Malaysian
Aviation Commission
Suruhanjaya Penerbangan Malaysia
MAVCOM

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Guideline for the Regulation of Aviation Services Charges in Malaysia for Regulatory Period 2 (2027-2029)

26 March 2025

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1 General provisions

Title

1.1 These guidelines may be cited as the Guidelines for the Determination of Aviation Services Charges in Malaysia.

Application

1.2 These guidelines apply to aviation services provided by an airport operator.

Commencement

1.3 These guidelines shall come into operation on the day notified by the Commission.

Interpretation

1.4 In this guideline, unless the context otherwise requires:

a) references to clauses and sub-clauses are to clauses and sub-clauses of this guideline;

b) a word which denotes the singular also denotes the plural and vice versa;

c) where a word or phrase is defined, other parts of speech and grammatical forms of that word and phrase shall have the corresponding meaning;

d) references to any legislation or to any provision of any legislation shall include any modification or re-enactment of that legislation or any legislative provision substituted for, and all regulations and statutory instruments issued under, such legislation or provision;

e) any reference to a 'day', 'week', 'month' or 'year' is to that day, week, month or year in accordance with the Gregorian calendar;

f) if any period of time is specified from a given day or the day or a given act or event, it is to be calculated exclusive of that day, and if any period of time falls on a day which is not a Government work day, that period is to be deemed to only expire on the next Government working day;

g) any reference to 'MAVCOM' or the 'Commission' means any department, commission, agency, board, authority, ministry or organisation of the Government as may be determined as its successor-in-title; and

h) examples in this guideline are for guidance purposes only and shall not affect any application of the guideline.

PART A: AIRPORT OPERATORS UNDER FULL REGULATION

2 Application of this Part

Airport operators subject to full regulation

2.1 The Commission may make a determination that an airport operator is subject to full regulation under Part A of this Guideline.

2.2 If a Commission makes a determination under clause 2.1:

a) the Commission shall notify the relevant airport operator that it is subject to full regulation under Part A of this Guideline; and

b) Part A of this Guideline, covering section 2 to section 20 (inclusive), will apply to an airport operator that is notified by the Commission under clause 2.2(a).

3 Regulatory determinations for aviation services

Making of regulatory determinations

3.1 The Commission will make a regulatory determination for each airport operator specifying the following matters for a regulatory period:

a) the regulatory till that will apply to the airport operator;

b) the airport operator's annual revenue requirement for each year of the regulatory period;

c) the airport operator's average price cap for each year of the regulatory period;

d) how any applicable opex ECS and capex ECS is to apply to the airport operator;

e) the commencement and length of the regulatory period; and

f) any amounts, values or inputs on which the Commission's determination is based.

Determining the regulatory period

3.2 The Commission will determine the length of the regulatory period at least six months before the airport operator is required to submit its regulatory proposal.

3.3 If the regulatory period is not specified by the Commission in accordance with paragraph 3.2, a three-year regulatory period will be adopted.

4 Regulatory till

Specifying the type of regulatory till

4.1 The Commission will specify the type of regulatory till that will apply to the airport operator at least six months before the airport operator is required to submit its regulatory proposal.

4.2 If the regulatory till is not specified by the Commission in accordance with clause 4.1, the Commission will determine the regulatory till by applying the following criteria (**regulatory till criteria**):

a) include all activities of an airport operator that are related to the provision of aviation services (**aeronautical activities**);

b) include any other activities of an airport operator that are provided at an airport, or in close proximity to an airport provided that there is a clear relationship between the revenue generated by that activity and traffic at the airport, including but not limited to retail concessions, food and beverage outlets, vehicle rentals, advertising, parking, hotels, and property development (**non-aeronautical activities**); and

c) exclude any other activities of an airport operator that are not associated with an airport in Malaysia and for which there is no clear relationship between the revenue generated by that activity and traffic at the airport (**excluded activities**).

Submission of a regulatory till proposal

4.3 A regulatory proposal must include a regulatory till proposal for the relevant regulatory period. A regulatory till proposal must be prepared in accordance with clause 20.2.

Approval of a regulatory till proposal

4.4 The Commission will accept the regulatory till proposed by an airport operator if the Commission is satisfied that the proposed regulatory till reasonably reflects:

a) the regulatory till criteria set out in clause 4.2; or

b) if the Commission specifies an alternative regulatory till for the relevant regulatory period under clause 4.1, the alternative regulatory till specified by the Commission.

4.5 If the Commission is not satisfied as referred to in clause 4.4, the Commission will not accept the regulatory till proposed by the airport operator and will instead determine the regulatory till that it considers reasonably reflects:

a) the regulatory till criteria set out in clause 4.2; or

b) if the Commission specifies an alternative regulatory till for the relevant regulatory period under clause 4.1, the alternative regulatory till specified by the Commission.

5 Cost allocation

Principles for allocating costs

5.1 The following principles constitute the cost allocation principles:

a) the detailed principles and policies used by an airport operator to allocate costs between different categories of services must be described in sufficient detail to enable the Commission to replicate reported outcomes through the application of those principles and policies;

b) the allocation of costs must be determined according to the substance of a transaction or event rather than its legal form;

c) costs that are directly attributable to a particular category of service must be attributed to that category of service;

d) shared costs must be allocated to services on a causation basis, unless establishing a causal relationship would require undue cost or effort, in which case, the costs will be allocated using a method that accords with well-accepted cost allocation methodologies;

e) for any cost allocation method which is used, the reasons for using that method and the numeric quantity (if any) of the chosen allocator must be clearly described;

f) all costs for activities within the regulatory till accepted by the Commission in accordance with Clause 4.4 or otherwise determined by the Commission in accordance with clause 4.5 must be allocated;

g) the same cost must not be allocated more than once; and

h) costs which have been allocated to a particular service cannot be reallocated to another service during the course of a regulatory period.

5.2 For the purposes of clause 5.1:

a) costs are directly attributable to a particular category of service if they are specific to, and can be identified as belonging to, that category of service; and

b) shared costs are costs that are not specific to one category of service, or which cannot be directly assigned to a specific category of service.

Approving a cost allocation methodology

5.3 Each airport operator must submit to the Commission a cost allocation method within 6 months of being required to do so by the Commission.

5.4 The cost allocation method proposed by the airport operator must give effect to and be consistent with the cost allocation principles set out in clause 5.1.

5.5 Following receipt of a cost allocation method submitted by an airport operator under clause 5.3, the Commission will decide to either:

a) accept the cost allocation method, which decision will only be made if the Commission is satisfied that the cost allocation method is consistent with the cost allocation principles set out in clause 5.1; or

b) reject the cost allocation method, which decision will only be made if the Commission is not satisfied that the cost allocation method is consistent with the cost allocation principles set out in clause 5.1.

5.6 A decision by the Commission under clause 4.5 will be made within 6 months of its submission, or any later time as notified by the Commission to the airport operator.

5.7 If the Commission rejects a cost allocation method under clause 5.5(b), the Commission will provide a statement setting out the reasons for the rejection and explaining the changes to the cost allocation method that the Commission considers is required to meet the cost allocation principles.

5.8 An airport operator may, with the Commission's approval, amend its cost allocation method from time to time but:

a) the amendment may be approved on condition that the airport operator agrees to incorporate specified additional changes to the cost allocation method that the Commission considers necessary or desirable as a result of the amendment submitted; and

b) if approved on such condition, the amendment does not take effect unless and until the airport operator notifies the Commission of its agreement.

5.9 An airport operator must amend its cost allocation method where the amendment is required to take into account any changes to the cost allocation principles, but any such amendment only comes into effect:

a) on the date that the Commission approves that amendment; and

b) subject to any specified additional changes to the cost allocation method that the Commission considers necessary or desirable as a result of the amendment submitted

5.10 An airport operator must maintain a current copy of its cost allocation method on its website.

6 Allowed annual revenues

Calculation of revenue requirement

6.1 The revenue requirement for an airport operator for each year of a regulatory period must be determined using a building block approach using the formula below:

$$Revenue\ requirement_{i,r} = \frac{opex_{i,r} + roc_{i,r} + depn_{i,r} + tax_{i,r} + opex\ ECS_{i,r} + capex\ ECS_{i,r} - nonaero_{i,r} - indexDCB_{i,r} + CODTU_{i,r} + InfTU_{i,r}}{(1+\pi_r)^{i-i_1}}$$

Where:

r is the regulatory period;

i is a year within the regulatory period;

i_1 is the first regulatory year of regulatory period r;

$opex_{i,r}$ is the forecast prudent and efficient operating expenditure for the airport operator in year i of regulatory period r, as calculated in accordance with section 10;

$roc_{i,r}$ is the allowed return on capital for the airport operator in year i of regulatory period r, calculated by applying the allowed rate of return (determined in accordance with section 11) to the sum of the opening DCB in regulatory year i of regulatory period r and 50 percent of the forecast net capex in regulatory year i of regulatory period r;

$depn_{i,r}$ is the regulatory depreciation allowance for the airport operator in year i of regulatory period r, as calculated in accordance with section 12;

$tax_{i,r}$ is the regulatory corporate income tax allowance for the airport operator in year i of regulatory period r, as calculated in accordance with section 13;

$opex\ ECS_{i,r}$ is the revenue increments or decrements (if any) arising from the application of the opex ECS for the airport operator in year i of regulatory period r, as calculated in accordance with section 14;

$capex\ ECS_{i,r}$ is the revenue increments or decrements (if any) arising from the application of the capex ECS for the airport operator in year i of regulatory period r, as calculated in accordance with section 15;

$nonaero_{i,r}$ is the estimated non-aeronautical revenue of the airport operator in year i of regulatory period r, as calculated in accordance with section 16;

$indexDCB_{i,r}$ is the indexation of the opening DCB for the airport operator in year i of regulatory period r, calculated as the opening DCB in each year multiplied by the forecast average annual rate of CPI over the regulatory period;

$CODTU_{i,r}$ is the cost of debt true-up relevant to regulatory period r as set out in clause 11.24

$InfTU_{i,r}$ is the inflation true-up relevant to regulatory period r as set out in clause 7.10

π_r is the forecast average annual rate of CPI over regulatory period r.

6.2 The forecast average annual rate of CPI inflation over the regulatory period will be calculated using the following formula:

$$\pi_r = \left(\prod_{i=i_1}^{I}(1+\pi_i)\right)^{\frac{1}{I+1-i_1}} - 1$$

Where:

π_i is a forecast of the annual rate of headline CPI inflation for Malaysia over year i, published by Bank Negara Malaysia for any years where those forecasts are published, and for all other years, published in the IMF World Economic Outlook database as at year $i_1 - 1$; and

I is the final year of regulatory period r.

7 Allowed tariffs

Determination of allowed average tariff

7.1 The allowed average tariff for each year of the relevant regulatory period must be determined by applying the following formula:

$$Allowed\ average\ tariff_{i,r} = \frac{PV\ of\ Revenue\ requirement_r}{PV\ of\ real\ Forecast\ passengers_r} \times (1 + \pi_r)^{i - i_1}$$

Where:

π_r is the forecast average annual rate of CPI inflation over regulatory period r;

i_1 is the first year of regulatory period r;

$PV\ of\ Revenue\ requirement_r$ is the present value of the revenue requirement for the airport operator in regulatory period r, calculated as follows:

$$PV\ of\ Revenue\ requirement_r = \sum_{i=i_1}^{I} \frac{Revenue\ requirement_{i,r}}{\left(1 + WACC_{i_1}\right)^{i+1-i_1}}$$

$$PV\ of\ real\ Forecast\ passengers_r = \sum_{i=i_1}^{I} \frac{Forecast\ passengers_{i,r}}{\left(1 + RealWACC_{i_1}\right)^{i+1-i_1}}$$

Where

$Revenue\ requirement_{i,r}$ is the revenue requirement regulatory year i in regulatory period r, calculated in accordance with clause 6.1;

$WACC_{i_1,r}$ is the allowed rate of return in the first year of regulatory period r;

$WACC_{i_1,r}$ is the real rate of return in the first year of regulatory period r, obtained by adjusting $WACC_{i_1,r}$ for forecast inflation π_r using the Fisher equation;

$Forecast\ passengers_{i,r}$ is the forecast of departing passengers, including transfer passengers, at airports operated by the airport operator in regulatory year i in regulatory period r;

Submission of a pricing proposal

7.2 A regulatory proposal must include a pricing proposal for the relevant regulatory period. A pricing proposal must:

a) be prepared in accordance with clause 20.6;

b) reasonably reflect the pricing principles set out in clause 7.7;

c) reasonably reflect any guidance provided by the Commission;

d) be based on reasonable forecasts.

Approval of a pricing proposal

7.3 The Commission will approval a pricing proposal if the Commission is satisfied that:

a) the pricing proposal has been prepared in accordance with clause 20.6;

b) the pricing proposal reasonably reflects the pricing principles set out in clause 7.7;

c) the pricing proposal reasonably reflects any guidance provided by the Commission;

d) all forecasts associated with the proposal are reasonable.

7.4 If the Commission is not satisfied as referred to in clause 7.3, the Commission will not accept the pricing proposal and:

a) may require the airport operator, within 10 business days after receiving notice of its determination, to re-submit the proposal with the amendments necessary to correct the deficiencies identified in the determination and (unless the Commission permits further amendments) no further amendments; or

b) the Commission may itself make the amendments necessary to correct the deficiencies.

7.5 If the airport operator fails to comply with a requirement under clause 7.4(a), or the resubmitted proposal fails to correct the deficiencies in the former proposal, the Commission may itself amend the proposal to bring it into conformity with the requirements in clause 7.2 for the relevant regulatory period.

Pricing proposal takes effect

7.6 An approved pricing proposal takes effect at the commencement of the first year of the regulatory period for which the determination is made.

Pricing principles

7.7 An airport operator’s tariffs must comply with the following principles (**pricing principles**):

a) In each year of the relevant regulatory period, the total revenue expected to be recovered by the airport operator across all tariffs divided by a forecast of departing passengers (including transfer passengers), must be less than or equal to the allowed average tariff for that regulatory year determined by the Commission under clause 7.1.

b) The revenue expected to be recovered from each tariff must, subject to sub-clause (c) and (d), reflect the airport operator's efficient costs of serving customers that are or may be charged that tariff.

c) To the extent that cross-subsidisation of costs between airports is required to recover the efficient costs of unprofitable airports, any such cross-subsidisation should minimise any distortions to the price signals for efficient usage of the relevant services.

d) Each proposed tariff set out in the proposal should be broadly consistent with the corresponding indicative pricing levels for that tariff from the previous regulatory year, or else any material differences between them have been adequately explained by the airport operator.

e) Domestic tariffs shall not materially increase on an annual basis, so as to sustain domestic air travel.

f) Tariff increases should be demonstrably linked to both cost drivers and improvements in service quality for customers that are or may be charged that tariff.

g) In the event that an airport operator proposes to introduce an airport development charge, it must take into consideration different tariff structures for passengers, including levying the airport development charge only on international passengers, to recover the cost of development at that airport.

h) The structure of each tariff must be reasonably capable of being understood by customers that are, or may be, charged that tariff (including in relation to how decisions about usage of services may affect the amounts paid by those customers).

i) The tariffs shall balance competing objectives, taking into consideration the following factors:

   i) passenger affordability

   ii) the ability of the airport operator to recover its efficient costs

   iii) airport service levels, which shall be commensurate with applicable tariffs.

Inflation true-up

7.8 The Commission is required to gazette regulated charges for each year of a regulatory period. As set out in clause 7.1 the Commission is to set an average price cap for each regulatory year.

7.9 The Commission will calculate at the end of the regulatory period the difference between the revenue allowance and the revenue allowance resulting by applying outturn inflation to the real revenue allowances:

$$Inflation\ shortfall_r = \sum_{i=i_1+1}^{n}\left(\prod_{j=i}^{n}(1+WACC_{j,r}\right)\left(AllowedRevenue_i \times \left(\frac{\prod_{k=i_1}^{i-1}(1+\pi_k)}{\prod_{k=i_1}^{i-1}(1+\pi_r)} - 1\right)\right)$$

Where:

r is the regulatory period

i is a year within the regulatory period

i_1 is the first year within the regulatory period

n is the final year regulatory period r

$WACC_{i,r}$ is the approved WACC for the airport operator in year i of regulatory period r calculated in accordance with section 11

π_r is the forecast rate of inflation for regulatory period r

π_k is the outturn rate of inflation for regulatory year i

7.10 The Commission will then calculate for the subsequent regulatory period s the inflation true-up amount, $Inflation\ true\text{-}up_s$, expressed as an annuity, so that:

$$Total\ inflation\ revenue\ shortfall_i = \sum_{j=j_1}^{m} \left(\prod_{k=j_1}^{j} \frac{1}{1 + WACC_{k,s}} \right) (Inflation\ true\text{-}up_s)$$

Where:

s is the subsequent regulatory period

j is a year within the regulatory period

j_1 is the first year within the regulatory period

m is the final year regulatory period r

$WACC_{j,s}$ is the approved WACC for the airport operator in year j of regulatory period s, calculated in accordance with section 11

8 Determined cost base

Initial value of assets

8.1 The initial value of assets in the determined cost base as at 1 January 2024 is RM9.713 billion (nominal terms).

8.2 No revaluation shall be applied to the initial value of assets.

Rolling forward the DCB between periods

8.3 The value of the determined cost base as at the beginning of the first year of a regulatory period must be calculated by adjusting the nominal value of the determined cost base as at the beginning of the first regulatory year of the immediately preceding regulatory period (the previous value) as follows:

a) The previous value of the DCB must be adjusted for the difference between:

i) the estimated capital expenditure for any part of a previous regulatory period where that estimated capital expenditure has been included in that value; and

ii) the actual capital expenditure for that part of the previous regulatory period.

This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure.

b) The previous value of the DCB must be increased by:

i) the amount of actual capital expenditure incurred during the previous regulatory period, except to the extent that any capital expenditure is disallowed in accordance with the ex-post review provisions in clauses 9.13 to 9.15 of these Guidelines;

ii) the amount of the estimated capital expenditure approved by the Commission in its previous regulatory determination for any part of the previous regulatory period for which actual capital expenditure is not available; and

iii) an amount necessary to maintain the real value of the determined cost base as at the beginning of the first year of a regulatory period by adjusting that value for actual inflation for each year that actual CPI data is available, and forecast inflation for each year that actual CPI data is not available.

c) The previous value of the DCB must be reduced by:

i) the disposal value of any asset where that asset has been disposed of during the previous regulatory period, which will be set at an amount that is equivalent to the book value of disposed assets and reasonably considering the fair value from the sale or transfer of assets by the Airport Operator to other parties;

ii) the value of any asset where that asset was previously used to provide regulatory services but is not to be used for that purpose for the relevant regulatory period;

iii) the amount of depreciation of the DCB during the previous regulatory period, calculated in accordance with the depreciation methodology applied by the Commission in its regulatory determination for the previous regulatory period but using actual capital expenditure and actual disposal values where these are available; and

iv) the value of any contributions, grants or subsidies from third parties that are of a capital or non-current nature.

8.4 Under paragraph 8.3(b), the previous value of the DCB must only be increased by actual or estimated capital expenditure to the extent that all such capital expenditure:

a) is properly allocated to the provision of regulated services in accordance with the cost allocation methodology set out in section 5; and

b) is funded by the airport operator and identified by either the airport operator or the Government of Malaysia as to be recovered through aviation service charges.

Rolling forward the DCB within a period

8.5 The value of the determined cost base as at the beginning of the second or subsequent year (the later year) in a regulatory period must be calculated by adjusting the value of the determined cost base as at the beginning of the immediately preceding regulatory year (the previous value) as follows:

a) The previous value of the determined cost base must be increased by:

i) the amount of forecast prudent and efficient capital expenditure accepted or substituted by the Commission for the previous year in accordance with clause 9.6 or clause 9.7 (as the case may be); and

ii) an amount necessary in each year to maintain the real value of the determined cost base as at the beginning of the first year of a regulatory period by adjusting that value for average forecast annual rate of inflation over the regulatory period; and

b) The previous value of the determined cost base must be reduced by:

i) the regulatory depreciation allowance included in the airport operator’s revenue requirement for the previous year as calculated in accordance with clause 12.1; and

ii) the disposal value of any asset included in that value where the asset is forecast to be disposed of during the previous year.

9 Capital expenditure

Submission of capital expenditure forecasts

9.1 A regulatory proposal must include the total forecast prudent and efficient capital expenditure for each year of the relevant regulatory period which the airport operator considers is required in order to do each of the following (the **capital expenditure objectives**):

a) meet or manage the expected demand for regulated services over the period;

b) comply with all applicable regulatory obligations or requirements associated with the provision of regulated aviation services, including in relation to the quality, reliability, safety or security of supply of aviation services and the civil aviation industry in Malaysia.

c) to the extent there is no applicable regulatory obligation or requirement in relation to the quality, reliability, safety or security of supply of aviation services; or the reliability and security of the civil aviation industry in Malaysia; to the extent required by users to:

i) maintain the quality, reliability, safety or security of supply of regulatory services; and

ii) improve the quality, reliability, safety or security of regulatory services.

9.2 A regulatory proposal must include a proposed **capital investment plan** for the relevant regulatory period which will be used to inform the Commissions review in accordance with clause 9.3.

9.3 The capital investment plan is to include:

a) an itemised list of all capex projects and programmes (for smaller projects or renewal-based expenditure), that the airport operator proposes to invest during the next regulatory period;

b) the estimated expenditure associated with each capital project or programme by each year of the next Regulatory Period, separating out any grants, subsidies, or other contributions from third parties that are of a capital or non-current nature, noting forecasts for capex must be based on the P50 estimate;

c) an explanation of the basis on which the capex for each project or programme has been estimated such as the unit costs and unit volumes of the project or programme with sufficient detail to enable the Commission to replicate and review the forecast;

d) the expected commissioning date of each project or programme;

e) a summary justification for each project or programme explaining the need and the alternatives considered and reasons such alternatives were not adopted, including where relevant evidence of customer and/or airline agreement on scope and budget; and

f) for discrete major capital projects or programmes, (i.e. that may contain multiple works or projects, for example ICT equipment upgrades) the Airport Operator is to provide a more detailed business cases.

g) Where relevant actual capital expenditure for the preceding control period for capex projects and programmes identified in clauses 9.3(a).

9.4 A business case is to include:

a) the project/programmes name and scope, and relevant major service and/or airport;

b) start and completion dates;

c) total capital cost (itemising any government contributions), and operating expenditure by year;

d) justification for the project, including details of the cost driver, problem or objectives of the project, including how the project aligns with the capital expenditure objective in clause 9.1 and any relevant evidence of customer and/or airline agreement on scope and budget;

e) justification for why this expenditure needs to occur in the relevant regulatory period;

f) details of alternative options considered for achieving the identified objectives and the approach used to identify the optimal solution. This should also include an assessment of a base case (either a 'business as usual' or 'do nothing' option);

g) an analysis of the risks associated with the selected option and plans to mitigate any identified risks;

h) details associated with the delivery of the project. This should include whether the project has (or will be) the subject of competitive tendering and any the incentive and penalty payment arrangements with contractors.

9.5 Capital expenditure forecasts must be provided in real terms.

Review of proposed capital expenditure

9.6 The Commission will accept the forecast of capital expenditure of an airport operator that is included in a regulatory proposal if the Commission is satisfied that the total of the forecast capital expenditure for the regulatory period reasonably reflects each of the following (the **capital expenditure criteria**):

a) the efficient costs of achieving the capital expenditure objectives; and

b) the costs that a prudent airport operator would require to achieve the capital expenditure objectives; and

c) a realistic expectation of the demand forecast, cost inputs and other relevant inputs required to achieve the capital expenditure objectives.

9.7 If the Commission is not satisfied, the Commission will not accept the forecast of capital expenditure of an airport operator that is included in a regulatory proposal, and will instead determine the forecast of capital expenditure that it considers reasonably reflects the capital expenditure criteria.

9.8 The Commission will determine the total amount of allowed capital expenditure for each year of the relevant regulatory period. The Commission's determination may be informed by the Investment Plan and the costs of individual projects and programmes, but the Commission will not set capex allowances for individual projects or programmes. The airport operator's actual capital expenditure may deviate from the Investment Plan without recourse to the Commission.

Limited ex-post review of capital expenditure

9.9 Prior to making a decision on the DCB as required by clause 8.3, the Commission may determine that the amount of capital expenditure as a result of which the previous value of the DCB would otherwise be increased should be reduced.

9.10 The Commission may only make a determination under paragraph 9.9 if any of the following requirements is satisfied:

a) **Overspending requirement** – The overspending requirement is satisfied where the sum of all capital expenditure incurred during the review period exceeds the sum of:

i) the forecast capital expenditure approved by the Commission for the review period; and

ii) any capital expenditure that is recovered by way of an approved pass through during the review period;

by more than the overspending threshold.

b) **Margin requirement** – The margin requirement is satisfied where the amount of the capital expenditure as a result of which the previous value of the DCB would otherwise be increased in accordance with clause 8.3 includes capital expenditure that represents a margin paid by the airport operator in circumstances where the margin is referable to arrangements that, in the opinion of the Commission, do not reflect arm's length terms.

c) **Capitalisation requirement** – The capitalisation requirement is satisfied where the amount of the capital expenditure as a result of which the previous value of the DCB would otherwise be increased in accordance with clause 8.3 includes expenditure that, under the airport operator's applicable capitalisation policy submitted to the Commission as part of a regulatory proposal, should have been treated as operating expenditure.

9.11 For the purposes of clause 9.10(a), the overspending threshold will be equal to 5% of:

a) the forecast capital expenditure approved by the Commission for the review period; and

b) any capital expenditure that is recovered by way of an approved pass through during the review period; or

c) any such alternative threshold determined by the Commission and set out in the Commission's determination for that regulatory period.

9.12 For the purposes of clause 9.11, 'review period' means:

a) the previous regulatory period (excluding the last regulatory year of that previous regulatory period); and

b) the last year of the regulatory period preceding the previous regulatory period.

9.13 Where the overspending requirement is satisfied, the Commission may determine that the amount of capital expenditure that the previous value of the DCB would otherwise be increased in accordance with clause 8.3 should be reduced by such amount as the Commission is satisfied corresponds to capital expenditure incurred during the review period that does not reasonably reflect the capital expenditure criteria.

9.14 Where the margin requirement is satisfied, the Commission may determine that the amount of capital expenditure that the previous value of the DCB would otherwise be increased in accordance with clause 8.3 should be reduced by such amount as the Commission is satisfied would not have been paid if the arrangements to which the margin is referable had been on arm's length terms.

9.15 Where the capitalisation requirement is satisfied, the Commission may determine that the amount of capital expenditure that the previous value of the DCB would otherwise be increased in accordance with clause 8.3 should be reduced by any or all of the amount of expenditure which should have been treated as operating expenditure.

10 Operating expenditure

Submission of operating expenditure forecasts

10.1 A regulatory proposal must include the total forecast prudent and efficient operating expenditure for the relevant regulatory period which the airport operator considers is required in order to do each of the following (the **operating expenditure objectives**):

a) meet or manage the expected demand for regulated services over the period;

b) comply with all applicable regulatory obligations or requirements associated with the provision of regulated services;

c) to the extent there is no applicable regulatory obligation or requirement in relation to:

i) the quality, reliability, safety or security of supply of regulatory services; or

ii) the reliability and security of the civil aviation industry in Malaysia;

to the extent required by users:

iii) maintain the quality, reliability, safety or security of supply of regulatory services; and

iv) maintain the reliability and security of the civil aviation industry in Malaysia; and

d) contribute to achieving emissions reduction targets through the supply of regulated services.

10.2 Operating expenditure forecasts must be provided in real terms.

Review of proposed operating expenditure

10.3 The Commission will accept the forecast of operating expenditure of an airport operator that is included in a regulatory proposal if the Commission is satisfied that the total of the forecast operating expenditure for the regulatory period reasonably reflects each of the following (the **operating expenditure criteria**):

a) the efficient costs of achieving the operating expenditure objectives; and

b) the costs that a prudent airport operator would require to achieve the operating expenditure objectives; and

c) a realistic expectation of the demand forecast, cost inputs and other relevant inputs required to achieve the operating expenditure objectives.

10.4 If the Commission is not satisfied as referred to in paragraph 10.3, the Commission will not accept the forecast of operating expenditure of an airport operator that is included in a regulatory proposal and will instead determine the forecast of operating expenditure that it considers reasonably reflects the operating expenditure criteria.

Calculation of forecast operating expenditure

10.5 The Commission considers that a base-step-trend approach should be the default approach for assessing forecast operating expenditure.

10.6 The Commission may assess some operating expenditure categories using other forecasting techniques if it considers that the base-step-trend approach will not produce a forecast of operating expenditure that reasonably reflects the operating expenditure criteria.

10.7 The determination of forecast operating expenditure under the base-step-trend approach will be undertaken using the following formula:

$$Opex_{i,r} = (A_f - efficiency\ adjustment\ ) \times (1 + rate\ of\ change_{i,r}) \pm step\ changes_{i,r}$$

Where:

r is the regulatory period

i is a year within the regulatory period

A_f is the estimated actual opex in the penultimate year of the current regulatory period

$efficiency\ adjustment$ is the difference between estimated actual opex in the penultimate year of the current regulatory period and the Commission's estimate of efficient opex in that year

$rate\ of\ change_{i,r}$ is the annual percentage rate of change in year i of regulatory period r

$step\ changes_{i,r}$ is the determined step change in year i of regulatory period r

10.8 In assessing forecast operating expenditure, the Commission may also consider and employ other available assessment or analytical methods commonly employed by regulators elsewhere to assess the reasonableness and efficiency of operating expenditure which includes but not limited to:

a) technical or engineering reviews, usually undertaken with the assistance of specialised technical consultants or experts, which may be used to prepare a 'bottom-up' estimate of forecast operating expenditure;

b) benchmarking, econometric, and statistical techniques that relate allowed costs to benchmarks established by reference to comparator entities; and

c) independent efficiency assessments relating to specific cost categories.

Determination of base operating expenditure

10.9 Base year operating expenditure will be the actual operating expenditure of the airport operator in the penultimate year of the current regulatory period.

10.10 If the Commission considers that base year operating expenditure does not reasonably reflect the operating expenditure criteria then the Commission will:

a) adjust base year operating expenditure so that it reasonably reflects the operating expenditure criteria; or

b) substitute operating expenditure in another year that reasonably reflects the operating expenditure criteria.

10.11 The Commission will adjust base year operating expenditure to remove one-off or non-recurrent items to ensure that it is representative of ongoing operating expenditure.

Determination of the rate of change

10.12 The Commission will trend base year operating expenditure forward to the final year of the relevant regulatory period by applying an annual rate of change.

10.13 The rate of change may include the following factors:

a) Real cost escalations. The forecast real price changes of operating expenditure components that are likely to change at a rate that is significantly different to CPI. This may include, but is not limited to, employee costs.

b) Output growth. The forecast rate of change in operating expenditure resulting from changes in the type and volume of regulated services provided by the airport operator. This may include, but is not limited to, changes in operating expenditure that arise from changes in the number of flights and passengers.

c) Productivity rate. The forecast improvement in the productivity of the airport operator.

10.14 In determining the forecast productivity rate, the Commission may consider the following:

a) the historical rates of productivity improvement achieved by the airport operator; and

b) assessments made for airport operators in other countries with similar incentive based regulatory regimes.

Determination of step changes

10.15 Step changes may be added or subtracted for any other costs not captured in base year operating expenditure or the rate of change.

10.16 Step changes may include:

a) forecast operating expenditure from externally imposed changes to the scope of regulated services provided by an airport operator;

b) forecast operating expenditure from externally imposed charges or changes in accounting policies that result in a change in capitalisation for a material expenditure item;

c) significant operating expenditure that are known to not occur regularly or according to periodic cycles; and

d) other significant operating expenditure that would meet the operating expenditure criteria but are not otherwise captured in base opex or the rate of change.

11 Rate of return

Calculation of the allowed rate of return

11.1 The Commission will set the allowed rate of return for MAHB in each year equal to the nominal 'vanilla' Weighed Average Cost of Capital:

$$WACC_{i,r} = Cost\ of\ equity_r \times (1 - Gearing_r) + Cost\ of\ debt_{i,r} \times Gearing_r,$$

Where:

r is the regulatory period

i is a regulatory year within r

$Cost\ of\ equity$ is the post-tax allowed cost of equity capital

$Cost\ of\ debt$ is the pre-tax allowed cost of debt capital

$Gearing$ is the allowed benchmark gearing for the airport operator

11.2 The pre-tax allowed cost of debt capital and, consequently, the allowed rate of return, will be updated annually within each regulatory period.

Allowed post-tax cost of equity

11.3 The allowed post-tax cost of equity for a regulatory period will be determined using the Capital Asset Pricing Model (CAPM):

$$Cost\ of\ equity_r = r_{f,r} + \beta_r \times MRP_r$$

Where:

r is the regulatory period

r_f is the Commission's estimate of the risk-free rate

β is the Commission's estimate of the equity beta (re-levered using the allowed benchmark gearing) for the airport operator

MRP is the Commission's estimate of the market risk premium for Malaysia

Risk-free rate

11.4 The Commission's estimate of the risk-free rate will be determined as the equal-weighted average of the Commission's estimate of:

a) The prevailing risk-free rate; and

b) The long-term risk-free rate.

11.5 Both the prevailing risk-free rate and the long-term risk-free rate will be estimated using the historical daily yields on 10-year government bonds issued by sovereigns rated as Prime issuers by all three of the following rating agencies: Standard & Poor's (AAA), Moody's (Aaa) and Fitch (AAA).

11.6 The historical yields on the bonds issued by these sovereign Pime issuers will be averaged using equal weights.

11.7 The prevailing risk-free rate will be estimated using a historical averaging period of 20 consecutive business days as close as possible to the start of the regulatory period. This averaging period will be selected by the Commission.

11.8 The long-term risk-free rate will be estimated using the longest possible historical averaging period commencing 1 January 1995.

Market risk premium

11.9 The MRP will be estimated as follows:

$$MRP_r = 16.67\% \times HER_{1,r} + 33.33\% \times HER_{2,r} + 16.67\% \times TMR_{1,r} + 33.33\% \times TMR_{2,r}$$

Where:

r is the regulatory period

HER_1 is the long-term arithmetic average of historical excess return on the market for each of the Prime issuers used to estimate the risk-free rate, averaged across all such countries, *plus* an estimate of a country risk premium for Malaysia

HER_2 is the long-term arithmetic average of historical excess return on the market for Malaysia, adjusting for the average long-term historical difference between the yields on 10-year Malaysian government securities and the yields on 10-year government bonds issued by the Prime-issuers

TMR_1 is the equal-weighted average of the long-term arithmetic average real historical return for each of the Prime issuers, *plus* inflation expectations for each of those Prime issuers, *plus* an estimate of the country risk premium for Malaysia

TMR_2 is the long-term arithmetic average real historical return for Malaysia, *plus* inflation expectations for Malaysia

Equity beta

11.10 The Commission will estimate the equity beta using the returns data on a broad, international sample of listed companies engaged primarily in the ownership and operation of airport infrastructure.

11.11 The historical returns for each comparator will be regressed against the returns on a broad stock index of the country in which that comparator is listed. The resulting slope coefficient of that regression will be taken as an estimate of that comparator's raw equity beta.

11.12 Beta estimates will be estimated:

a) Using weekly and monthly returns data

b) For the latest 5-year historical estimation period, the latest 10-year historical estimation period, and the longest historical estimation period over which returns data are available.

11.13 The Commission will:

a) Exclude any historical returns observations from the regression with an Amihud ratio greater than 25. The Amihud ratio for each observation will be calculated using the following formula:

$$AR_{j,y} = \frac{1}{D_{j,y}} \sum_{d=1}^{D_{j,y}} \frac{|r_{j,y,d}|}{V_{j,y,d}},$$

Where:

j is the individual comparator firm

y is the returns interval used in the estimation (i.e., weekly or monthly)

d is the observation day within the relevant returns interval

$D_{j,y}$ is the number of observation days for which returns data are available for firm j within returns interval y

$r_{j,y,d}$ is the return on the stock for firm j on day d of within returns interval y

V is the respective daily trading volume expressed in US dollars (billions)

b) Require at least 36 months of valid historical returns data for the monthly frequency regressions or 144 weeks of valid historical returns data for the weekly frequency regressions

11.14 The estimated raw equity beta for each comparator will be re-levered using the allowed benchmark gearing according to the following formula:

$$\beta_{j,k} = \beta_{j,k}^{raw} \frac{1 - Gearing_{j,k}}{1 - Gearing_r}$$

Where:

r is the regulatory period

j is the individual comparator firm

k is the historical estimation period

β^{raw} is the raw (i.e., unlevered) estimated equity beta of the comparator firm

$Gearing_{j,k}$ is the average actual gearing (calculated using the market capitalisation value of equity and the book value of debt) of the comparator firm k over the historical estimation period j

$Gearing$ is the allowed benchmark gearing for the airport operator

11.15 The Commission will exercise its judgment to select a final point estimate for the equity beta of the airport operator, having regard to all the empirical estimates of beta derived using the approach described above.

Allowed pre-tax cost of debt

11.16 The allowed pre-tax cost of debt will be calculated by the Commission using the following 10-year trailing average formula:

$$Cost\ of\ debt_{i,r} = \frac{1}{10} \sum_{t=i-10}^{i-1} R_t^d$$

Where:

r is the regulatory period

i is a regulatory year within r

$R_t^d = r_{M,t} + s_t$ is an estimate of the prevailing required return on 10-year BBB+ rated corporate debt in Malaysia in year t

$r_{M,t}$ is the average yield on 10-year Malaysian Government Securities, calculated using an averaging period of 20 consecutive business days to 30 September within year t

s_t is the average spread between the yield on 10-year BBB+ rated corporate bonds issued by utility firms in the US and the yield on 10-year US Treasury bonds, calculated using an averaging period of 20 consecutive business days to 30 September within year t

11.17 The allowed pre-tax cost of debt will be fixed in each year within each regulatory period at the rate determined by the Commission for the first year of the regulatory period. The cost of debt true-up, described in clause 11.20 through 11.24, sets out how the Commission shall calculate a revenue adjustment for the subsequent regulatory period.

Allowed benchmark gearing

11.18 The Commission will determine the allowed benchmark gearing by having regard to the empirical estimates of the average historical gearing of the comparator firms used to derive the Commission's estimate of the equity beta for the airport operator.

11.19 The Commission will estimate the average gearing for each of comparator firm, for each historical period over which the Commission was able to derive a beta estimate for that comparator firm, using the following formula:

$$Gearing_{j,k} = \frac{1}{N}\sum_{n=1}^{N}\frac{BVD_{j,n}}{BVD_{j,n} + MktCap_{j,n}}$$

Where:

j is the individual comparator firm

k is the historical estimation period

n is an observation date within the historical estimation period k for which returns data have been used by the Commission to derive an equity beta estimate for comparator firm j

BVD_j is the book value of debt of comparator firm j

$MktCap_j$ is the market capitalisation of comparator firm j

Cost of debt true-up mechanism

11.20 The Commission will determine the allowed cost of debt for each year of the period by using the cost of debt determined for the first year of the regulatory period.

11.21 At the end of the regulatory period, the Commission will recalculate the cost of debt for each year beyond year 1 using the formula as set out in 11.16.

11.22 The Commission will calculate for each year of the regulatory period,

$$\boldsymbol{Cost\ of\ debt\ revenue\ shortfall_i} = (\mathbf{DCB_i} + \mathbf{50\%} * \boldsymbol{Capex_i}) \times (\boldsymbol{WACC_{i,r}} - \boldsymbol{WACC_{i1,r}})$$

Where:

r is the regulatory period

i is a year within the application period

DCB_i is the determined cost base as at the start of regulatory year i

$WACC_{i,r}$ is the approved WACC for the airport operator in year *i* of regulatory period *r*, calculated in accordance with section 11

11.23 The Commission will calculate for regulatory period *r*

$$\boldsymbol{Total\ cost\ of\ debt\ revenue\ shortfall_r} = \sum_{i=i_1}^{n}\left(\prod_{j=i}^{n}(\mathbf{1}+\boldsymbol{WACC_{j,r}})\right)\left((\boldsymbol{DCB_i}+\mathbf{50\%}*\boldsymbol{Capex_i})\times(\boldsymbol{WACC_{i,r}}-\boldsymbol{WACC_{i1,r}})\right)$$

Where:

r is the regulatory period

i is a year within the regulatory period

i_1 is the first year within the regulatory period

n is the final year regulatory period *r*,

DCB_i is the forecast determined cost base as at the start of regulatory year *i*

$Capex_i$ is the forecast net capex for regulatory year *i*

$WACC_{i,r}$ is the approved WACC for the airport operator in year *i* of regulatory period *r*, calculated in accordance with section 11

11.24 The Commission will then calculate for the subsequent regulatory period s the cost of debt true up amount, $Cost\ of\ debt\ trueup_s$, expressed as an annuity, so that:

$$Total\ cost\ of\ debt\ revenue\ shortfall_i = \sum_{j=j_1}^{m}\left(\prod_{k=j_1}^{j}\frac{1}{1+WACC_{k,s}}\right)(Cost\ of\ debt\ trueup_s)$$

Where:

s is the subsequent regulatory period

j is a year within the regulatory period

j_1 is the first year within the regulatory period

m is the final year regulatory period *r*,

$WACC_{j,s}$ is the approved WACC for the airport operator in year *j* of regulatory period *s*, calculated in accordance with section 11

12 Depreciation

Calculation of allowed depreciation

12.1 The depreciation for each regulatory year:

a) must be calculated on the value of the assets as included in the DCB, as at the beginning of that regulatory year;

b) must be calculated:

i) providing such depreciation schedules conforming with the requirements set out in clause 12.2, using the depreciation schedules for each asset or category of assets that are nominated in the airport operator's regulatory proposal; or

ii) to the extent the depreciation schedules nominated in the airport operator's regulatory proposal do not so conform, using the depreciation schedules determined for that purpose by the Commission.

c) must be calculated such that the airport operator is allowed to recover the DCB in full, over the expected lives of the assets.

12.2 The depreciation schedules referred to in clause 12.1 must conform to the following requirements:

a) the assets in the DCB will be grouped into asset categories, with assets in an asset category sharing a similar asset life;

b) the schedules must depreciate each asset category using a profile that reflects the nature of assets in that asset category over the economic life of that asset category; and

c) the sum of the real value of the depreciation that is attributable to any asset category over the economic life of that asset category (such real value being calculated as at the time the value of that asset category was first included in the DCB) must be equivalent to the value at which that asset category was first included in the DCB.

12.3 For the purposes of clause 12.2(b), economic life:

a) will generally reflect the technical lives of assets in the asset category, except where there is demonstrable reason why the technical life of an asset category varies from the economic life of that asset category; and

b) will be defined as:

i) for new capital expenditure, the standard economic life for the asset category, being the number of years assets in that asset category would be expected to last if they had just been built; and

ii) for existing assets, the weighted average remaining life for the asset category, being a weighted average of all individual assets included in each asset category.

13 Tax and zakat

Calculation of allowed tax and zakat

13.1 The estimated cost of corporate income tax for each regulatory year will be estimated in accordance with the following formula:

$$Tax_i = (ETI_i - TL_i) \times T_i$$

Where:

i is the regulatory year

ETI_i is the taxable income for that regulatory year that would be earned by a benchmark efficient airport operator as a result of the provision of regulated services (expressed in RM)

TL_i is the benchmark efficient airport operator's accumulated tax losses in year i

T_i is the expected statutory income tax rate for that regulatory year (expressed as a percentage)

13.2 For the purposes of clause 13.1, an airport operator's taxable income in each year i will be calculated by applying the following steps:

a) Calculate the benchmark efficient airport operator's taxable revenue for year i. This is the revenue requirement for the airport operator for that year, net of the cost of debt and inflation true-up adjustments.

b) Deduct an estimate of benchmark tax expenses for year i, including:

i) Operating expenditure, which will be set equal to allowed operating expenditure approved for the airport operator.

ii) Interest expenses, which will be calculated as the DCB, multiplied by the benchmark gearing ratio, multiplied by the allowed pre-tax cost of debt.

iii) Tax depreciation expenses, which will be calculated using the determined tax asset base, standard tax asset lives for new assets, and weighted average remaining tax lives for existing assets.

13.3 The Commission will not include an allowance for zakat.

14 Opex efficiency carryover scheme

Application of the opex ECS

14.1 An airport operator's revenue requirement for a regulatory period will include opex ECS adjustments for the immediately preceding application period.

14.2 For the purposes of clause 14.1:

a) Opex ECS adjustments means the airport operator's share of total operating expenditure efficiency gains or losses over the application period, net of the financing benefits or costs received by the airport operator during the application period, expressed as a real annuity over the next regulatory period, and calculated in accordance with clause 14.3.

b) Application period means:

i) for the first regulatory period that the opex ECS is applied, the first year of that period to the penultimate year of that period; and

ii) for the second and each subsequent regulatory period that the opex ECS is applied, the final year of the preceding period to the penultimate year of the current period.

Calculation of the opex ECS adjustment

14.3 The opex ECS adjustment will be calculated as follows

a) For each year of the application period, the Commission will determine the incremental efficiency gain or loss as follows:

i) in the first year that the opex ECS is applied, the incremental efficiency gain or loss shall be equal to the difference between allowed operating expenditure and actual operating expenditure; and

ii) in the second and all subsequent years up to the penultimate year of the current regulatory period, the incremental efficiency gain or loss shall be equal to the difference between allowed operating expenditure and actual operating expenditure in that year, minus the difference between allowed operating expenditure and actual operating expenditure in the preceding year.

b) The Commission will calculate the total efficiency gain or loss by applying the following formula:

$$Total\ efficiency\ gain_a = \sum_{i=1}^{n} Total\ efficiency\ gain_{i,a}$$

and

$$Total\ efficiency\ gain_{i,a} = \frac{Incremental\ efficiency\ gain_{i,a}}{WACC_{n+1,r}} \times \left(1 + Expost\ WACC_{n+1,r}\right)^{0.5} + \sum_{j=i}^{n+1} Incremental\ efficiency\ gain_{i,a} \times DF_{j,r}$$

Where:

r is the regulatory period

a is the application period

i is a year within the application period

n is the final year of the application period

$Incremental\ efficiency\ gain_{i,a}$ is the incremental efficiency gain (or loss, if negative) in year *i* of application period *a*, calculated in accordance with clause 14.3(a)

$Expost\ WACC_{i,r}$ is the updated WACC for the airport operator in year *i* of regulatory period *r*, in the current regulatory period.

$DF_{j,r}$ is the mid-year discount factor in year *j* of regulatory period *r*

And:

$$DF_{j,r} = \begin{cases} \left(1 + Expost\ WACC_{j,r}\right)^{0.5}\ if\ j = n + 1 \\ DF_{j+1.r}\left(1 + Expost\ WACC_{j,r}\right) if\ j \leq n \end{cases}$$

c) The Commission will calculate the airport operator's opex ECS share by multiplying the total efficiency gain or loss calculated in accordance with clause 14.3(b) by the opex ECS sharing ratio.

$$Airport\ operator's\ ECS\ share = Total\ efficiency\ gain_a \times Sharing\ ratio_r$$

Where:

$Sharing\ ratio_r$ is the opex ECS sharing ratio determined by the Commission in accordance with clause 14.4

d) The Commission will adjust the airport operator's ECS share to reflect the net financing benefits or costs received by the airport operator during the application period by applying the following formula:

$$NPV\ of\ opex\ ECS\ payments = Airport\ operator's\ ECS\ share_r - Net\ financing\ benefit_r$$

Where:

$$Net\ financing\ benefit_r = \sum_{i=1}^{n} Net\ financing\ benefit_{i,r}$$

And:

$$Net\ financing\ benefit_{i,r} = \sum_{j=i}^{n+1} (Incremental\ efficiency\ gain_{i,a}) DF_{j,r}$$

e) The opex ECS adjustment will be calculated as the NPV of opex ECS payments converted to an annuity over the next regulatory period.

14.4 For the purposes of clause 14.3(c):

a) The opex ECS sharing ratio will be expressed as a percentage and will represent the share of the total efficiency gain or loss that will be retained by the airport operator through the opex ECS adjustment, with the balance (i.e., 100% minus the opex ECS sharing ratio) being returned to customers.

b) The Commission will determine the sharing ratio that will apply to the airport operator at least six months before the airport operator is required to submit its regulatory proposal.

c) If the sharing ratio is not specified by the Commission in accordance with clause 14.4(b), the Commission will apply a sharing ratio of 30%.

15 Capex efficiency sharing scheme

Application of the capex ECS

15.1 An airport operator's revenue requirement for a regulatory period will include capex ECS adjustments for the immediately preceding application period.

15.2 For the purposes of clause 15.1:

a) Capex ECS adjustments means the airport operator's share of total capital expenditure efficiency gains or losses over the application period, net of the financing benefits or costs received by the airport operator during the application period, expressed as a real annuity over the next regulatory period, and calculated in accordance with clause 15.3.

b) Application period means:

i) for the first regulatory period that the capex ECS is applied, the first year of that period to the penultimate year of that period; and

ii) for the second and each subsequent regulatory period that the capex ECS is applied, the final year of the preceding period to the penultimate year of the current period.

Calculation of the capex ECS adjustment

15.3 The capex ECS adjustment will be calculated as follows

a) The Commission will calculate the total efficiency gain or loss by applying the following formula:

$$Total\ efficiency\ gain_a = Capital\ efficiency_a - Increase\ in\ forecast\ capex_a$$

And

$$Capital\ efficiency_a = \sum_{i=1}^{n} Capital\ efficiency\ gain_{i,a}$$

And

$$Increase\ in\ forecast\ capex_a = \sum_{i=n+1}^{m} Increase\ in\ forecast\ capex_{i,a}$$

And

$$Capital\ efficiency\ gain_{i,a} = \sum_{i=1}^{n} (F_i - A_i) DF_{i,r}$$

And

$$Increase\ in\ forecast\ capex_{i,a} = \sum_{i=n+1}^{m} D_i \times DF_{i,r}$$

and

$$DF_{j,r} = \begin{cases} \left(1 + Expost\ WACC_{j,r}\right)^{0.5}\ if\ j = n+1 \\ DF_{j+1,r}\left(1 + Expost\ WACC_{j,r}\right) if\ j \leq n \\ \dfrac{1}{\left(1 + Expost\ WACC_{j,r+1}\right)^{0.5}} if\ j = n+2 \\ \dfrac{DF_{j-1,r}}{\left(1 + Expost\ WACC_{j,r+1}\right)^{0.5}} if\ j \geq n+3 \end{cases}$$

Where:

r is the regulatory period

a is the application period

i is a year within the application period

n is the length of the application period

m is the final year of the subsequent application period

F_i is the forecast capital expenditure for year *i*

A_i is the actual capital expenditure for year *i*

D_i is the increase in forecast capital expenditure in the subsequent application period attributable to capital expenditure deferred in the application period

$Expost\ WACC_{i,r}$ is the updated WACC for the airport operator in year *i* of regulatory period *r*, in the current regulatory period.

b) The Commission will calculate the airport operator's capex ECS share by multiplying the total efficiency gain or loss calculated in accordance with clause 15.3(a) by the capex ECS sharing ratio.

$$Airport\ operator's\ ECS\ share = Total\ efficiency\ gain_r \times Sharing\ ratio_r$$

Where:

$Sharing\ ratio_r$ is the capex ECS sharing ratio determined by the Commission in accordance with clause 15.4

c) The Commission will adjust the airport operator's ECS share to reflect the net financing benefits or costs received by the airport operator during the application period by applying the following formula:

$$NPV\ of\ capex\ ECS\ payments = Airport\ Operator's\ ECS\ share_r - Net\ financing\ benefit_r$$

Where:

$$Net\ financing\ benefit_r = \sum_{i=1}^{n} Net\ financing\ benefit_{i,r}$$

And:

$$Net\ financing\ benefit_{i,r} = 50\% \times (F_i - A_i) \times \frac{Expost\ WACC_{i,r}}{\left(1 + Expost\ WACC_{i,r}\right)^{0.5}} \times DF_i + \sum_{j=i+1}^{n+1} \frac{(F_i - A_i) \times Expost\ WACC_{j,r}}{\left(1 + Expost\ WACC_{j,r}\right)^{0.5}} DF_j$$

d) The capex ECS adjustment will be calculated as the NPV of capex ECS payments converted to an annuity over the next regulatory period.

15.4 For the purposes of clause 15.3(b):

a) The capex ECS sharing ratio will be expressed as a percentage and will represent the share of the total efficiency gain or loss that will be retained by the airport operator through the capex ECS adjustment, with the balance (i.e., 100% minus the capex ECS sharing ratio) being returned to customers.

b) The Commission will determine the sharing ratio that will apply to the airport operator at least six months before the airport operator is required to submit its regulatory proposal.

c) If the sharing ratio is not specified by the Commission in accordance with clause 15.4(b), the Commission will apply a sharing ratio of 30%.

15.5 If the airport operator has deferred capital expenditure in the current regulatory period, and the amount of the deferred capital expenditure in the current regulatory period is material, the Commission will make an adjustment to the capex ECS adjustment to deduct the present value of the estimated marginal increase in forecast capital expenditure in the next regulatory period attributable to capital expenditure deferred in the current regulatory period.

16 Non-Aeronautical revenue

Calculation of non-aeronautical revenue

16.1 A regulatory proposal must include the total forecast non-aeronautical revenue for the relevant regulatory period which the airport operator forecasts will be received from non-aeronautical activities as defined in clause 3.2.

16.2 A regulatory proposal must also outline the basis for the non-aeronautical revenue forecast which should:

a) include an itemised list of non-aeronautical revenue sources, associated with distinct non-aeronautical activities that the airport operator forecasts to receive during the next regulatory period;

b) include the estimated non-aeronautical revenue associated with each non-aeronautical revenue source by each year of the next regulatory period;

c) identify any changes in accounting policies that will affect any non-aeronautical revenue item forecast; and

d) include an explanation of the method used to determine the forecast of non-aeronautical revenue, described in sufficient detail to enable the Commission to replicate and review the reported forecast.

Review of proposed non-aeronautical revenue

16.3 The Commission will accept the forecast of non-aeronautical revenue of an airport operator that is included in a regulatory proposal if the Commission is satisfied that the total of the forecast of non-aeronautical revenue for the regulatory period reasonably reflects each of the following:

a) The revenue that would be received by the airport operator in circumstances that reflect arm's length terms.

b) a realistic expectation of the non-aeronautical revenue based on the forecast changes in demand and other relevant inputs or drivers of revenue.

16.4 If the Commission is not satisfied, as referred to in paragraph 15.3, the Commission will not accept the airport operator's forecast of non-aeronautical revenue and will instead determine a forecast of non-aeronautical revenue that it considers reasonably reflects the criteria outlined in clause 15.3.

17 Risk management mechanisms

Reopening a determination

17.1 An airport operator may, during a regulatory period, apply to the Commission to revoke and substitute a determination that applies to it where:

a) an event that is beyond the reasonable control of the airport operator has occurred during the regulatory period and the occurrence of that event during that period could not reasonably have been foreseen by the airport operator at the time of the determination (the event);

b) no forecast capital expenditure was approved for that period in relation to the event that has occurred;

c) the airport operator proposes to undertake capital expenditure to rectify the adverse consequences of the event, and the total of the capital expenditure required during the regulatory period to rectify the adverse consequences of the event:

i) exceeds 5% of the value of the determined cost base for the airport operator for the first year of the relevant regulatory period;

ii) is such that, if undertaken, it is reasonably likely (in the absence of any other reduction in capital expenditure) to result in the total actual capital expenditure for that regulatory period exceeding the total of the forecast capital expenditure for that regulatory period as approved by the Commission;

d) the airport operator can demonstrate that it is not able to reduce capital expenditure in other areas to avoid the consequence referred to in sub-clause 17.1(c)(ii) without materially adversely affecting its ability to meet the capital expenditure objectives;

e) a failure to rectify the adverse consequences of the event would be likely to materially adversely affect the ability of the airport operator to meet the capital expenditure objectives;

f) the event is not a pass through event or a contingent project.

17.2 Following receipt of an application made by the airport operator in accordance with clause 17.1, the Commission:

a) may consult with the airport operator and any such other persons as it considers appropriate in relation to the application;

b) may request additional information from the airport operator as the Commission requires for the purpose of making a decision on an application;

c) will make a decision on the application and publish the reasons for its decision.

17.3 For the purposes of sub-clause 17.2(c), the Commission will decide to either:

a) revoke the determination, which decision will only be made if the Commission is satisfied that each of the matters in clause 17.1 are met; or

b) reject the application, which decision will only be made if the Commission is not satisfied that each of the matters in clause 17.1 are met; or

c) stay the application, which decision will only be made if the Commission is satisfied that each of the matters in clause 17.1 are met, but that the timing and materiality of the consequences of the event are better addressed through adjustments in the next regulatory period.

17.4 A decision by the Commission under sub-clause 17.2(c) will be made:

a) within 40 business days from the later of the date the Commission receives the application under clause 17.1 and the date the Commission receives any information it requires under sub-clause 17.2(b), or

b) by such later date as notified by the Commission in writing to the airport operator, provided that the later date is no more than 60 days after the time limit in sub-clause 17.4(a).

17.5 If the Commission revokes a determination under sub-clause 17.3(a), the Commission must make a new determination in substitution for the revoked determination to apply for the remainder of the regulatory period which the revoked determination was to apply.

17.6 The substituted determination must only vary from the revoked determination to the extent necessary:

a) to adjust the forecast capital expenditure for that regulatory period to accommodate the amount of such additional capital expenditure as the Commission determines is appropriate to meet the capital expenditure objectives as a consequence of the event; and

b) to reflect the effect of any resultant increase in forecast capital expenditure on:

i) the forecast operating expenditure for each regulatory year in the remainder of the regulatory period;

ii) the annual revenue requirement for each regulatory year in the remainder of the regulatory period; and

iii) the average price cap for each of the remaining regulatory years of the regulatory period.

17.7 The substituted determination will take effect from the commencement of the next regulatory year, or such alternative date specified by the Commission in the substituted determination.

Cost-pass through

17.8 A regulatory proposal may include a proposal as to the events that should be defined as pass through events.

17.9 The Commission must determine whether an event is a pass through event by taking into account the following considerations:

a) Whether the nature or type of event can be clearly identified at the time the determination is made for the airport operator.

b) Whether a prudent airport operator could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event.

c) Whether the airport operator could insure against the event, having regard to the availability of insurance against the event on reasonably commercial terms.

d) Any other matter the Commission considers is relevant.

17.10 If a pass through event occurs, the airport operator may submit to the Commission a written statement which specifies:

a) the details of the pass through event;

b) the date on which the pass through event occurred;

c) the proposed pass through amount in respect of that pass through event

d) the amount of the pass through that the airport operator proposes should be passed through to airport users in the regulatory year in which, and each regulatory year after that in which, the pass through event occurred;

e) evidence:

i) of the actual and likely increase in costs referred to in subparagraph (c);

ii) that such costs occur solely as a consequence of the pass through event.

17.11 A written statement referred to in clause 17.10 must be submitted within 90 business days of the relevant pass through event occurring.

17.12 Following receipt of a written statement by the airport operator in accordance with clause 17.10, the Commission:

17.13 If the Commission is satisfied that a pass through event has occurred, the Commission will:

a) determine the approved pass through amount for the regulatory year in which, and each regulatory year after that in which, the pass through event occurred;

b) publish the reasons for its decision under clause 17.13(a);

and either

c) amend the revenue determination in accordance with clause 17.16, or

d) stay the application, which decision will only be made if the Commission is satisfied that a pass through event has occurred, but that the timing and materiality of the consequences of the event are better addressed through adjustments in the next regulatory period.

17.14 An airport operator must provide the Commission with such additional information as the Commission requires for the purpose of making a determination under clause 17.13 within the time specified by the Commission in a notice provided to the airport operator for that purpose.

17.15 Before making a determination under clause 17.13, the Commission may consult with the airport operator and other relevant stakeholders that the Commission considers appropriate on any matters arising out of the relevant pass through event.

17.16 Amendments to a determination in referred to in clause 17.13(c) will only vary the determination to the extent necessary to adjust the revenue allowance to accommodate the approved pass through amounts for the remaining years of the regulatory period determined under clause 17.13(a).

17.17 A decision by the Commission under clause 17.13 will be made,

a) within 40 business days from the later of the date the Commission receives the written statement under clause 17.10 and the date the Commission receives any information it requires under clause 17.14; or

b) If the Commission is satisfied that amending a determination involves issues of such complexity or difficulty that the time limit fixed in paragraph (a) should be extended, the Commission may extend that time limit by a further period of up to 60 business days, provided that it gives written notice to the airport operator of that extension no later than 10 business days before the expiry of that time limit.

Contingent projects

17.18 A regulatory proposal may include capital expenditure which the airport operator considers is reasonably required for the purpose of undertaking a proposed contingent project.

17.19 The Commission must determine that a proposed contingent project is a contingent project if it is satisfied that:

a) the proposed contingent project is reasonably required in order to achieve any of the capital expenditure objectives in clause 9.1;

b) an appropriate trigger event can be specified for the proposed contingent project;

c) it is not appropriate to include the proposed contingent project in the total of the forecast capital expenditure for the regulatory period accepted or substituted by the Commission in accordance with clause 9.6 or clause 9.7 (as the case may be) because:

i) it is not sufficiently certain that the trigger event for the proposed contingent project will occur in the regulatory period; or

ii) the costs associated with the proposed contingent project are not sufficiently certain at the time of the determination;

d) the capital expenditure required to undertake the proposed contingent project:

i) is not otherwise provided for in the total of the forecast capital expenditure for the regulatory period accepted or substituted by the Commission in accordance with clause 9.6 or clause 9.7 (as the case may be); and

ii) exceeds 5% of the value of the annual revenue requirement for the airport operator in the first year of the relevant regulatory period.

17.20 In determining whether a trigger event for a proposed contingent project is appropriate for the purposes of sub-clause 17.19(b), the Commission will have regard to the need for a trigger event:

a) to be reasonably specific and capable of objective verification;

b) to be a condition or event, which:

i) is probable during the regulatory period;

ii) is not within the control of the airport operator; and

iii) if it occurs, makes the undertaking of the proposed contingent project reasonably necessary in order to achieve any of the capital expenditure objectives; and

c) to be described in such terms that the occurrence of that event or condition is all that is required for the determination to be amended under clause 17.24.

17.21 An airport operator may, during a regulatory period, apply to the Commission to amend a determination that applies to that airport operator where a trigger event for a contingent project has occurred.

17.22 An application under clause 17.21:

a) must be made as soon as practicable after the occurrence of the trigger event, but cannot be made at any time in the final regulatory year of the regulatory period; and

b) must contain the following information:

i) an explanation that substantiates the occurrence of the trigger event;

ii) a forecast of the total capital expenditure for the contingent project;

iii) a forecast of the capital and incremental operating expenditure, for each remaining regulatory year which the airport operator considers is reasonably required for the purpose of undertaking the contingent project;

iv) how the forecast of the total capital expenditure for the contingent project meets the threshold as referred to in clause 17.19(d);

v) the intended date for commencing the contingent project (which must be during the regulatory period);

vi) the anticipated date for completing the contingent project (which may be after the end of the regulatory period); and

vii) an estimate of the incremental revenue which the airport operator considers is likely to be required to be earned in each remaining regulatory year of the regulatory period as a result of the contingent project, which must be calculated:

viii) in accordance with the revenue model approved by the Commission for the regulatory period;

ix) using the allowed rate of return for the airport operator approved by the Commission for the regulatory period;

x) in accordance with the requirements for depreciation referred to in clause 12.1; and

xi) on the basis of the capital expenditure and incremental operating expenditure referred to in subparagraph (b)(iii).

17.23 Following receipt of an application made by the airport operator in accordance with clause 17.21, the Commission:

a) will, as soon as practicable after its receipt, publish the application, together with an invitation for written submissions on the application;

b) may request additional information from the airport operator as the Commission requires for the purpose of making a decision on an application;

c) will make a decision on the application and publish the reasons for its decision.

17.24 For the purposes of sub-clause 17.23(c), if the Commission is satisfied that:

a) the trigger event has occurred; and

b) the forecast of the total capital expenditure for the contingent project meets the threshold as referred to in sub-clause 17.19(d);

it will:

c) determine the amount of capital and incremental operating expenditure, for each remaining regulatory year, which the Commission considers is reasonably required for the purpose of undertaking the contingent project;

d) determine the likely commencement and completion dates for the contingent project;

e) determine the incremental revenue which is likely to be required by the airport operator in each remaining regulatory year as a result of the contingent project being undertaken, with such estimate calculated on the basis of the capital expenditure and incremental operating expenditure referred to in sub-clause 17.24(c);

and either,

f) amend the determination in accordance with clause 17.25; or

g) stay the application, which decision will only be made if the Commission is satisfied that a trigger event has occurred, but that the timing and materiality of the consequences of the event are better addressed through adjustments in the next regulatory period.

17.25 Amendments to a determination in referred to in clause 17.24(f) will only vary the determination to the extent necessary:

a) to adjust the forecast capital expenditure for that regulatory period to accommodate the amount of capital expenditure determined under clause 17.24(c)

b) to adjust the forecast operating expenditure for that regulatory period to accommodate the amount of incremental operating expenditure determined under 17.24(c).

17.26 A decision by the Commission under sub-clause 17.23(c) will be made,

a) within 40 business days from the later of the date the Commission receives the application under clause 17.21 and the date the Commission receives any information it requires under sub-clause 17.23(b), or

b) If the Commission is satisfied that amending a determination involves issues of such complexity or difficulty that the time limit fixed in paragraph (a) should be extended, the Commission may extend that time limit by a further period of up to 60 business days, provided that it gives written notice to the airport operator of that extension no later than 10 business days before the expiry of that time limit.

18 Financeability

Application of financeability test

18.1 The Commission will conduct a financeability test in accordance with this section.

Estimation of financeability metrics

18.2 The Commission will calculate, for each year of the regulatory period, the credit rating of the benchmark efficient airport operator using the method set out below.

18.3 The method in this Guideline is based on the quantitative metric component of the 2023 Moody's methodology for privately-managed airports and related issuers.

18.4 For each year, the Commission will calculate the benchmark efficient interest payment of the airport operator as:

$$Interest_{i,r} = DCB_{i,r} \times Gearing_r \times Cost\ of\ debt_{i,r}$$

Where:

r is the regulatory period

i is a regulatory year within r

$DCB_{i,r}$ is the determined cost base for regulatory year i within regulatory period r

$Gearing_r$ is the allowed benchmark gearing for the airport operator for regulatory period r

$Cost\ of\ debt_{i,r}$ is the allowed pre-tax cost of debt for regulatory year i within regulatory period r as set out in clause 11.16.

18.5 For each regulatory year, the Commission will calculate the funds from operation of the benchmark efficient business as:

$$FFO_{i,r} = Revenue\ requirement_{i,r} - Interest_{i,r} - Opex_{i,r} - Tax_{i,r}$$

Where:

r is the regulatory period

i is a regulatory year within r

$Revenue\ requirement_{i,r}$ is the revenue requirement for regulatory year i as set out in clause 6.1

$Interest_{i,r}$ is the benchmark efficient interest payment for regulatory year i as set out in clause 18.4

$Opex_{i,r}$ is forecast benchmark efficient operating expenditure of the airport operator for regulatory year i as approved by the Commission in clause 10.3 or determined by the Commission in clause 10.4

$Tax_{i,r}$ is the benchmark tax payable for regulatory year i as set out in clause 13.1

18.6 The Commission will determine a benchmark dividend yield for regulatory period r, having regard to the historical dividend yields of the comparator firms used to derive the Commission's estimate of the equity beta for the airport operator.

18.7 For each year, the Commission will calculate the retained cash flow of the benchmark efficient business as:

$$RCF_{i,r} = FFO_{i,r} - DCB_{i,r} * (1 - Gearing_r) \times DividendYield_r$$

Where:

r is the regulatory period

i is a regulatory year within r

$FFO_{i,r}$ is the funds from operation for regulatory year i as set out in clause 18.5

$DCB_{i,r}$ is the determined cost base for regulatory year i

$Gearing_r$ is the allowed benchmark gearing for the airport operator for regulatory period r

$DividendYield_r$ is the benchmark dividend yield for the airport operator for regulatory period r determined by the Commission as set out in clause 18.6

18.8 For each year, the Commission will calculate the annuity payment required to service the benchmark efficient debt of the airport operator as:

$$Annuity_{i,r} = DCB_{i,r} \times (1 - Gearing_r) \times \frac{R^d_{r-1}}{1 - \frac{1}{(1 + R^d_{r-1})^{RemainingLife_{i,r}}}}$$

Where:

r is the regulatory period

i is a regulatory year within r

$DCB_{i,r}$ is the determined cost base for regulatory year i

$Gearing_r$ is the allowed benchmark gearing for the airport operator for regulatory period r

R^d_{r-1} is an estimate of the prevailing required return on 10-year BBB+ rated corporate debt in Malaysia, as defined in clause 11.16, in year $r - 1$.

$RemainingLife_{i,r}$ is the weighted average remaining economic asset life as at the start of regulatory year i

18.9 For each year, the Commission will calculate the cash interest coverage ratio of the benchmark efficient business as:

$$CashICR_{i,r} = \frac{FFO_{i,r} + Interest_{i,r}}{Interest_{i,r}}$$

Where:

r is the regulatory period

i is a regulatory year within r

$FFO_{i,r}$ is the funds from operation for regulatory year i as set out in clause 18.5

$Interest_{i,r}$ is the benchmark interest payment for regulatory year as set out in clause 18.4

18.10 For each year, the Commission will calculate the FFO to debt ratio of the benchmark efficient business as:

$$FFOtoDebt_{i,r} = \frac{FFO_{i,r}}{DCB_{i,r} \times Gearing_r}$$

Where:

r is the regulatory period

i is a regulatory year within r

$FFO_{i,r}$ is the funds from operation for regulatory year i as set out in clause 18.5

$DCB_{i,r}$ is the determined cost base for regulatory year i

$Gearing_r$ is the allowed benchmark gearing for the airport operator for regulatory period r

18.11 For each year, the Commission will calculate the debt service coverage ratio of the benchmark efficient business as:

$$DSCR_{i,r} = \frac{FFO_{i,r} + Interest_{i,r}}{Annuity_{i,r}}$$

Where:

r is the regulatory period

i is a regulatory year within r

$FFO_{i,r}$ is the funds from operation for regulatory year i as set out in clause 18.5

$Interest_{i,r}$ is the benchmark interest payment for regulatory year i as set out in clause 18.4

$Annuity_{i,r}$ is the annuity payment required to service the debt of the benchmark efficient business for regulatory year i as set out in clause 18.8

18.12 For each year, the Commission will calculate the retained cash flow to debt ratio of the benchmark efficient business as:

$$RCFtoDebt_{i,r} = \frac{RCF_{i,r}}{DCB_{i,r} \times Gearing_r}$$

Where:

r is the regulatory period

i is a regulatory year within r

$RCF_{i,r}$ is the retained cash flow for regulatory year i as set out in clause 18.6

$DCB_{i,r}$ is the determined cost base for regulatory year i

$Gearing_r$ is the allowed benchmark gearing for the airport operator for regulatory period r

Estimation of forecast credit rating

18.13 For each year, the Commission will convert the four financeability metrics (cash interest coverage ratio, FFO to debt, debt service coverage ratio and RCF to debt) to a forecast credit rating by:

a) comparing the derived metrics to thresholds specified below; and

b) assigning the highest letter grade such that the calculated metric is equal to or greater than the threshold specified in the table above, or CCC if less than the threshold for a grade of B.

Metric	AAA	AA	A	BBB	BB	B	CCC
CashICR	10	7	4.5	2.5	1.8	1.5	n/a
FFOtoDebt	40%	25%	14%	8%	6%	3%	n/a
DSCR	8	6	4.5	3	2	1.5	n/a
RCFtoDebt	28%	16%	10%	6%	4%	2%	n/a

18.14 The Commission will derive an overall credit rating using the four individual metric credit ratings by converting each of the four assigned letter grades to numeric scores using the correspondence in the table below.

Individual metric Letter grade	AAA	AA	A	BBB	BB	B	CCC
Individual metric numeric score	1	3	6	9	12	15	18

Derivation of financeability score

18.15 For each year, the Commission will define the base weighting of the four financeability metrics (cash interest coverage ratio, FFO to debt, debt service coverage ratio and RCF to debt) using the table below.

Metric	Base Weighting
CashICR	25.0%
FFOtoDebt	25.0%
DSCR	37.5%
RCFtoDebt	12.5%

18.16 The Commission will then derive the adjusted weightings by multiplying the base weighting of each metric by a factor determined by the letter grade of the metric assigned in clause 18.13 as set out in the table below:

Individual metric Letter grade	AAA	AA	A	BBB	BB	B	CCC
Multiplier	1	1	1	1.15	2	3	5

18.17 The Commission will then derive the final weighting of each metric by dividing the adjusted weighting of that metric by the sum of the four adjusted weightings for that year.

18.18 The Commission will then derive the overall numeric score for that year by multiplying each of the four individual metric numeric scores by the corresponding four final weightings.

18.19 For each year, the Commission will compare the overall numeric score for the airport operator to a score of 8.5, corresponding to the worst numeric score consistent with a BBB+ credit rating.

a) If the overall numeric score is equal to or below 8.5, the benchmark efficient business is deemed to be financeable in that year and, therefore, to have passed the financeability test for that year.

b) If the overall numeric score is greater than 8.5, the benchmark efficient business is deemed to not be financeable in that year and fails the financeability test for that year.

c) For completeness, the required thresholds for all possible credit ratings are set out in the table below:

Credit rating	Maximum overall numeric score
AAA	1.5
AA+	2.5
AA	3.5
AA-	4.5
A+	5.5
A	6.5
A-	7.5
BBB+	8.5
BBB	9.5
BBB-	10.5
BB+	11.5
BB	12.5
BB-	13.5
B+	14.5
B	15.5
B-	16.5

CCC+	17.5
CCC	18.5
CCC-	19.5
CC	20.5

18.20 If the Commission determines on the basis of clause 18.19 that the benchmark efficient airport operator is financeable in each year of the regulatory period, no further analysis or adjustments are required.

Adjustments to address financeability issues

18.21 If the Commission determines that the benchmark efficient airport operator is not financeable in one or more years of the regulatory period, the Commission will investigate the reasons for each failure.

a) For each failure, if the failure it determined by the Commission to be the result of a temporary shortfall in regulated cash flows, the Commission shall bring forward in an NPV-neutral way the minimum amount of revenue such that the benchmark efficient airport operator passes the financeability test in that year.

b) For each failure, if the failure it determined by the Commission to not be the result of a temporary shortfall in regulated cash flows, the Commission shall make a minimal uplift in the revenue requirement (for example by increasing the return on equity) so that the financeability test is passed. Any such adjustment must:

   i) be made in a transparent way and in consultation with stakeholders;

   ii) made through an adjustment to specific WACC parameters with appropriate reasoning and justification;

   iii) be the minimum required in each year of the regulatory period to ensure that the test is passed; and

   iv) only endure for the forthcoming regulatory period, without setting any precedent for future regulatory periods.

19 Regulatory process

Regulatory review timeline

19.1 The Commission will, no later than 18 months prior to the start of the next regulatory period, publish the timetable and process for conducting the next regulatory review.

Submission of regulatory proposal

19.2 An airport operator must, no later than 12 months prior to the start of the next regulatory period, submit to the Commission a regulatory proposal. A regulatory proposal must include each of the matters set out in clause 20.

19.3 A regulatory proposal must be accompanied by an overview paper which provides, in reasonably plain language, a summary of each of the matters set out in clause 20.

Preliminary examination and resubmission

19.4 If the Commission considers that a regulatory proposal submitted by an airport operator does not comply with a requirement in clause 20, the Commission may notify the airport operator that it requires resubmission of the relevant regulatory proposal.

19.5 The notice will be given as soon as practicable and must state why, and in what respects, the Commission considers the regulatory proposal to be non-compliant.

19.6 An airport operator must, within 20 business day after receiving a notice under clause 19.4, resubmit its regulatory proposal in an amended form that complies with the relevant requirements set out in the notice.

Consultation on regulatory proposal

19.7 The Commission will, as soon as practicable after deciding that a regulatory proposal complies with the requirements in clause 20, publish:

a) the regulatory proposal;

b) any information accompanying the regulatory proposal; and

c) an invitation for written submissions on the published documents and information.

19.8 The Commission may, as soon as practicable after publishing a regulatory proposal and any accompanying information under clause 19.7, publish:

a) an issues paper identifying preliminary issues that the Commission considers are likely to be relevant to its assessment of the regulatory proposal;

b) an invitation for written submissions on the issues paper; and

c) an invitation to attend a public forum on the issues paper.

19.9 Any issues paper published in accordance with clause 19.8 does not preclude the Commission from considering other issues in making a determination.

19.10 Any person may make a written submission to the Commission on the documents published under clause 19.7 and 19.8 within the time specified in the respective invitations, which will be at least 40 business days after publication of the regulatory proposal.

Making of draft determination

19.11 The Commission will make a draft determination in relation to the airport operator.

19.12 In making this draft determination, the Commission will take into account:

a) the information included in or accompanying the regulatory proposal submitted by an airport operator under clause 19.2, or resubmitted by an airport operator under clause 19.6;

b) written submissions received under clause 19.10 on the regulatory proposal or any issues paper published by the Commission; and

c) any analysis undertaken by or for the Commission, provided that such analysis is published prior to or as part of the draft determination.

19.13 A draft determination will include:

a) a draft decision on each of the matters required under this Guideline to determine the revenue requirement and the allowed average tariff for the airport operator for each year of the next regulatory period; and

b) the basis, reasons and rationale for these decisions.

Consultation on draft determination

19.14 The Commission will, as soon as practicable, publish the draft determination, together with an invitation for written submissions on the draft determination.

19.15 Any person may make a written submission to the Commission on the draft determination within the time specified in the respective invitation, which will be at least 40 business days after publication of the draft determination.

Submission of revised proposal

19.16 In addition to making written submissions on the draft determination, the airport operator may, not more than 40 business days after publication of the draft determination, submit a revised regulatory proposal to the Commission.

19.17 A revised regulatory proposal submitted under clause 19.16 must only include revisions so as to incorporate the substance of any changes required to address matters raised in the draft determination.

19.18 The Commission may invite written submissions on the revised regulatory proposal.

19.19 If the Commission invites submissions on a revised regulatory proposal under clause 19.18, the Commission may invite further written submissions on the submissions received under clause 19.15 by publishing an invitation which specifies:

a) the matters in respect of which submissions are invited; and

b) the time for making submissions, which will be at least 15 business days after the date on which the invitation was published.

Making of final determination

19.20 The Commission will make a final determination in relation to the airport operator.

19.21 In making this final determination, the Commission will take into account:

a) the items listed in clause 19.12;

b) the information included in or accompanying any revised regulatory proposal submitted by an airport operator under clause 19.16;

c) written submissions received under clause 19.15 on the draft determination, clause 19.18 on any revised regulatory proposal, and clause 19.19 on any stakeholder submissions; and

d) any analysis undertaken by or for the Commission, provided that such analysis is published prior to or as part of the final determination.

19.22 A final determination will include:

a) a summary of the feedback received from stakeholders under clause 19.15 on the draft determination, clause 19.18 on any revised regulatory proposal, and clause 19.19 on any stakeholder submissions;

b) a final decision on each of the matters required under this Guideline to determine the revenue requirement and the allowed average tariff for the airport operator for each year of the next regulatory period; and

c) the basis, reasons and rationale for these decisions.

Notice of final determination and gazetting of tariffs

19.23 The Commission will, as soon as practicable, publish the final determination.

19.24 Prior to the start of the next regulatory period, the Commission will gazette the regulated tariffs in its final determination.

19.25 If the regulated tariffs in the final determination are not gazetted prior to the start of the next regulatory period then the following shall apply:

a) the Commission will gazette the existing tariffs to remain in effect until the tariffs in the final determination are gazetted for the next regulatory period; and

b) the value of any over-recovery or under-recovery between the existing tariffs and the gazetted tariffs will be returned to users or paid by the airport operator, as the case may be, through an adjustment to the revenue allowance in the following regulatory period.

20 Contents of a regulatory proposal

Components of a regulatory proposal

20.1 A regulatory proposal submitted by an airport operator will comprise of:

a) a regulatory till proposal, prepared in accordance with clause 20.2;

b) a building block proposal, prepared in accordance with clause 20.3 to 20.5;

c) a pricing proposal, prepared in accordance with clause 20.6;

d) a description of the stakeholder consultation undertaken by the airport operator in developing its regulatory proposal, including:

i) which stakeholders the airport operator has engaged with;

ii) how the airport operator has engaged with relevant stakeholders;

iii) the relevant concerns identified by stakeholders as a result of that engagement; and

iv) how the airport operator has sought to address those concerns;

e) an explanation of how the airport operator has forecast expected demand for aviation services for each year of the relevant regulatory period;

f) an explanation of how the airport operator has forecast expected revenue from the provision of non-aeronautical services in each year of the relevant regulatory period; and

g) a description of the key risks and benefits for end users of the regulatory proposal.

Contents of a regulatory till proposal

20.2 A regulatory till proposal must clearly set out:

a) the activities that the airport operator considers should be included within the regulatory till defined by the Commission for the relevant regulatory period;

b) the activities that the airport operator considers should be excluded from the regulatory till defined by the Commission for the relevant regulatory period; and

c) sufficient evidence and justification to demonstrate why the allocation of activities undertaken for sub-clauses (a) and (b) are consistent with the definition of the regulatory till provided by the Commission for the relevant regulatory period.

Contents of a building block proposal

20.3 A building block proposal must contain at least the following information and matters related to capital expenditure:

a) a list of all capital expenditure projects and programmes (for smaller projects) for the relevant regulatory period that the airport operator considers is required to meet the capital expenditure objectives;

b) the estimated capital expenditure for each project or programme, broken down by each year of the relevant regulatory period, and separating any contributions, grants and subsidies by third parties;

c) an explanation of the method used for developing the capital expenditure forecast for each project or programme, including the key variables and assumptions relied upon to derive the capital expenditure forecasts and the method used for developing those key variables and assumptions;

d) the expected commissioning date of each project or programmes;

e) sufficient justification for each project or programme explaining the need for the investment, the alternatives considered, and the reasons why such alternatives were not adopted;

f) capital expenditure for each of the past regulatory years of the previous and current regulatory period, and the expected capital expenditure for each of the last two regulatory years of the current regulatory period; and

g) an explanation of any significant variations in the forecast capital expenditure from historical capital expenditure.

20.4 A building block proposal must contain at least the following information and matters related to operating expenditure:

a) a forecast of the operating expenditure for the next regulatory period that the airport operator considers is required to meet the operating expenditure objectives, broken down by each year of the next regulatory period;

b) an explanation of the method used for developing the operating expenditure forecast, including the key variables and assumptions relied upon to derive the operating expenditure forecasts and the method used for developing those key variables and assumptions;

c) all information required to conduct a base-step-trend assessment of the airport operator's expenditure proposal, including:

i) a breakdown of actual and forecast operating expenditure in the current period by reference to well accepted categories, and identifying in respect of each category the operating expenditure that is fixed and variable;

ii) the proportion of forecast operating expenditure increases or decreases associated with real price changes, output growth changes and productivity changes, and the methods of calculating and calculations of any allowances associated with these changes;

iii) identification of and justification for any step changes; and

iv) identification of all non-recurrent expenditure;

d) operating expenditure for each of the past regulatory years of the previous and current regulatory period, and the expected operating expenditure for each of the last two regulatory years of the current regulatory period; and

e) an explanation of any significant variations in the forecast operating expenditure from historical operating expenditure.

20.5 A building block proposal must contain at least the following additional information and matters:

a) the airport operator’s calculation of revenues together with:

i) details of all amounts, values and inputs relevant to the calculation;

ii) an explanation of the calculation and the amounts, values and inputs involved in the calculation; and

iii) a demonstration that the calculation and the amounts, values and inputs on which it is based comply with relevant requirements of this Guideline;

b) the airport operator’s calculation of the DCB for each regulatory year of the relevant regulatory period together with:

i) details of all amounts, values and inputs relevant to the calculation;

ii) an explanation of the calculation and the amounts, values and inputs involved in the calculation; and

iii) a demonstration that the calculation and the amounts, values and inputs on which it is based comply with relevant requirements of this Guideline;

c) the airport operator’s calculation of the allowed rate of return for each year of the relevant regulatory period;

d) the airport operator’s estimate of the cost of corporate income tax for each year of the next regulatory period;

e) the depreciation schedules nominated by the airport operator for the purposes of clause 12.2, together with;

i) details of all amounts, values and inputs relevant to the calculation;

ii) an explanation of the calculation and the amounts, values and inputs involved in the calculation; and

iii) a demonstration that the calculation and the amounts, values and inputs on which it is based comply with relevant requirements of this Guideline;

f) the airport operator's calculation of any payments under the opex ECS and capex ECS for the next regulatory period, together with;

i) details of all amounts, values and inputs relevant to the calculation;

ii) an explanation of the calculation and the amounts, values and inputs involved in the calculation; and

iii) a demonstration that the calculation and the amounts, values and inputs on which it is based comply with relevant requirements of this Guideline;

g) if the airport operator is seeking a determination by the Commission that a proposed contingent project is a contingent project:

i) a description of the *proposed contingent project*, including reasons why the airport operator considers the project should be accepted as a *contingent project* for the *regulatory period*;

ii) a forecast of the capital expenditure which the *airport operator* considers is reasonably required for the purpose of undertaking the *proposed contingent project*;

iii) the methodology and assumptions used for developing that forecast;

iv) information that demonstrates that the undertaking of the *proposed contingent project* is reasonably required in order to achieve one or more of the *capital expenditure objectives*;

v) information that demonstrates that the *capital expenditure* for the *proposed contingent project* complies with the requirements set out in clause 17.19;

h) If the airport operator is seeking a determination by the Commission that a proposed event is a pass through event:

i) a description of the proposed pass through event;

ii) information demonstrating each of the matters identified in clause 17.9

i) the completed revenue model.

Contents of a pricing proposal

20.6 A pricing proposal must:

a) set out the proposed tariffs that the airport operator proposes to charge for each year of the relevant regulatory period;

b) set out, for each proposed tariff, the charging parameters and the elements of the service to which each charging parameter relates;

c) set out, for each proposed tariff, the expected revenue that the airport operator expects to earn in each year of the relevant regulatory period;

d) set out how any over or under recovery of charges in a previous regulatory year has been taken into account and will be passed on to customers;

e) demonstrate how the proposed tariffs are consistent with the allowed average tariff approved by the Commission for each year of the relevant regulatory period; and

f) demonstrate how the proposed tariffs are consistent with each of the pricing principles set out in clause 7.7.

PART B: AIRPORT OPERATORS UNDER LIGHT REGULATION

21 Application of this Part

Airport operators subject to light regulation

21.1 The Commission may make a determination that an airport operator is subject to light regulation under Part B of this Guideline.

21.2 If a Commission makes a determination under clause 21.1:

a) the Commission shall notify the relevant airport operator that it is subject to full regulation under Part A of this Guideline; and

b) Part A of this Guideline, covering section 21 to section 24 (inclusive), will apply to an airport operator that is notified by the Commission under clause 21.2(a).

22 Length of regulatory period

Determining the regulatory period

22.1 The Commission will determine the length of the regulatory period at least six months before the airport operator is required to submit its pricing proposal.

22.2 If the regulatory period is not specified by the Commission in accordance with clause 22.1, a three-year regulatory period will be adopted.

23 Allowed tariffs

Submission of a pricing proposal

23.1 An airport operator must, at least 12 months before the start of the next regulatory period, submit a pricing proposal for the relevant regulatory period. A pricing proposal must:

a) be prepared in accordance with clause 24.1;

b) reasonably reflect the pricing principles set out in clause 23.8;

c) reasonably reflect any guidance provided by the Commission;

d) be based on reasonable forecasts.

Approval of a pricing proposal

23.2 The Commission will approval a pricing proposal if the Commission is satisfied that:

a) the pricing proposal has been prepared in accordance with clause 24.1

b) the pricing proposal reasonably reflects the pricing principles set out in clause 23.8

c) the pricing proposal reasonably reflects any guidance provided by the Commission;

d) all forecasts associated with the proposal are reasonable.

23.3 If the Commission is not satisfied as referred to in clause 23.2, the Commission will not accept the pricing proposal and:

a) may require the airport operator, within 10 business days after receiving notice of its determination, to re-submit the proposal with the amendments necessary to correct the deficiencies identified in the determination and (unless the Commission permits further amendments) no further amendments; or

b) the Commission may itself make the amendments necessary to correct the deficiencies.

23.4 If the airport operator fails to comply with a requirement under clause 23.3(a), or the resubmitted proposal fails to correct the deficiencies in the former proposal, the Commission may itself amend the proposal to bring it into conformity with the requirements in clause 23.1 for the relevant regulatory period.

Updating a pricing proposal

23.5 An airport operator may, during a regulatory period, apply to the Commission to update a pricing proposal for the next regulatory year.

23.6 A request by the airport operator under clause 23.5:

a) must be made at least 3 months before the commencement of the regulatory year to which the amended pricing proposal is to apply;

b) must be prepared in accordance with clause 23.1; and

c) must clearly set out:

i) the nature of any variation or adjustment to the initial pricing proposal; and

ii) the reasons for proposing the variation or adjustment to the initial pricing proposal.

Pricing proposal takes effect

23.7 An approved pricing proposal takes effect:

a) in the case of an initial pricing proposal – at the commencement of the first regulatory year of the regulatory period for which the determination is made; and

b) in the case of an updated pricing proposal – at the commencement of the regulatory year to which the proposal relates.

Pricing principles

23.8 An airport operator's tariffs must comply with the following principles (**pricing principles**):

a) The revenue expected to be recovered from each tariff must reflect the airport operator's efficient costs of serving customers that are or may be charged that tariff.

b) The tariffs shall balance competing objectives including the following factors:

i) passenger affordability

ii) the ability of the airport operator to recover its efficient costs

iii) airport service levels, which shall be commensurate with applicable tariffs.

c) Each proposed tariff set out in the proposal should be broadly consistent with the corresponding indicative pricing levels for that tariff from the previous regulatory year, or else any material differences between them have been adequately explained by the airport operator.

d) Tariff increases should be demonstrably linked to both cost drivers and improvements in service quality for customers that are or may be charged that tariff.

e) The structure of each tariff must be reasonably capable of being understood by customers that are or may be charged that tariff (including in relation to how decisions about usage of services may affect the amounts paid by those customers).

24 Contents of pricing proposal

Contents of a pricing proposal

24.1 A pricing proposal must:

a) set out the proposed tariffs that the airport operator proposes to charge for each year of the relevant regulatory period;

b) set out, for each proposed tariff, the charging parameters and the elements of the service to which each charging parameter relates;

c) set out, for each proposed tariff, the expected revenue that the airport operator expects to earn in each year of the relevant regulatory period;

d) demonstrate how the proposed tariffs are consistent with each of the pricing principles set out in clause 23.8.

PART C: REQUIREMENTS FOR ALL AIRPORT OPERATORS

25 Application of this Part

Requirements for all airport operators

25.1 Obligations set out within Part C of this Guideline apply to all airport operators.

26 Annual reporting

Annual reporting requirements

26.1 Within 60 days of the end of the financial year, the airport operator will deliver to the Commission its Regulatory Accounting Statements.

26.2 The Regulatory Accounting Statements must include the following:

a) Income statement for each airport operated by the airport operator, setting out revenues, expenses, gains and losses for each airport for the preceding financial year.

b) Balance sheet for each airport operated by the airport operator, setting our assets and liabilities for each airport for the preceding financial year.

c) Cash flow statement for each airport operated by the airport operator, setting out cash inflows and cash outflows for each airport for the preceding financial year.

d) Schedule of non-current aeronautical and total airport assets for each airport operated by the airport operator, setting out the value of such assets disaggregated by land, property, plant and equipment (excluding land), intangibles, other non-current assets.

e) For airport operators subject to Part A of this guideline, a capital investment prioritization plan which provides an update of the proposed plan and timing of upcoming capital investment given the Airport Operator's objectives and resources, prevailing operating environment and any other constraints and limitations identified.

f) Operational statement for each airport operated by the airport operator, setting out:

i) Departing passenger numbers, disaggregated into domestic (excluding transfer passengers), international (excluding transfer passengers), domestic transfer, and international transfer;

ii) Aircraft movements, disaggregated into regular scheduled public domestic aircraft movement, regular scheduled public international aircraft movement, and other aviation aircraft movements;

iii) Total freight tonnes landed; and

iv) Average staff equivalent numbers separated into aeronautical activities, non-aeronautical activities and excluded activities;

for each airport for the preceding financial year.

g) Allocated revenue statement for each airport operated by the airport operator, setting out the aeronautical revenue earned disaggregated by the regulated charge levied by the airport operator, and the non-aeronautical revenue earned disaggregated by the type of non-aeronautical activity, for each airport for the preceding financial year.

h) Expense allocations statement for each airport operated by the airport operator, setting out

i) Operating costs disaggregated by expenditure category, including but not limited to staff costs, utilities costs, repairs and maintenance costs, administrative costs and (if applicable) user fees.

ii) Capital costs for each major capital project or programme.

iii) Capital costs for any project that the airport operator has been directed to undertake by the Government of Malaysia.

iv) Capital costs disaggregated by asset category, including but not limited to land, airfield assets (for example, runways, taxiways, aprons, runway lighting, and navigation aids), terminal buildings (for example, check-in counters, gate areas, departure lounges, arrival areas, baggage claim), baggage handling systems, vehicles, computers and office equipment, furniture, fixtures and fittings, and security systems.

v) Capital costs disaggregated by cost driver, including but not limited to:

(1) Investment in new assets to accommodate growing demand

(2) Upgrading of existing assets to accommodate demand growth and improve performance or compliance

(3) Repair of defects in existing assets through replacement or refurbishment

for each airport for the preceding financial year.

i) Basis of preparation setting out:

i) The data sources, calculations and assumptions used to prepare the above reports;

ii) For airport operators subject to Part A of this guideline, an explanation of significant variances between actual and allowed costs and revenues; and

iii) Reconciliation of the amounts presented in the above reports against the airport operators audited financial statements.

26.3 The Regulatory Accounting statements must comply with:

a) any relevant, approved regulatory till proposal and cost allocation methodology; and

b) requirements and templates prepared by the Commission.

27 Glossary

Act 771	is the Malaysian Aviation Commission Act 2015 (Act 771).
Aviation service	has the meaning in Section 2 of Act 771.
Commission	means the Malaysian Aviation Commission.
airport operator	Aerodrome operator in Malaysia providing the take-off and landing of any aircraft engaged in the carriage of passengers, mail or cargo for hire or reward
airport development charge	a charge that will only be paid by customers at a specific airport to recover the cost of development at that airport
APC	Average Price Cap
ARR	Additional Revenue Required
Capex	Capital expenditure
CAPM	Capital Asset Pricing Model
Commission	Malaysian Aviation Commission
CPI	Consumer Price Index
CY	Calendar Year
DCB	Determined Cost Base
DGM	Dividend Growth Model
DSCR	Debt Service Coverage Ratio
FFO	Funds from Operation
GOM	Government of Malaysia
HER	Historical Excess Returns
LCM	Loss Capitalisation Mechanism
MAHB	Malaysia Airports Holdings Berhad
MAVCOM	Malaysian Aviation Commission
MRP	Market Risk Premium

NPV	Net Present Value
OA	Operating Agreement
Opex	Operating Expenditure
Pax	Passenger
PSC	Passenger Service Charge
PSSC	Passenger Security Service Charge
P50	Refers to a confidence level regarding the probability of the cost not being exceeded. That is, P50 is an estimate of the cost that is not expected to be exceeded 50% of the time.
RCF	Retained cash flow
RM	Ringgit Malaysia
STOLports	Short Take-off and Landing Ports
TMR	Total Market Returns
WACC	Weighted Average Cost of Capital