.111	0.640	(1.284)	0.644	6.467
8	6.467	0.582	(1.284)	0.702	5.765
9	5.765	0.519	(1.284)	0.765	5.000
10	5.000	0.450	(1.284)	0.834	4.166
11	4.166	0.375	(1.284)	0.909	3.257
12	3.257	0.293	(1.284)	0.991	2.266
13	2.266	0.204	(1.284)	1.080	1.186
14	1.186	0.106	(1.284)	1.178	(0.008)
TOTALS		7.984	(17.976)		

NOTES: (1) Year 1 value is obtained by discounting at 9 per cent the fourteen lease payments of \$1.284m.

(2) Capital repaid in year = Column 1 - Column 5 OR Column 3 - Column 2.

ASSET ACCOUNT	1 Balance at beginning of year	2 Depreciation Charge (1/14)*	3 Written down value at year end
Year 1	10.000	0.714	9.286
2	9.286	0.714	8.572
3	8.572	0.714	7.858
etc.	7.858		

* Zero residual assumed. Depreciation could be other than fourteen years.

APPENDIX 2: CAPACITY CALCULATIONS

1. Available Tonne-Kilometres - paragraph 4.4 refers

- Available tonne-kilometres: the sum of the products obtained by multiplying the number of tonnes of capacity available (payload) for the carriage of revenue load (passengers, freight and mail) on each flight stage of a flight by the flight stage distance.
- Determination of the correct payload restrictions is important. To report capacity in excess of that actually available for sale would result in an understatement of unit costs. Payload restrictions may be due to:
 - aircraft limitations which are dependent upon stage length, runway length, airport altitude and temperature and aircraft equipment;
 - volumetric limitations such as passengers and baggage, and much freight, which is below the maximum density at which the aircraft can be loaded.
- Payload capacities cannot exceed the difference between the zero fuel weight allowed and the operators weight empty (the weight of the aircraft prepared for service, including crew, equipment and catering).
 - For example, taking a Boeing 707, the zero fuel weight limit is 86,300 kgs and the prepared for service weight is 62,500 kgs, giving a theoretical maximum payload of 23,800 kgs.
 - In most cases, however, there is a volumetric limitation. In an all-economy version the payload for the aircraft would work out as follows:

weight of passengers	168Y at 70 kgs		11,760 kgs
weight of baggage	168Y at 20 kgs	3,360	
weight available for other cargo*		<u>3,640</u>	
total in holds			<u>7,000 kgs</u>
maximum volumetric payload			18,760 kgs
* For example, 22.6 cubic metres available with an estimated cargo density of 161 kgs per cubic metre			

- Below is the case where the payload available is sufficient to cover the volumetric of the mixed version. For example, the 32F + 96E version payload would be made up as follows:

weight of passengers	32F at 70 kgs	2,240	
	96Y at 70 kgs	<u>6,720</u>	8,960 kgs
weight of baggage	32F at 30 kgs	960	
	96Y at 20 kgs	<u>1,920</u>	2,880
weight available for other cargo**			<u>4,120</u>
total in holds			<u>7,000</u> kgs
maximum volumetric payload			15,960 kgs
** For example, 25.6 cubic metres available with an estimated cargo density of 161 kgs per cubic metre.			

- Finally the payload available may have been limited due to operational reasons (altitude, temperature, etc.). Either assume a weight limitation of X kgs over a given stage for a mixed version or in the case of route areas where operational restrictions apply for freight handling, assume a maximum of one tonne for weight available for other cargo excluding baggage.

weight of passengers	32F at 70 kgs	2,240	
	96Y at 70 kgs	<u>6,720</u>	8,960 kgs
weight of baggage	32F at 30 kgs	960	
	96Y at 20 kgs	<u>1,920</u>	2,880 kgs
[theoretical weight available for other cargo			4,120 kgs]
assumed weight available for other cargo			1,000 kgs
assumed total in holds			3,880 kgs
[theoretical maximum volumetric payload			15,960 kgs]
assumed maximum volumetric payload			12,840 kgs

- It is important that, on Form 2 available seat kilometres are consistent with cargo tonne kilometres and total available tonne kilometres. The link between the two is the number of aircraft flight kilometres. This means that saleable seats per aircraft and the saleable aircraft tonne capacity must reflect the available payload and commercial restrictions (if any) for the aircraft type and route concerned.
- Those carriers who have no statistical figures available as to average passenger plus baggage weight may use 90 kgs. Similarly, those carriers which have no data on cargo density for their operations may use an estimated industry average of 161 kilogrammes per cubic metre.

2. Available Seat-Kilometres - paragraph 4.4 refers

The following method is recommended for calculation of intermediate and low class available seat-kilometres where a carrier has no internal method of doing so:

- When a movable cabin divider is used to split seating capacity between intermediate and low classes, carriers normally maintain records of first, intermediate and low class traffic but records of capacity may be limited to first and combined intermediate and low classes only. In these cases, the low class capacity should be derived from low class traffic and an assumed passenger load factor that is 10% higher than the combined intermediate and low class load factor. The intermediate class capacity is then the remaining capacity (i.e. combined intermediate and low minus the derived low class capacity). For example:

Known data:		
Traffic - RPKs	- intermediate	132,000
	- low class	398,000
Capacity - ASKs	- intermediate and low class combined	836,000
Passenger Load Factor	- intermediate and low class combined	63.4%
- Calculated data:		
Passenger Load Factor	- low class = 63.4% + 10%	69.7%
Capacity - ASKs	- low class = 398,000 div. by 0.697	571,000
Capacity - ASKs	- intermediate class = 836,000 - 571,000	265,000

APPENDIX 3: VOLUME EQUIVALENT PAYLOAD CALCULATION GUIDELINES

Calculation of Volume Equivalent Payload

1. Aircraft Volumes:

The following figures may be used for the theoretical "useable volume" for most of the aircraft types presently operated. These figures will be needed for the calculation of volume equivalent payload. Volume equivalent payload is in turn needed within the system for the calculation of cargo costs on passenger aircraft. Carriers basing their capacity calculations on different volume figures may use their own assessments. In case of a query, or figures on other aircraft types, contact the IATAACMG Secretariat.

Aircraft Types	Volume Cubic Metres	Aircraft Types	Volume Cubic Metres
A300	270	B757	186
A310	232	B767-200	198
A319	136	B767-300	261
A320	175	B777-200	559
A321	211	B777-300	687
A340-200	448	DC-8-50	207
A340-300	393	DC-8-61/63/71/73	295
B707	214	DC-8-62	226
B720	182	DC-9-10	78
B727-100	120	DC-9-30	118
B727-200	180	DC-9-50	135
B737-100	85	DC-10/30	435
B737-200	105	L-1011-1/100/200	435
B737-300	111	MD-80	170
B737-400	120		
B747	620		
B747SP	480		

2. Calculation example:

Boeing 707: Volume 214 cubic metres
 Density 161 kgs per cubic metre
 Volume equivalent payload = $\frac{214 \times 161}{1000} = 34.5$ tonnes

In the case of wholly containerised freight, please note that either the useable volume, or the density, should be reduced to reflect the fact that a certain unusable volume must result.