

[F.No. AERA /20019 /CGF-G/2010-11]

**Consultation Paper No.05/2010-11**



**Airports Economic Regulatory Authority of India**

**Economic Regulation of Services Provided  
for Cargo Facility, Ground Handling and  
Supply of Fuel to the Aircraft**

**New Delhi: 2<sup>nd</sup> August,2010**

**AERA Building  
Administrative Complex  
Safdarjung Airport  
New Delhi – 110 003**

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Pursuant to enactment of the “The Airports Economic Regulatory Authority of India Act, 2008” (hereinafter referred as the ‘Act’) and establishment of the Airports Economic Regulatory Authority (hereinafter referred as the ‘Authority’), the Authority is to perform the following functions in respect of major airports:

- (a) to determine the tariff for the aeronautical services;
- (b) to determine the amount of the development fees in respect of major airports;
- (c) to determine the amount of the passengers service fee levied under rule 88 of the Aircraft Rules, 1937 made under the Aircraft Act, 1934; and
- (d) to monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorised by it in this behalf.

1.2 As per Section 2 (a) of the Act, any service provided “for ground handling services relating to aircraft, passengers and cargo at an airport”; “for the cargo facility at an airport”; and “for supplying fuel to the aircraft at an airport” are aeronautical services.

2.1 To ensure transparency in the process leading up to the framing of appropriate procedures / systems for economic regulation, as required under the Act, the Authority issued a White Paper on ‘Regulatory Objectives and Philosophy in Economic Regulation of Airports and Air Navigation Services’ (‘White Paper’) on 22nd December 2009. The White Paper provided stakeholders an opportunity to consider the issues highlighted therein and submit evidence-based feedback, comments and suggestions. The Authority received 28 submissions in response to the White Paper. These submissions were uploaded on the Authority’s website for general information.

2.2 The Authority considered the views and opinions submitted in response to the White Paper and prepared a Consultation Paper listing out the major issues impacting formulation of its regulatory philosophy and approach and laying out its rationale for the positions / approach it was minded to take. The Consultation Paper (No. 3/2009-10) was issued on 26th February 2010 with the intention of providing a further opportunity to stakeholders to make relevant submissions to the Authority before the regulatory philosophy and approach was finalized. On 16<sup>th</sup> March 2010 , the Authority also convened a meeting to elicit the views of the stakeholders in person.

2.3 The Authority received 21 written submissions containing suggestions and comments in respect of the Consultation Paper. These suggestions and comments together with the minutes of the meeting held on 16<sup>th</sup> March 2010 may be accessed on the Authority’s website (<http://aera.gov.in>).

3. The Authority, on careful perusal of all the submissions, views and opinions expressed by stakeholders, has issued an Order (Order No. 05 / 2010-11, dated 2<sup>nd</sup> August, 2010) laying down its philosophy and approach for economic regulation of the services provided for Cargo Facility, Ground Handling and Supply of Fuel to the aircraft at the major airports, which is summarised hereunder:

- (a) The Authority recognises that services for the cargo facility, ground handling and supply of fuel to the aircraft are provided at major airports, by the cargo facility operators, ground handling service providers and fuel farm operators / fuel access providers who can either be the airport operators themselves or independent agencies / licensees (“independent service providers”). The Order lays down the regulatory philosophy and approach wherever aforesaid services are provided by the independent service providers. The Authority will set out its approach for airport operators, in respect of such services separately.
- (b) The Authority’s approach to regulation with respect to independent service providers for cargo facilities, ground handling, and fuel farm facilities / fuel access will comprise of two key steps: (i) materiality assessment; and (ii) competition assessment. Normally, the Authority shall undertake the assessment at the beginning of the Control Period. However, the Authority reserves the right to review the assessment within the Control Period.
- (c) Where the Authority determines that the service is material and where there is insufficient competition in provision of services at a major airport (‘material and not competitive’), it shall regulate such service through a price cap approach by setting a yield per unit and approval of tariffs annually.
- (d) Where the Authority determines that (i) the service is not material (‘not material’); or (ii) the service is material but there is sufficient competition in provision of service at a major airport (‘material but competitive’), it shall regulate through a light touch approach by approving tariffs annually, based on evidence of consultation on tariffs with users or user agreements between independent service providers and users of services.
- (e) The Authority shall determine tariff on the basis of a Multi Year Tariff Proposal made by the independent service providers for a control period of 5 years and would involve annual compliance process, tariff proposals, user consultation and compliance of relevant regulations/guidelines by the service provider.
- (f) The Authority shall take into consideration payments required to be made by independent service providers of cargo facility, ground handling,

fuel farm / access facilities to the airport operators as part of the passenger yield cap calculation for airport operators.

- (g) As regards the quality of service provided by the ground handling service providers, the Authority notes that, normally, such services are covered by the service level agreements between the service provider and the airlines. Such service level agreements, inter-alia, lay down the performance/ quality of service parameters agreed to between the service provider and the user airline. The Authority considers such mechanism of service level agreements as reasonable safeguard to the airline users against under-performance or service levels that do not meet their requirement.
- (h) In respect of the services relating to the supply of fuel, the Authority considers that quality of service aspects relating to access to airside/ fuel supply infrastructure would be adequately covered under the commercially negotiated contracts between users and service providers.
- (i) The Authority considers that there are significant interdependencies between activities performed by multiple parties at air cargo facilities, including aspects like dwell time, quality of service and information requirement. In such a scenario, it may not be possible to attribute objective or subjective quality of service indicators solely to cargo facility operators and consider linkage of service quality performance to tariff determination process. However, the Authority is conscious of the need to evolve the systems/ procedures for monitoring performance standards and is minded to direct further analysis on the issue if deemed necessary during the first regulatory cycle.
- (j) Notwithstanding the position set out in (g), (h) and (i), the Authority shall monitor the relevant performance standards in respect of all three services as may be set by the Central Government or any authority authorized by it on its behalf.
- (k) The Authority proposes to operationalise the regulatory philosophy and approach as indicated above through detailed guidelines. A draft of “The Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the aircraft) Guidelines, 2010” is enclosed herewith.

4. Stakeholders are requested to give their feedback / comments in respect of the Draft Guidelines. It is clarified that the Authority would entertain comments only in respect of the Draft Guidelines regarding the aforementioned services. The comments are sought for the limited purpose and scope of Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the aircraft at major airports, it will not be possible to entertain any comments in respect of the regulatory philosophy and approach underlying these Guidelines.

5. The Authority welcomes written evidence-based feedback, comments and suggestions from stakeholders on the draft “The Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the Aircraft) Guidelines, 2010” latest by **3<sup>rd</sup> September, 2010** at the following address:

**Shri Sandeep Prakash**

**Secretary**

**Airports Economic Regulatory Authority of India**

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**Yashwant S. Bhave**  
**Chairperson**

**Enclosure:**

1. Draft of “The Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the Aircraft) Guidelines, 2010”

**F. No. AERA/20019/CGF-G/2010-11**  
**Airports Economic Regulatory Authority of India**

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**AERA Building,  
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New Delhi – 110003.**


**Dated the 30<sup>th</sup> August, 2010**

**Public Notice No. 06/2010-11**

**Subject: Economic Regulation of Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the Aircraft – Draft Guidelines for Determination of Tariff – Consultation Paper No. 05/2010-11.**

Attention of all concerned is invited to the Consultation Paper No. 05/2010-11 dated 02.08.2010 issued by the Authority vide which comments of the stakeholders were invited regarding the Draft Guidelines for Determination of Tariff for services provided for cargo facility, ground handling and supply of fuel to the aircraft by independent service providers. The last date for submission of comments was stipulated as 03.09.2010.

2. Several stakeholders namely, Cambata Aviation, Celebi, Hyderabad Menzies and Menzies Bobba Aviation have requested for extension of time. Similar requests were received during the stakeholder consultation meeting held by the Authority on 18.08.2010. The matter has been considered by the Authority and it has been decided that the timeline for submission of comments on aforesaid Consultation Paper be extended upto 15.09.2010. No further extension of time would be permitted.



**(Sandeep Prakash)**

**Secretary**

**Tel: 24695040**

**Airports Economic Regulatory Authority of India**

**Airports Economic Regulatory Authority of India  
(Terms and Conditions for Determination of Tariff for  
Services Provided for Cargo Facility, Ground Handling  
and Supply of Fuel to the Aircraft) Guidelines, 2010**

**AERA Building  
Administrative Complex  
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New Delhi – 110 003**

**Dated: XX August,2010**

## **Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the aircraft) Guidelines 2010**

Whereas “services provided for (i) ground handling services relating to aircraft, passengers and cargo at an airport; (ii) the cargo facility at an airport; and (iii) supplying fuel to the aircraft at an airport”, are “aeronautical services” in terms of section 2(a) of the Airports Economic Regulatory Authority of India Act, 2008 (the Act);

Whereas under section 13(1)(a) of the Act, the Authority is required to determine the tariff for aeronautical services;

Whereas under section 15 of the Act, the Authority may, for the purpose of discharge of its functions under the said Act, issue, from time to time to the service provider(s), such directions as it may consider necessary;

Whereas the Authority considers it necessary, for the purpose of discharge of its function of determination of tariff for the aforesaid services, to issue guidelines setting out a framework incorporating terms, conditions, systems, procedures, and information requirement therefor;

Now, therefore, in terms of powers conferred on it under section 15 of the Act, the Authority hereby directs the Service Provider(s) of the aforesaid services to act in accordance with the following guidelines:

### **1. PRELIMINARY**

#### **1.1. Short Title, Extent and Commencement:**

- 1.1.1. These guidelines shall be called the Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Services Provided for Cargo Facility, Ground Handling and Supply of Fuel to the Aircraft) Guidelines, 2010 (“Guidelines”).



- 1.2. These Guidelines shall apply to Service Provider(s) (i) for the cargo facility at a major airport; (ii) for ground handling relating to aircraft, passengers and cargo at a major airport; and (iii) for supplying fuel to the aircraft at a major airport:

Provided that Airport Operator providing the Regulated Service(s) as defined herein shall be excluded from the application of these guidelines.

- 1.3. These Guidelines shall come into force on such date as the Authority may by order appoint.

## 2. Definitions

In these Guidelines, unless the context otherwise requires:

- 2.1. **Act** means the Airports Economic Regulatory Authority of India Act, 2008 (27 of 2008);
- 2.2. **AAI Act** means the Airport Authority of India Act, 1994 (55 of 1994);
- 2.3. **Actual Maximum Allowed Yield** means the actual yield per unit allowed to be recovered in a Tariff Year, calculated according to Clause 9.13;
- 2.4. **Airport Operator** means the licensee of a major airport;
- 2.5. **Aggregate Revenue Requirement** means the revenue requirement from Regulated Service(s) determined by the Authority taking into consideration a fair rate of return on forecast Regulatory Asset Base, forecast expenditure, forecast depreciation, forecast taxation and forecast revenue from services other than Regulated Services, calculated according to Clause 7;
- 2.6. **Annual Compliance Statement** means an annual statement submitted, in accordance with Clause 9.12, by the Service Provider(s) after the end of a Tariff Year based on annual audited accounts;
- 2.7. **Annual Tariff Order** means such order as may be made by the Authority for specifying the Tariff(s) and Estimated Maximum Allowed Yield per Unit, where applicable;

- 2.8. **Annual Tariff Proposal** means an annual proposal submitted by the Service Provider(s) for consideration by the Authority, in accordance with Clause 9.9 or Clause 10 as specified by the Authority;
- 2.9. **Authority** means the Airports Economic Regulatory Authority;
- 2.10. **Capital Asset Pricing Model** means the use of the following functional form to estimate the cost of equity:

$$R_e = R_f + \beta \times EMRP$$

Where:

$R_e$  is the cost of equity

$R_f$  is the risk free rate

$\beta$  is the beta

EMRP is the equity market risk premium which is equal to  $(R_m - R_f)$  where  $R_m$  is the return on market portfolio

- 2.11. **Clause(s)** shall mean the Clause(s) of these guidelines;
- 2.12. **Control Period** means a period of five Tariff Years, during which Tariff(s) as determined by the Authority shall subsist;
- 2.13. **Estimated Maximum Allowed Yield** means the estimated yield per unit allowed to be recovered in the Tariff Year, calculated according to Clause 9.10;
- 2.14. **Form(s)** shall mean the prescribed form(s) listed in the Schedule to these Guidelines;
- 2.15. **Multi Year Tariff Framework** means the set of principles for the purpose of determination of the Aggregate Revenue Requirement as described in Chapter III;
- 2.16. **Multi Year Tariff Order** means such order as may be made by the Authority specifying the materiality assessment, the competition assessment, the Aggregate Revenue Requirement and yield per unit, wherever applicable;
- 2.17. **Multi Year Tariff Proposal** means a proposal for determination of Aggregate Revenue Requirement including evidence required for the assessment of materiality and competition submitted, in accordance with

Section AI.2, to the Authority by the Service Provider(s) before the start of a Control Period;

- 2.18. **Regulatory Building Blocks** means components required for determining the Aggregate Revenue Requirement for a Tariff Year of the relevant Control Period as enumerated in Clause 8;
- 2.19. **Section(s)** mean the section(s) of the Appendices attached to these guidelines;
- 2.20. **Regulated Service(s)** means any service provided for (i) ground handling services relating to aircraft, passengers and cargo at an airport; (ii) the cargo facility at an airport; and (iii) supplying fuel to the aircraft at an airport;
- 2.21. **Service Provider(s)** means any person, other than Airport Operator, who provides one or more Regulated Services;
- 2.22. **Tariff(s)** means such tariff(s) as approved by the Authority to be levied by a Service Provider for provision of Regulated Services;
- 2.23. **Tariff Year** means each one of the five year period making up the Control Period. The Tariff Year shall commence on 1st April of a calendar year and end on 31st March of the subsequent calendar year;
- 2.24. **Unit(s)** means such unit used as a divisor for calculating the yield per unit. In case of service provided for (i) ground handling services relating to aircraft, passengers and cargo at an airport, the unit shall be aircraft movement; (ii) the cargo facility at an airport, the unit shall be metric tonne (MT); and (iii) supplying fuel to the aircraft at an airport, the unit shall be kilolitre;
- 2.25. **User Agreement** means any agreement entered into between a Service Provider and the user of the Regulated Service(s).
- 2.26. Words and expressions used but not defined in these Guidelines shall have the same meaning respectively assigned to them under the Act.
- 2.27. **Interpretation**

In case of any dispute regarding interpretation as to the meaning of any term, expression or provision in these guidelines, the decision of the Authority shall be final and binding.

## Chapter I

### 3. Approach to Assessment of Materiality and Competition

3.1. The Authority shall follow a two stage procedure for determining its approach to the regulation of Regulated Service(s) as under:

**Stage 1:** The Authority shall first assess the ‘materiality’ according to provisions of Clause 4;

**Stage 2:** The Authority shall then assess the ‘competition’ according to provisions of Clause 5.

3.2. Based on the Authority’s review at stage 1 and stage 2 where the Regulated Service(s) provided are deemed to be:

(i) ‘material and not competitive’, the Authority shall determine Tariff(s) based on price cap approach. The Authority shall determine Aggregate Revenue Requirement according to Chapter III and determine Tariff(s) according to Chapter IV;

(ii) either ‘not material’ or ‘material but competitive’, the Authority shall approve Tariff(s), based on a light touch approach, according to Chapter V.

3.3. The Authority shall assess the materiality and competition prior to the commencement of the Control Period.

3.4. Where the Regulated Service(s) are determined as ‘material and not competitive’, the Authority shall determine Tariff(s) for Service Provider(s) based on price cap approach for the duration of Control Period.

3.5. Where the Regulated Service(s) are determined as ‘not material’ or ‘material but competitive’, the Authority shall determine Tariff(s) for Service Provider(s) based on a light touch approach for the duration of Control Period.

3.6. Notwithstanding Clause 3.3 above, the Authority reserves the right to review the materiality assessment and competition assessment within the Control Period.

- 3.7. In the event that a new Service Provider(s) starts providing Regulated Service(s) at a major airport, the Authority shall determine the Tariff(s) for such Service Provider(s) in accordance with its existing approach to the regulation of Regulated Service(s) at that major airport and, the Control Period for such Service Provider(s) shall start from the date as determined by the Authority.
- 3.8. In the event that one or more of existing Service Provider(s) ceases to provide Regulated Service(s) at a major airport, the remaining Service Provider(s) of Regulated Service(s) shall continue to be regulated as determined prior to the commencement of the Control Period.

#### 4. Materiality Assessment

4.1. Service provided for supplying fuel to the aircraft at an airport<sup>1</sup>

- (i) The materiality index for service provided for supplying fuel to the aircraft at an airport A shall be defined as:

**Materiality Index (MI<sub>F</sub>)**

$$= \frac{\text{Aircraft Movements at airport A}}{\text{Total Aircraft Movements at Major Airports}} \times 100$$

Where ‘Aircraft Movements’ represent the total number of aircraft movements (domestic and international) per annum at the specific major airport A, where Regulated Service(s) is being provided, as indicated in the latest available official statistics from Airports Authority of India.

Where ‘Total Aircraft Movements at Major Airports’ represents the sum total of all aircraft movements (domestic and international) per annum at all major airports as indicated in the latest available official statistics from Airports Authority of India.

- (ii) Where the MI<sub>F</sub> as calculated above is 5% or more at a major airport, the Regulated Service(s) at that major airport shall be deemed ‘material’. if

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<sup>1</sup> Reference Appendix II: Explanation for materiality assessment

$MI_F$  is below 5%, then the Regulated Service(s) at that major airport shall be deemed 'not material'.

#### 4.2. Service provided for the cargo facility at an airport<sup>2</sup>

- (i) The materiality index for service provided for cargo facility at an airport A shall be defined as:

$$\text{Materiality Index } (MI_C) = \frac{\text{Cargo Volumes at airport A}}{\text{Total Cargo Volumes at Major Airports}} \times 100$$

Where '*Cargo Volumes*' represents the total cargo volumes in MT per annum handled at specific major airport A as indicated in the latest available official statistics from Airports Authority of India.

Where '*Total Cargo Volumes at Major Airports*' represents the sum total cargo volumes in MT per annum, handled at all major airports as indicated in the latest available official statistics from Airports Authority of India.

- (ii) Where the  $MI_C$ , as calculated above is 2.5% or more at a major airport, the Regulated Service(s) at that major airport shall be deemed 'material'. If  $MI_C$  is below 2.5%, then Regulated Service(s) at that major airport shall be deemed 'not material'.

#### 4.3. Services provided for ground handling services<sup>3</sup>

- (i) The materiality index for services provided for ground handling at an airport A shall be defined as:

$$\begin{aligned} &\text{Materiality Index } (MI_G) \\ &= \frac{\text{International Aircraft Movements at airport A}}{\text{Total International Aircraft Movements at Major Airports}} \times 100 \end{aligned}$$

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<sup>2</sup> Reference Appendix II: Explanation for materiality assessment

<sup>3</sup> Reference Appendix II: Explanation for materiality assessment

Where 'International Aircraft Movements' represent the total number of international aircraft movements per annum at specific major airport A as indicated in the latest available official statistics from Airports Authority of India.

Where 'Total International Aircraft Movements at Major Airports' represents the sum total international aircraft movements per annum at all major airports as indicated in the latest available official statistics from Airports Authority of India.

- (ii) Where the  $MI_G$  as calculated above is 5% or more at a major airport, the Regulated Service(s) at that major airport shall be deemed 'material'. If  $MI_G$  is below 5%, then Regulated Service(s) at that major airport shall be deemed 'not material'.

## **5. Competition Assessment**

- 5.1. Where a Regulated Service is being provided at a major airport by three or more Service Provider(s), it shall be deemed as 'competitive' at that airport. If a Regulated Service is provided by two or less Service Provider(s), it shall be deemed to be 'not competitive':

Provided that the Authority may in its discretion consider such other additional evidence regarding reasonableness of competition, as it may deem fit.

Explanation: For avoidance of any doubt, the determination of number of Service Provider(s) shall include Airport Operator, if it is also providing Regulated Service(s) at that airport.



## Chapter II

### **6. Procedure for submission and review of Tariff Proposals**

6.1. All Service Provider(s) shall, within two months of the date of issue of these Guidelines, submit to the Authority for its consideration, a Multi Year Tariff Proposal for the first Control Period in the form and manner prescribed in Section AI.2 of Appendix 1 hereto:

Provided that for the subsequent Control Period(s) the due date for submission of a Multi Year Tariff Proposal shall be as prescribed by the Authority.

6.2. The Authority shall upon due consideration of the Multi Year Tariff Proposal and after obtaining such additional information, as it may consider necessary, make a Multi Year Tariff Order for a Control Period.

6.3. After receipt of the Multi Year Tariff Order, all Service Provider(s) shall submit to the Authority its Annual Tariff Proposal:

Provided that the Annual Tariff Proposal shall be submitted at least 75 days prior to the start of the Tariff Year.

6.4. Subject to Clause 6.6, the Authority shall duly consider the Annual Tariff Proposal and may, where considered necessary, direct an analysis of the said proposal and require submission of additional information.

6.5. The Authority shall after due consideration of the Annual Tariff Proposal make an Annual Tariff Order for a Tariff Year.

6.6. All Service Provider(s) shall submit an Annual Compliance Statement, within one month from the date on which the audited information for a Tariff Year becomes available, or within 6 months of the close of the relevant financial year, whichever is earlier.

6.7. Upon receiving a specific request for extension of time for the submission of a Multi Year Tariff Proposal, an Annual Tariff Proposal, an Annual Compliance Statement or such other document or information that the Authority may

have required the Service Provider(s) to submit, the Authority may grant to the said Service Provider(s) such extension of time, as it deems appropriate.

- 6.8. In the event that the Service Provider(s) fails to submit the said Multi Year Tariff Proposal, an Annual Tariff Proposal, an Annual Compliance Statement or such other document or information that the Authority may have required the Service Provider(s) to submit within the prescribed period, or extension thereto, if any, the Authority may make such order as it deems appropriate.

## Chapter III

**7. Procedure for determination of Aggregate Revenue Requirement for Regulated Service(s) deemed ‘material and not competitive’**

- 7.1. The Multi Year Tariff Framework comprises of the set of principles on which the Authority shall analyse the Regulatory Building Blocks, according to Clause 8, for calculation of Aggregate Revenue Requirement (ARR).
- 7.2. For Regulated Service(s) deemed to be ‘material and not competitive’, the Authority shall determine the Aggregate Revenue Requirement (ARR) for a Control Period based on:
- (a) Fair Rate of Return on the Regulatory Asset Base (FRoR x RAB)
  - (b) Operating Expenditure (O)
  - (c) Depreciation (D)
  - (d) Taxation (T)
  - (e) Revenues from services other than Regulated Service(s) (NAR)
- 7.3. The Aggregate Revenue Requirement for the Control Period (ARR) shall be expressed as under :

$$ARR = \sum_{t=1}^5 (ARR_t) \text{ and}$$

$$ARR_t = (FRoR \times RAB_t) + D_t + O_t + T_t - NAR_t$$

Where t is the Tariff Year in the Control Period and  $ARR_t$  is the Aggregate Revenue Requirement for year t

*Illustration 1: The following example illustrates the calculation of Aggregate Revenue Requirement for a Control Period. The numbers in the illustration have been rounded to the nearest integers.*

<b>Aggregate Revenue Requirement</b>		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>RAB for calculating ARR</b>	RAB	1,410	1,381	967	898	848
<b>Fair Rate of Return on RAB</b>	FRoR	16%	16%	16%	16%	16%
	RAB x FRoR	226	221	155	144	136
<b>Depreciation</b>	D	313	377	352	369	412
<b>Operating Expenditure</b>	O	2,000	2,200	2,400	2,550	2,800
<b>Tax</b>	T	40	31	269	432	606
<b>Revenues from services other than Regulated Services</b>	NAR	79	29	76	96	54
		ARR <sub>1</sub>	ARR <sub>2</sub>	ARR <sub>3</sub>	ARR <sub>4</sub>	ARR <sub>5</sub>
<b>Aggregate Revenue Requirement</b>	$ARR_t = RAB_t \times FRoR + O_t + D_t + T_t - NAR_t$	2,500	2,800	3,100	3,400	3,900

- *The numbers in this illustration are on nominal basis.*
- *RAB for calculating ARR is determined as illustrated in Clause 8.2.*
- *FRoR for calculating ARR is determined as illustrated in Clause 8.1.*
- *D for calculating ARR is determined as illustrated in Clause 8.3.*

## 8. Regulatory Building Blocks

### 8.1. Fair Rate of Return (FRoR)

8.1.1. The Authority shall determine the Fair Rate of Return (FRoR) for a Control Period as its estimate of the weighted average cost of capital for a Service Provider as under :

$$FRoR = g \times R_d + (1 - g) \times R_e$$

Where:

$g$  is gearing (i.e. debt / debt + equity)

$R_d$  is the pre-tax cost of debt

$R_e$  is the post-tax cost of equity

8.1.2. The FRoR shall be calculated on a nominal basis for a Control Period.

8.1.3. Cost of Equity

- (a) The Authority shall estimate cost of equity by using the Capital Asset Pricing Model (CAPM) for each Service Provider, subject to the consideration of such factors as the Authority may deem fit.

8.1.4. Cost of Debt

- (a) The Authority shall consider the forecast cost of existing debt, subject to the reasonableness of such costs based on a review including of its source(s), procedure(s) and method(s) used for raising such debt(s).
  - (b) The Authority shall consider the forecast for future cost of : (i) debt proposed to be raised during the Control Period; or (ii) such debt which may be subject to a floating rate of interest subject to the reasonableness of such costs, based on a review including of its source(s), procedure(s) and method(s) to be used for raising such debt(s).
  - (c) The Authority shall consider, in respect to the cost of debt, interest free or concessional loan arrangements, if any.
  - (d) The Authority shall determine a weighted average cost of debt, according to the formula indicated in the Illustration 2 below Clause 8.1.7, in a Control Period for the purpose of determination of FRoR. The determination of such weighted average cost of debt shall have reference to projected quantum of debt submitted by the Service Provider. The calculation of such weighted average cost of debt shall be based on the forecast quantum of debt for each Tariff Year in a Control Period.
- 8.1.5. The Authority shall not consider financing costs of any short term debt, with maturity of less than 12 months, in its determination of weighted

average cost of debt. The Authority shall review such costs according to Clause 8.4.

8.1.6. The Authority shall consider, in respect of the cost of equity or cost of debt, as the case may be, the nature of all financial instruments being used or proposed to be used to mobilize such funds.

8.1.7. Gearing

(a) The Authority shall determine a weighted average gearing in a Control Period for the purpose of determination of FRoR. The determination of such weighted average gearing shall have reference to actual and projected quantum of debt submitted by the Service Provider. The calculation of such weighted gearing shall be based on the forecast quantum of debt and equity for each Tariff Year in a Control Period.

*Illustration 2: The following example illustrates this approach where the forecasted debt, equity and cost of debt varies over the Control Period. The numbers in the illustration have been rounded to the nearest integers.*

<b>Fair rate of Return</b>					
	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Debt (D)</b>	2,000	2,700	2,700	2,700	2,900
<b>Equity (E)</b>	1,500	1,500	1,500	3,000	3,000
<b>Debt+Equity (C)</b>	3,500	4,200	4,200	5,700	5,900
<b>Cost of Debt (Kd)</b>	13.90%	14.00%	15.00%	14.20%	14.50%
<b>Cost of Equity (Ke)</b>	18.00%	18.00%	18.00%	18.00%	18.00%
<b>Individual Year Gearing (G)</b>	57.1%	64.3%	63.4%	47.4%	49.2%
<b>Weighted Average Gearing (WG)</b>	55.3%				
<b>Weighted Average Cost of Debt (Ra)</b>	14.3%				
<b>Cost of Equity (Re)</b>	18.0%				
<b>Fair Rate of Return</b>	16.0%	$FRoR = WG \times Rd + (1-WG) \times Re$			

- *The example illustrates that for each Tariff Year, the gearing differs on account of varying levels of debt and equity. Therefore, the weighted*

average gearing for the determination of FROr is arrived at using the following formula:

$$\text{Weighted average gearing} = WG = \frac{\sum_{t=1}^5 (C_t \times G_t)}{\sum_{t=1}^5 (C_t)}$$

where

$t = 1$  to  $5$  denotes each Tariff Year

- Similarly, the cost of debt differs for each Tariff Year. Therefore, the weighted average cost of debt for the determination of FROr is arrived at using the following formula:

$$\text{Weighted average cost of debt} = Rd = \frac{\sum_{t=1}^5 (D_t \times Kd_t)}{\sum_{t=1}^5 (D_t)}$$

where

$t = 1$  to  $5$  denotes each Tariff Year

## 8.2. Regulatory Asset Base (RAB)

### 8.2.1. Scope of the RAB

- The relevant RAB assets shall be all fixed assets proposed by the Service Provider(s), after providing for such exclusions therefrom or inclusions therein as may be determined by the Authority.
- The assets that substantially provide services not related to or not normally provided as part of Regulated Service(s) may be excluded from the scope of RAB by the Authority, in its discretion.
- The Authority may also, in its discretion, consider any other relevant factors for exclusion or inclusion of assets.
- Consequent to the exclusion of identified assets from RAB, the Authority shall not consider the value of such assets (including its corresponding revenues and expenditures) for the purpose of determination of Aggregate Revenue Requirement.
- The RAB may not necessarily correspond to the sum of any values of the fixed assets held in any fixed asset register. However, the adjustments to

the RAB account shall relate to transactions and events in respect of the fixed assets such as acquisitions, commissioning, disposals, exclusions and depreciation.

8.2.2. The RAB shall represent the value of net investments, according to Clause 8.2.1 and 8.2.6, made by the Service Provider.

8.2.3. For any Tariff Year  $t$ , RAB shall be the average of the RAB value at the end of Tariff Year  $t$  and the RAB value at the end of the preceding Tariff Year  $t-1$ , as under:

$$\frac{RAB_t + RAB_{t-1}}{2}$$

8.2.4. Initial RAB

(a) The initial RAB for the determination of Aggregate Revenue Requirement for the first Control Period shall be the fixed assets indicated in the last audited accounts of the Service Provider, subject to Clause 8.2.1.

(b) The value of the initial RAB shall be calculated as under:

$$\begin{aligned} \text{Initial RAB} &= \text{Original Cost of Fixed Assets} \\ &\quad - \text{Accumulated Depreciation} \\ &\quad - \text{Accumulated Capital Receipts or contributions from stakeholders} \end{aligned}$$

where:

Original Cost of Fixed Assets: The original cost of fixed assets as indicated in the last audited accounts, (excluding any re-valuation other than adjustments for impairment or such other adjustments that the Authority may consider appropriate) shall be included in the scope of the RAB based on the following principles:

(i) Evidence of competitive procurement for major capital investments of value more than 5% of the opening RAB of the first Tariff Year;



- (ii) Evidence that investment was made in accordance with the capital investment plan duly approved by the competent authority.

Accumulated Depreciation: Accumulated amounts provided for depreciation of fixed assets, as indicated in the last audited accounts, using depreciation policies that reflect reasonable estimates of the useful economic life of the assets;

Accumulated Capital Receipts of the nature of contributions from stakeholders: Total contributions pertaining to the fixed assets which are included in the scope of the RAB, including by way of capital grants and subsidies.

*Illustration 3: The following example illustrates this approach for calculation of Initial RAB. The numbers in the illustration have been rounded to the nearest integers.*

<b>Fixed assets data from fixed asset register</b>						
<b>Asset</b>	Useful Economic Life (EL)	Original Cost of Fixed Assets (OC)	Capital Receipt (SC)	Depreciation rate (DR = 1/EL)	Years in Operation (Y)	Accumulated Depreciation AD = (OC-SC) x DR x Y
<b>Asset 1</b>	25	1,250	-	4.00%	5	250
<b>Asset 2</b>	10	2,000	1,000	10.00%	5	500
	Total	3,250	1,000			750

<b>Initial RAB Valuation</b>		
<b>Original Cost of fixed assets</b>	3,250	OC
<b>Accumulated depreciation</b>	750	AD
<b>Capital receipt</b>	1,000	SC
<b>Initial RAB</b>	1,500	IR=OC-AD-SC

- *The example illustrates that the data from fixed asset register of year 2009-10 as submitted by the Service Provider is used to calculate the value of Initial RAB. The Initial RAB shall then be used for forecasting RAB at the end of year 2010-11.*
- *The depreciation rate is calculated using the straight line method based on the useful economic life of the asset. Any capital receipts have not been considered for the purpose of calculation of depreciation.*

#### 8.2.5. Forecasting the RAB

- (a) The forecast of the RAB shall be made at the beginning and at the end of each Tariff Year in a Control Period. The Authority shall, on the basis of the said forecast RAB, determine for each Tariff Year  $t$  in a Control Period the terms  $RAB_t$  and  $RAB_{t-1}$  appearing in Clause 8.2.3.

- (b)  $RAB_{t-1}$  for the first Tariff Year of the first Control Period is equal to the forecasted RAB at the end of the preceding financial year.

Explanation: In case 2011-12 is the first Tariff Year of the first Control Period (i.e 2011-12 to 2015-16),  $RAB_{t-1}$  (i.e.  $RAB_{2010-11}$ ) for the first Tariff Year (i.e. 2011-12) is equal to the forecasted RAB at the end of the financial year 2010-11.

- (c) For subsequent Control Periods, the  $RAB_{t-1}$  for the first Tariff Year shall be forecasted RAB at the end of the last Tariff Year of the last Control Period.

- (d) For projecting depreciation on forecast of assets to be commissioned or disposed off during a Control Period, it shall be assumed that such assets have been commissioned or disposed of half way through the Tariff Year and depreciation related to such assets shall be calculated pro-rata.

*Illustration 4: The following example illustrates the approach for forecasting RAB for the Control period. The numbers in the illustration have been rounded to the nearest integers.*

		<b>Forecast RAB</b>					
		<b>2010-11</b>	<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Opening RAB<sub>t-1</sub></b>	OR	1,500	1,250	1,570	1,193	741	1,053
<b>Commissioned Assets</b>	CA	-	633	-	-	681	-
<b>Depreciation</b>	DR	250	313	377	352	369	412
<b>Disposals</b>	DI	-	-	-	100	-	-
<b>Incentive Adjustments</b>	IA	-	-	-	-	-	-
<b>Closing RAB<sub>t</sub></b>	CR=OR+CA- DR-DI+IA	1,250	1,570	1,193	741	1,053	641
<b>RAB for calculating ARR</b>	RA=(OR+CR)/2		1,410	1,381	967	898	848

- *The example illustrates that the  $RAB_{t-1}$  for the first Tariff Year of the first Control Period is equal to the forecasted RAB at the end of the financial year 2010-11 and the Initial RAB as calculated in Clause 8.2.4 is used as the opening RAB for 2010-11.*
- *The example also illustrates that RAB, for a Tariff Year  $t$ , for the calculation of ARR, shall be the average of the RAB value at the end of Tariff Year  $t$  and the RAB value at the end of the preceding Tariff Year  $t-1$ , as explained in the Clause 8.2.3.*

*Illustration 5: The following example illustrates the approach for forecasting depreciation for the Control Period. The numbers in the illustration have been rounded to the nearest integers.*

<b>Forecast Depreciation</b>									
	<b>Original Cost of Fixed Assets</b>	<b>Useful Economic Life (EL)</b>	<b>Depreciation rate (DR=1/EL)</b>	<b>2010 -11</b>	<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Asset 1</b>	1,250	25	4.00%	50	50	50	25	-	-
<b>Asset 2</b>	2,000	10	10.00%	200	200	200	200	200	200
<b>Asset 3</b>	633	5	20.00%	-	63	127	127	127	127
<b>Asset 4</b>	681	8	12.50%	-	-	-	-	42	85
			<b>Total</b>	250	313	377	352	369	412

- *The example illustrates that the depreciation is calculated using the straight line method based on the useful economic life of the asset.*
- *The example also illustrates that depreciation related to assets commissioned during a Control Period (Asset 3 and Asset 4) and depreciation related to assets disposed during a Control period (Asset 1) is calculated pro-rata assuming the commissioning or disposal at half way through the Tariff Year.*

#### 8.2.6. Rolling forward the RAB

- The RAB for the determination of the Aggregate Revenue Requirement for the second and every subsequent Control Period shall be the rolled forward RAB value determined by the Authority for the previous Control Period.
- The Authority shall determine the value of RAB, prior to the start of subsequent Control Period, up to the last Tariff Year for which audited accounts are available.
- For each Tariff Year  $t$ , the RAB at the end of the Tariff Year shall be calculated as:

$$\begin{aligned}
 \text{RAB}_t &= \text{RAB}_{t-1} \\
 &+ \text{Commissioned Assets} \\
 &- \text{Depreciation} \\
 &- \text{Disposals} \\
 &+ \text{Incentive Adjustments}
 \end{aligned}$$

Where:

RAB<sub>t</sub> = Regulatory Asset Base at the end of Tariff Year  $t$

RAB<sub>t-1</sub> = Regulatory Asset Base at the end of Tariff Year  $t-1$

Commissioned Assets: Represents investments brought into use during Tariff Year  $t$ , consistent with Clause 8.2.7 herein below.

Depreciation: Represents the amounts for depreciation as described in Clause 8.3 and allowed for in the calculation of Aggregate Revenue Requirement.

Disposals: Represents the higher of the proceeds or fair market value in respect of forecast disposals or deemed disposals (transfers out of the RAB) for Tariff Year t.

Incentive Adjustments: Represents other adjustments to reflect incentives that the Authority may have determined in the previous Multi Year Tariff Order or at any other time to encourage timely investment. For the purpose of ascertaining such adjustments, the Authority shall have due regard to effectiveness and efficiency of such investment.

*Illustration 6: The following example illustrates the approach for calculating roll forward RAB using actuals in latest available audited accounts for the Control period. The numbers in the illustration have been rounded to the nearest integers.*

		<b>Roll Forward RAB</b>					
		2010-11	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Opening RAB<sub>t-1</sub></b>	OR	1,500	1,400	1,130	1,771	1,244	822
<b>Commissioned Assets</b>	CA	160	-	1,012	-	-	-
<b>Depreciation</b>	DR	260	270	371	447	422	422
<b>Disposals</b>	DI	-	-	-	80	-	-
<b>Incentive Adjustments</b>	IA	-	-	-	-	-	-
<b>Closing RAB<sub>t</sub></b>	CR=OR+CA- DR-DI+IA	1,400	1,130	1,771	1,244	822	400
<b>RAB for calculating ARR</b>	RA=(OR+CR)/2		1,265	1,459	1,507	1,032	610

- *The example illustrates that the RAB<sub>t-1</sub> for the first Tariff Year of the first Control Period is equal to the rolled forward RAB at the end of the financial year 2010-11 and the Initial RAB as calculated in Clause 8.2.4 is used as the opening RAB for 2010-11.*

- *Opening RAB for the first Tariff Year of the second Control period shall be the closing RAB value (i.e. 400) of Tariff Year 5 of the first Control Period.*

#### 8.2.7. Work In Progress assets

- (a) Work in Progress Assets (WIPA) are such assets as have not been commissioned during a Tariff Year or Control period, as the case may be. Work in Progress assets shall be accounted for as:

$$\begin{aligned}
 WIPA_t &= WIPA_{t-1} \\
 &\quad + \text{Capital Expenditure (Capex)} \\
 &\quad + \text{Financing Allowance} \\
 &\quad - \text{Accumulated Capital Receipts or contributions from stakeholders (SC)} \\
 &\quad - \text{Commissioned Assets (CA)}
 \end{aligned}$$

Where:

WIPA<sub>t</sub>: Work in Progress Assets at the end of Tariff Year t

WIPA<sub>t-1</sub>: Work in Progress Assets at the end of Tariff Year t-1

Capital Expenditure: Expenditure on capital projects and capital items made during Tariff Year t.

The Financing Allowance shall be calculated as follows

$$\text{Financing Allowance} = R_d \times \left( WIPA_{t-1} + \frac{\text{Capex} - \text{SC} - \text{CA}}{2} \right)$$

Where  $R_d$  is the cost of debt determined by the Authority according to Clause 8.1.4.

SC are Capital Receipts pertaining to the capital WIP included in the scope of the RAB (including capital grants and subsidies).

CA are Commissioned Assets which pertain to the accumulated value of the WIPA attributable to all assets that have been put into effective operation during Tariff Year t.

- (b) Assets acquired or commissioned within the same Tariff Year, (including such assets as may be commissioned immediately upon acquisition) shall be included both in Capital Expenditure and Commissioned Assets.
- (c) The Authority shall determine a forecast for Work in Progress assets (including value of Commissioned Assets in each Tariff Year) in the determination of the Aggregate Revenue Requirement and the determination of forecast RAB.

*Illustration 7: The following example illustrates this approach for calculation of Work in progress assets, financing allowance and commissioned assets. The numbers in the illustration have been rounded to the nearest integers.*

		<b>Work in Progress Assets</b>					
		<b>2010</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>
		<b>-11</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Opening WIP: WIP<sub>t-1</sub></b>	OW	-	-	-	558	638	-
<b>Capital Expenditure</b>	CE	-	833	521	-	-	-
<b>Financing Allowance</b>	FA=R <sub>d</sub> x (OW+(CE-CA-CR)/2)	-	-	37	80	43	-
<b>Capital Receipts</b>	SC	-	200	-	-	-	-
<b>Commissioned Assets</b>	CA	-	633	-	-	681	-
<b>Closing WIP: WIP<sub>t</sub></b>	CW = OW + CE + FA - SC - CA	-	-	558	638	-	-

- *The cost of debt, R<sub>d</sub>, used for calculation of financing allowance, is the cost of debt determined by the Authority under Clause 8.1.4.*
- *The example illustrates that the assets acquired or commissioned within the same Tariff Year 1, has been included both in Capital Expenditure and Commissioned Assets.*
- *The value of commissioned assets, as calculated, shall be used for forecasting RAB for the Control Period.*

### 8.3. Depreciation (D)

- (a) Depreciation shall be allowed for in calculating Aggregate Revenue Requirement on a forecast basis for each Tariff Year in a Control Period,

and shall be calculated using the straight line method of depreciation on the amount of original cost of the existing fixed assets together with forecast additions less disposals of fixed assets:

Provided that depreciation on capital receipts, if any, shall not be considered.

- (b) Depreciation rates shall be based on reasonable estimates of the useful economic life of the assets and may be referenced to the depreciation rates provided in the Companies Act, 1956 or to any other empirical evidence.
- (c) The forecast depreciation used in the determination of Aggregate Revenue Requirement for each Tariff Year of the Control Period shall be used in the calculation of the roll forward RAB at the end of the Control Period according to Clause 8.2.6 (c).

#### 8.4. Operating Expenditure (O)

- (a) The assessment of operating expenditure by the Authority shall include a review of the operating expenditure forecast submitted by the Service Provider based on the following principles:
  - (i) Assessment of baseline operating expenditure based on review of underlying factors impacting variance over the preceding year including treatment for one-time costs or atypical costs;
  - (ii) Assessment of efficiency improvement for controllable costs based on review of factors such as trends in operating costs, productivity improvements, cost drivers as may be identified, and other factors as may be considered appropriate; and
  - (iii) Assessment of security operating costs, other mandated operating costs or statutory operating costs, where (i) security operating costs are costs incurred in compliance of directions received from Bureau of Civil Aviation Security or Central Government, as the case may be; (ii) other mandated operating costs are costs incurred in compliance of directions received from other regulatory



agencies including Director General Civil Aviation; and (iii) statutory operating costs are costs incurred on account of fees, levies, taxes and other such charges, directly imposed on and paid for by the Service Provider.

- (b) The Authority shall consider financing costs of any short term debt, generally raised towards working capital with maturity of less than 12 months, as part of its assessment of operating expenditure.

#### 8.5. Taxation (T)

- (a) Taxation represents payments by the Service Provider in respect of corporate tax on profit from assets and services taken into consideration for determination of Aggregate Revenue Requirement.
- (b) The Authority shall review forecast for corporate tax calculation with a view to ascertain the appropriateness of allocation for taxation indicated between (i) all profits on revenues taken into consideration for determination of Aggregate Revenue Requirement ; and (ii) profit from other activities, if any.

Explanation: For avoidance of doubt, it is clarified that any interest payments, penalty, fines and other such penal levies associated with corporate tax, shall not be taken into consideration for calculation of Taxation.

#### 8.6. Revenues from services other than Regulated Service(s) (NAR)

- (a) The Authority's review of forecast of revenues from services other than Regulated Service(s) may include scrutiny of bottom-up projections of such revenues prepared by the Service Provider, benchmarking of revenue levels, commissioning experts to consider where opportunities for such revenues are under-exploited, together with the review of other forecasts for operating costs and traffic and capital investment plans that have implications for such activities.

## Chapter IV

**9. Procedure for determination of Tariff(s) for Regulated Service(s) deemed ‘material and not competitive’**

- 9.1. The Authority shall determine Aggregate Revenue Requirement as prescribed in Clause 7.3 and the Yield per Unit (Y) in the Multi Year Tariff Order for the Control Period.
- 9.2. The Authority shall determine the Yield per Unit (Y) for the Control Period using the following formula:

$$\text{Yield per Unit (Y)} = \frac{\sum_{t=1}^5 PV(ARR_t)}{\sum_{t=1}^5 (VE_t)}$$

Where:

Present value (PV) of  $ARR_t$  for a Tariff Year t is being determined at the beginning of the Control Period and the discounting rate for calculating PV is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1;

$VE_t$  is the volumes in a Tariff Year t as estimated by the Authority in the Multi Year Tariff Order;

$ARR_t$  is the Aggregate Revenue Requirement for Tariff Year t.

- 9.3. The Authority shall set the value of Yield per Unit for the first Tariff Year ( $Y_1$ ) and  $X_t$  (for each Tariff Year t) taking into consideration number of factors including: (i) Yield per Unit (Y) as determined in Clause 9.2; (ii) the profile of price path within the Control Period; (iii) the current level of Tariff(s); (iv) the projected capital investment; (v) the targeted efficiency improvement; and (vi) any other relevant factors.
- 9.4. The Authority shall determine  $Y_1$  and X for each Tariff Year such that Yield per Unit (Y) as determined in Clause 9.2 is equal to:

$$\text{Yield per Unit (Y)} = \frac{\sum_{t=1}^5 PV(VE_t \times Y_t)}{\sum_{t=1}^5 (VE_t)}$$

where:

$VE_t$  is the volumes as estimated by the Authority in a Tariff Year  $t$  in the Multi Year Tariff Order;

$Y_t$  is the Yield per Unit for Tariff Year  $t$  calculated according to Clause 9.6;

Present value (PV) of  $(VE_t \times Y_t)$  for a Tariff Year  $t$  shall be determined at the beginning of the Control period and the discounting rate for calculating PV is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1.

- 9.5. As part of Multi Year Tariff Proposal, the Service Provider shall submit to the Authority, the forecasted changes in WPI (for each Tariff Year of the Control Period) as used in the calculation of Regulatory Building Blocks.
- 9.6. The Authority shall review the forecast of changes in WPI as submitted by the Service Provider and shall determine the Yield per Unit for the second Tariff Year onwards using the following formula:

$$Y_t = Y_{t-1} \times (1 + WPI_t - X_t)$$

where:

$Y_{t-1}$  is the Yield per Unit for the Tariff Year preceding Tariff Year  $t$  and  $Y_1$  for the first Tariff Year shall be determined by the Authority in Multi Year Tariff Order (in accordance with Clause 9.3);

$WPI_t$  is the forecast of change in WPI for Tariff Year  $t$  as determined by the Authority;

$X_t$  is determined by the Authority for Tariff Year  $t$  in the Multi Year Tariff Order.

Explanation:  $X_t$  is a term which shall be determined, by the Authority, separately for each Tariff Year  $t$  in the Multi Year Tariff Order, and represents an underlying rate reduction in the Yield per Unit (or rate of

increase in the event  $X_t$  is negative).  $X_t$  is expressed as a percentage such that 10% is interpreted in formulae as the decimal number 0.1.

The Authority will set the value of X taking into consideration number of factors as indicated in Clause 9.3.

The objective of targeted efficiency improvement, in the determination of X, is to simulate a competitive environment in a non-competitive situation by allowing Service Provider to raise Tariff(s) to offset price increases, but by a rate lower than inflation in order to encourage greater efficiency. The targeted efficiency improvement can be high, in case the Authority considers that there is high scope for efficiency and the Service Provider needs to make more effective or efficient use of its resources. Conversely, the targeted efficiency improvement can be low, in case the Authority considers there is limited scope for efficiency improvement.

The assessment of efficiency improvement can be complex and therefore requires a variety of considerations to be taken into account including key performance indicators relating to trends in costs per unit, efficiency factors applicable to other utilities in the country, impact of various levels of efficiency factor on revenues, operating expenditures and returns and historical profitability and performance.

*Illustration 8: The following example illustrates the approach for calculating Yield per Unit(Y),  $Y_1$  and  $X_t$ . The Aggregate Revenue Requirement and Units in the illustration have been rounded to the nearest integers and the Yield per Unit has been rounded to two decimal places.*

		<b>Yield per Unit (Y)</b>				
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Aggregate Revenue Requirement</b>	ARR	2500	2800	3100	3400	3900
<b>Volumes estimated</b>	VE	1000	1150	1323	1521	1749
<b>Present Value (ARR)</b>	PV (ARR)	2500	2413	2304	2178	2154
<b>ΣPV(ARR)</b>	11550					
<b>ΣVE</b>	6743					
<b>Y = Σ PV(ARR) / Σ VE</b>	1.71					

		<b>Y1 and X</b>				
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Forecasted WPI</b>	WPI <sub>t</sub>	10%	10%	10%	10%	10%
<b>X</b>	X <sub>t</sub>	2%	2%	2%	2%	2%
<b>Yield per Unit for Tariff Year t</b>	Y <sub>t</sub>	2.01	2.17	2.34	2.53	2.73
<b>Revenue = VE x Y</b>	VE x Y	2005	2491	3095	3842	4772
<b>Present Value (VE x Y)</b>	PV (VE x Y)	2005	2147	2300	2462	2635
<b>ΣPV(VE x Y)</b>	11550					
<b>ΣVE</b>	6743					
<b>Y = Σ PV(VE x Y) / Σ VE</b>	1.71					

- *Y1 and X are calculated considering various factors such that*

$$\sum PV(ARR) / \sum VE = \sum PV(VE \times Y) / \sum VE$$

- *In this illustration, for simplicity, X has been taken as same for all 5 years*
- *Yield per Unit for the second Tariff Year onwards (i.e. Y2 to Y5) is calculated according to Clause 9.6.*
- *The discounting rate for calculating PV is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1. In this illustration, 16% from illustration 2 has been used.*

9.7. The Authority shall review and approve the Tariff(s) for a Tariff Year taking into account the: Annual Tariff Proposal and Annual Compliance Statement

submitted by the Service Provider to the Authority according to Clause 9.9 and 9.12, respectively and, such other information as the Authority may consider necessary.

9.8. The Authority shall follow the procedure as herein below for determination and adjustments to Tariff(s) on an annual basis:

9.8.1. Annual Tariff Proposal, according to Clause 9.9;

9.8.2. Annual Compliance Statement, according to Clause 9.12.

9.9. Annual Tariff Proposal

9.9.1. Prior to the start of each Tariff Year, the Service Provider(s) shall submit, for approval by the Authority, an Annual Tariff Proposal. The proposal shall contain calculation, according to Clause 9.10, of Estimated Maximum Allowed Yield per Unit (EMAY), to be recovered during the Tariff Year and a detailed break-up of the Tariff(s) from which it proposes to recover the EMAY.

9.9.2. The Annual Tariff Proposal shall be submitted in the form and manner provided in Section AI.7 of Appendix I.

9.9.3. The Authority shall review the Annual Tariff Proposal and make an Annual Tariff Order with such adjustments, as may be necessary, to the Tariff(s) proposed by the Service Provider(s).

9.10. Estimated Maximum Allowed Yield per Unit

9.10.1. The Service Provider(s) shall calculate the Estimated Maximum Allowed Yield per Unit  $EMAY_t$  for each Tariff Year  $t$  using the following formula:

$$EMAY_t = Y_t + K_t$$

where,

$Y_t$  is the Yield per Unit, calculated according to Clause 9.6;

$K_t$  is the recovery error correction term, calculated according to Clause 9.11.

### 9.11. Recovery Error Correction Term

- (a) The recovery error correction term is, an adjustment to the Estimated Maximum Allowed Yield per Unit, calculated using the error correction term of Tariff Year t-2 and the compounding factor, according to the formula in Clause 9.11 (b). The error correction term shall be calculated according to Clause 9.21.
- (b) The recovery error correction term ( $K_t$ ), as indicated in the formula in Clause 9.10.1, shall be calculated as under:

$$K_t = \frac{E_{t-2} \times (1 + r)^2}{VE_t}$$

Where:

$E_{t-2}$  is the actual over-recovery or under-recovery in the Year t-2, calculated according to Clause 9.21.

$E_{t-2} = 0$  when t is the first or second Tariff Year of the first Control Period.

$VE_t$  is the volumes estimated used to determine the Yield per Unit in Tariff Year t by the Authority in the Multi Year Tariff Order.

r is the compounding factor for over recoveries and is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1.

**Explanation:** The recovery error correction term secures the Actual Maximum Allowed Yield per Unit approach by ensuring that:

- (i) over-recovery of the Actual Maximum Allowed Yield per Unit in any one Tariff Year automatically results in an appropriate reduction in the Estimated Maximum Allowed Yield per Unit for a subsequent Tariff Year. and
- (ii) adjustments shall be given for under-recovery in any one Tariff Year on account of following factors

- (a) forecast error correction according to Clause 9.15;
- (b) security operating costs correction according to Clause 9.16;
- (c) other mandated operating costs correction according to Clause 9.17;
- (d) statutory operating costs correction according to Clause 9.18; and
- (e) recovery error correction term, calculated using error correction term of Tariff Year t-2, according to Clause 9.19,

Such adjustments, subject to a cap of AMAY shall automatically result in an appropriate increase in the Estimated Maximum Allowed Yield for a subsequent Tariff Year.

*Illustration 9: The following example illustrates the approach for calculating Estimated Maximum Allowed Yield per Unit (EMAY). The numbers in the illustration have been rounded to the nearest 2 decimal places.*

<b>Estimated Maximum Allowed Yield per Unit</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Yield per Unit for Tariff Year t</b>	Y	2.01	2.17	2.34	2.53	2.73
<b>Error correction term for Tariff Year t-2</b>	$E_{t-2}$	-	-	(137.62)	37.16	(25.31)
<b>Compounding Factor</b>	$r = \text{FRoR}$	16.0%	16.0%	16.0%	16.0%	16.0%
<b><math>E_{t-2} \times (1+r^2)</math></b>	a	-	-	(185.18)	50.00	(34.05)
<b>Volumes Estimated</b>	VE	1,000	1,150	1,323	1,521	1,749
<b>Recovery Error Correction Term</b>	$K=a/VE$	-	-	(0.14)	0.03	(0.02)
<b>Estimated Maximum Allowed Yield per Unit</b>	$\text{EMAY}_t = Y+K$	2.01	2.17	2.20	2.56	2.71

- *Yield per Unit for the purpose of calculating Estimated Maximum Allowed Yield per Unit shall be determined by the Authority in the Multi*



*Year Tariff Order. The calculation of the Yield per Unit is given in illustration 8.*

- *Compounding factor,  $r$ , for error correction term shall be equal to the FRoR as calculated in Clause 8.1.*
- *Error correction term for Tariff Year  $t-2$ , calculated in Clause 9.21, is used for calculating EMAY for Tariff Year  $t$ .*
- *The Tariff(s) proposed for the Tariff Year shall be consistent with Estimated Maximum Allowed Yield per Unit.*

#### 9.12. Annual Compliance Statement

9.12.1. The primary purpose of annual compliance statement shall be to calculate the Actual Maximum Allowed Yield and error correction term for the Tariff Year  $t$ . Based on the annual compliance statement, the Authority shall review and approve such adjustments to the Estimated Maximum Allowed Yield per Unit and Tariff(s) applicable for the subsequent Tariff Year, as may be required.

9.12.2. The Service Provider(s) shall submit the annual compliance statement, in the form and manner provided in Section AI.8 of Appendix I, to the Authority. In addition, the Service Provider(s) shall submit copies of annual audited statutory accounts.

9.12.3. The Annual Compliance Statement shall be submitted in respect of the actuals based on its annual statutory audited accounts for a particular Tariff Year and shall clearly indicate the calculation of the following:

- (a) Yield per Unit ( $Y$ ), calculated for actual WPI in the Tariff Year according to Clause 9.14;
- (b) Forecast error correction term ( $F_t$ ), calculated according to Clause 9.15;
- (c) Security operating cost correction term ( $S_t$ ) for the Tariff Year  $t$ , calculated according to Clause 9.16;

- (d) Other mandated operating cost correction term ( $OM_t$ ) for the Tariff Year  $t$ , calculated according to Clause 9.17;
- (e) Statutory operating costs correction term ( $U_t$ ) for the Tariff Year  $t$ , calculated according to Clause 9.18;
- (f) Recovery error correction term ( $K_t$ ) calculated according to Clause 9.19.

9.12.4. The Annual Compliance Statement shall also provide details of the Actual Maximum Allowed Yield per Unit (AMAY) calculated according to Clause 9.13, Actual Yield per Unit (AY) calculated according to Clause 9.20 and the error correction term ( $E$ ) calculated according to Clause 9.21.

### 9.13. Actual Maximum Allowed Yield per Unit

9.13.1. The Actual Maximum Allowed Yield per Unit for a Tariff Year shall be determined after the audited accounts in respect of that Tariff Year becomes available.

9.13.2. The Actual Maximum Allowed Yield per Unit (AMAY) shall be calculated as under:

$$AMAY_t = Y_t \times (1 + F_t) + S_t + OM_t + U_t + K_t$$

Where in respect of Tariff Year  $t$ :

$AMAY_t$  is the Actual Maximum Allowed Yield per Unit for Tariff Year  $t$ ;

$Y_t$  is the Yield per Unit, calculated according to Clause 9.14, for the Tariff Year  $t$  at the end of such year;

$F_t$  is the forecast error correction term calculated according to Clause 9.15;

$S_t$  is the security operating cost correction term calculated according to Clause 9.16;

$OM_t$  is the other mandated operating cost correction term calculated according to Clause 9.17;

$U_t$  is the statutory operating cost correction term calculated according to Clause 9.18;

$K_t$  is the recovery error correction term calculated according to Clause 9.19.

9.14. Yield per Unit (Y) (with actual WPI at the end of the Tariff Year)

The Yield per Unit, with actual WPI, for determining the Actual Maximum Allowed Yield per Unit at the end of each Tariff Year in the Control Period shall be calculated as under:

$$Y_t = Y_{t-1} \times (1 + WPI_t - X_t)$$

Where:

$Y_{t-1}$  is the Yield per Unit for the Tariff Year preceding Tariff Year  $t$ , and  $Y_1$  for the first Tariff Year shall be determined by the Authority in Multi Year Tariff Order (in accordance with Clause 9.3);

$WPI_t$  is the average of the monthly levels of the WPI during Tariff Year  $t$  divided by the average of the monthly levels of the WPI during Tariff Year  $t-1$ , less 1. The average will be calculated by taking one twelfth of the sum of the WPI statistics for the months April to March of Tariff Year  $t$ ;

$X_t$  is a term which shall be determined, by the Authority, separately for each Tariff Year  $t$  in the Multi Year Tariff Order, and represents an underlying rate reduction in the Yield per Unit (or rate of increase in the event  $X_t$  is negative).

$X_t$  is expressed as a percentage such that 10% is interpreted in formulae as the decimal number 0.1.

#### 9.15. Forecast Error Correction Term

9.15.1. The forecast error correction term is an adjustment, to the Yield per Unit for the purpose of calculating error correction term in case of under-recovery. The term shall adjust for error in forecast in the event that the actual volumes in a Tariff Year differ from the forecast volumes in the Multi Year Tariff Order significantly (by more than a specified threshold proportion). The term shall correct for half of such a difference beyond the specified threshold.

9.15.2. Under the above mentioned forecast error correction approach, if the actual volumes remain within the upper and lower bands, specified in the Multi Year Tariff Order, there would be no adjustment. However, if actual volumes are beyond the bands the variation shall be shared between users and the Service Provider(s).

9.15.3. The forecast error correction term ( $F_t$ ) shall be calculated as under:

$$F_t = 0.5 \times FH_t \text{ or } 0.5 \times FL_t, \text{ as the case may be}$$

$$\text{If } V_t \geq VE_t$$

$$FH_t = -\left(\frac{V_t - VH_t}{VE_t}\right)$$

$$\text{If } V_t < VE_t$$

$$FL_t = \left(\frac{VL_t - V_t}{VE_t}\right)$$

$$VH_t = VE_t \times (1 + CF)$$

$$VL_t = VE_t \times (1 - CF)$$

Where:

$V_t$  is the actual volumes in Tariff Year  $t$  and is the divisor in the calculation of the Actual Yield per Unit according to Clause 9.20.

$VE_t$  is the volumes estimated used to determine the Yield per Unit in Tariff Year  $t$  by the Authority in the Multi Year Tariff Order.

CF is a term determined by the Authority at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order, and is the threshold proportion for the correction factor expressed in decimals. The value of CF shall be same for calculating the upper and lower band for the purpose of forecast error correction.

$VH_t$  is the value of upper band of the forecast volumes, used for forecast error correction.

$VL_t$  is the value of lower band of the forecast volumes, used for forecast error correction.

$FH_t$  is the proportion of variation in actual volumes over the value of upper band of the forecast volumes.

$FL_t$  is the proportion of variation in actual volumes under the value of lower band of the forecast volumes.

*Illustration 10: The following example illustrates the approach for calculating the Traffic Forecast Error Correction term. The numbers in the illustration have been rounded to the nearest 2 decimal places.*

<b>Forecast Error Correction Term</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Volumes Estimated</b>	VE	1000	1150	1323	1521	1749
<b>Upper band</b>	VH = VE x 1.1	1100	1265	1455	1673	1924
<b>Lower band</b>	VL = VE x 0.9	900	1035	1191	1369	1574
<b>Upper band correction term</b>	FH	-	-	-	(0.018)	0.000
<b>Lower band correction term</b>	FL	-	0.039	-	0.000	0.100
<b>Forecast Error Correction</b>	F=0.5(FH+FL)	-	0.02	-	(0.01)	0.05

- *Illustration assumes that the Authority sets the upper and lower bands at 10% of the forecasted volumes.*
- *The upper and lower bands on the correction term are calculated according to Clause 9.15.3.*

#### 9.16. Security Operating Cost Correction Term

- The security operating cost correction term ensures the correction for any changes in security operating costs by making adjustments to the Actual Maximum Allowed Yield per Unit. Such security operating costs shall cover mandated costs incurred due to the directions issued by BCAS or Central Government, as the case may be. Any additional mandated capital expenditure incurred by the Service Provider towards security shall not be considered for correction within the Control Period.
- In any Tariff Year  $t$ , adjustment shall be made for any difference between the actual security operating costs incurred and the security operating costs forecasted for that Tariff Year by the Authority at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order.
- The adjustment shall be made through the term  $S_t$  in the formula in Clause 9.13.2. and shall be calculated as under:

$$S_t = \frac{SC_t - SE_t}{V_t}$$

Where:

$SE_t$  is the forecast security operating costs determined by the Authority for Tariff Year  $t$  at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order;

$SC_t$  is the actual security operating costs incurred by the Service Provider in Tariff Year  $t$ ;

$V_t$  is the actual volumes in Tariff Year  $t$  and is the divisor in the calculation of the Actual Yield per Unit according to Clause 9.20.

#### 9.17. Other Mandated Operating Cost Correction Term

- (a) The other mandated operating cost correction term will secure the required correction for any changes in other mandated operating costs, other than security operating costs, by making adjustments to the Actual Maximum Allowed Yield per Unit. Such other mandated operating costs shall cover costs incurred due to directions issued by regulatory agencies like DGCA. Any additional other mandated capital expenditure incurred by the Service Provider shall not be considered for correction within the Control Period.
- (b) In any Tariff Year  $t$ , adjustment shall be made for any difference between the actual other mandated operating costs incurred in Tariff Year  $t$  and the other mandated operating costs forecasted for Tariff Year  $t$  by the Authority at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order.
- (c) The adjustment shall be made through the term  $OM_t$  in the formula in Clause 9.13.2 and shall be calculated as under:

$$OM_t = \frac{OMC_t - OME_t}{V_t}$$

Where:

OME<sub>t</sub> is the forecast other mandated operating costs determined by the Authority for the Tariff Year t at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order;

OMC<sub>t</sub> is the actual other mandated operating costs incurred by the Service Provider in Tariff Year t;

V<sub>t</sub> is the actual volumes for the Service Provider in Tariff Year t and is the divisor in the calculation of the Actual Yield per Unit according to Clause 9.20.

#### 9.18. Statutory Operating Cost Correction Term

- (a) The statutory operating cost correction term will secure the correction for any changes in statutory operating costs, by making adjustments to the Actual Maximum Allowed Yield per Unit. Such statutory operating costs shall cover costs related to taxation by Central or State Government, except taxes on corporate income, directly imposed on and paid for by the Service Provider. Any additional statutory capital expenditure incurred by the Service Provider shall not be considered for correction within the Control Period.
- (b) In any Tariff Year t, adjustment shall be made for any difference between the actual statutory operating costs incurred in Tariff Year t and the statutory operating costs forecasted for Tariff Year t by the Authority at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order.
- (c) The adjustment shall be made through the U<sub>t</sub> term in the formula in Clause 9.13.2 and shall be calculated as under:



$$U_t = \frac{UC_t - UE_t}{V_t}$$

Where:

$UE_t$  is the forecast statutory operating costs determined by the Authority for the Tariff Year  $t$  at the time of determination of Aggregate Revenue Requirement in the Multi Year Tariff Order;

$UC_t$  is the actual statutory operating costs incurred by Service Provider in Tariff Year  $t$ ;

$V_t$  is the actual volumes in Tariff Year  $t$  and is the divisor in the calculation of the Actual Yield per Unit according to Clause 9.20.

#### 9.19. Recovery Error Correction Term

- (a) The recovery error correction term is, an adjustment to the Estimated Maximum Allowed Yield per Unit, calculated using the error correction term of Tariff Year  $t-2$  and the compounding factor, according to the formula in Clause 9.19 (b). The error correction term for a Tariff Year  $t$  shall be calculated according to Clause 9.21.
- (b) The recovery error correction term ( $K_t$ ), as indicated in the formula in Clause 9.13.2 shall be calculated as under:

$$K_t = \frac{E_{t-2} \times (1 + r)^2}{V_t}$$

Where:

$E_{t-2}$  is the actual over-recovery or under-recovery in the Year  $t-2$ , calculated according to Clause 9.21.

$E_{t-2} = 0$  when  $t$  is the first or second Tariff Year of the first Control Period.

$V_t$  is the actual volumes handled by the Service Provider in Tariff Year  $t$ , and is the divisor in the computation of the Actual Yield per Unit for Tariff Year  $t$  according to Clause 9.20.

$r$  is the compounding factor for over recoveries and is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1.

Explanation: The recovery error correction term secures the Actual Maximum Allowed Yield per Unit approach by ensuring that:

- (i) over-recovery of the Actual Maximum Allowed Yield per Unit in any one Tariff Year automatically results in an appropriate reduction in the Estimated Maximum Allowed Yield per Unit for a subsequent Tariff Year; and
- (ii) adjustments shall be given for under-recovery in any one Tariff Year on account of following factors:
  - (a) forecast error correction according to Clause 9.15;
  - (b) security operating costs correction according to Clause 9.16;
  - (c) other mandated operating costs correction according to Clause 9.17;
  - (d) statutory operating costs correction according to Clause 9.18; and
  - (e) recovery error correction term, calculated using error correction term of Tariff Year  $t-2$ , according to Clause 9.19.

Such adjustments, subject to a cap of AMAY shall automatically result in an appropriate increase in the Estimated Maximum Allowed Yield for a subsequent Tariff Year.

*Illustration 11: The following example illustrates the approach for calculating Actual Maximum Allowed Yield per Unit (AMAY), after applying requisite corrections, based on the information contained in Annual Compliance*

*Statement. The numbers in the illustration have been rounded to the nearest integers.*

<b>Actual Maximum Allowed Yield</b>						
		Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Yield per Unit for Tariff Year t</b>	a	2.01	2.17	2.34	2.53	2.73
<b>Adjustment to yield for actual changes in WPI</b>	b	-	-	0.01	-	(0.02)
<b>Yield per Unit for Tariff Year t after adjustment for WPI</b>	Y = a+b	2.01	2.17	2.35	2.53	2.71
<b>Forecast Error correction</b>	F	-	0.02	-	(0.01)	0.05
<b>Security operating cost correction term</b>	S	-	-	0.10	0.00	0.00
<b>Other mandated operating cost correction term OM</b>		-	-	0.05	0.10	0.00
<b>Statutory operating cost correction term</b>	U	-	-	0.10	0.00	0.20
<b>Error correction term for Tariff Year t-2</b>	E <sub>t-2</sub>	-	-	(137.62)	37.16	(25.31)
<b>Compounding Factor</b>	r = FRoR	16.0%	16.0%	16.0%	16.0%	16.0%
<b>E<sub>t-2</sub> x (1+r<sup>2</sup>)</b>	c	-	-	(185.18)	50.00	(34.05)
<b>Actual Volumes</b>	V	990	990	1,300	1,700	1,400
<b>Recovery Error Correction Term</b>	K = c/V	-	-	(0.14)	0.03	(0.02)
<b>Actual Maximum Allowed Yield, AMAY</b> = Y x (1+F)+S+OM+U+K	AMAY	2.01	2.21	2.46	2.63	3.02

- *Forecast Error Correction shall be calculated according to Clause 9.15.*
- *Security operating cost correction term shall be calculated according to Clause 9.16*
- *Other Mandated operating cost correction term shall be calculated according to Clause 9.17*
- *Statutory operating cost correction term shall be calculated according to Clause 9.18*
- *The calculation of error correction terms is given in illustration 13.*

## 9.20. Actual Yield per Unit

9.20.1. The Actual Yield per Unit shall be calculated for each Tariff Year to ensure compliance with the Actual Maximum Allowed Yield per Unit. It

shall be calculated after the audited financial information for that Tariff Year becomes available.

9.20.2. The Actual Yield per Unit shall be calculated as under:

	Total Actual Revenues
Less	Actual Revenues from services other than Regulated Service(s)
Equals	Actual Revenues subject to regulation
Divided by	Actual volumes (V)
Equals	Actual Yield per Unit (AY)

Where:

‘Total Actual Revenues’ represents, the total Actual Revenues, less revenues in respect of assets excluded from RAB.

‘Actual Revenues from services other than Regulated Service(s)’, represents such revenues from services other than Regulated Service(s) which were determined by the Authority in the Multi Year Tariff Order, and any other revenues from services other than Regulated Service(s) in the Tariff Year t, which though not determined by the Authority in the Multi Year Tariff Order but have nevertheless accrued to the Service Provider.

‘Actual volumes’ means volumes measured on a basis that is consistent with the forecasts at the time of the last tariff review.

*Illustration 12: The following example illustrates the approach for calculating Actual Yield per Unit (AY) based on the information contained in Annual Compliance Statement. The numbers in the illustration have been rounded to the nearest integers with the exception of Actual Yield per Unit, which has been rounded to nearest 2 decimal places.*

<b>Actual Yield per Unit</b>						
		Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Total Actual Revenues</b>	R	2200	2180	3300	4600	3500
<b>Actual Revenues from services other than Regulated Service(s)</b>	NAR	77	31	81	91	50
<b>Actual Revenues subject to regulation</b>	AR = R – NAR	2123	2149	3219	4509	3450
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Actual Yield per Unit</b>	AY = AR / V	2.14	2.17	2.48	2.65	2.46

#### 9.21. Error correction term

9.21.1. Based on the calculation of the Actual Yield per Unit and the Actual Maximum Allowed Yield per Unit, the error correction term shall be determined, indicating the quantum of over-recovery or under-recovery in Actual Yield per Unit with respect to Actual Maximum Allowed Yield per Unit in the Tariff Year.

9.21.2. The error correction term for the Tariff Year shall be calculated as under:

$$D = (AY_t - AMAY_t)$$

where,

D is over-recovery or under-recovery of Actual Yield over Actual Maximum Allowed Yield.

If  $D \geq 0$ , then error correction term for over-recovery shall be calculated as under:

$$E_t = (AMAY_t - AY_t) \times V_t$$

If  $D < 0$ , then error correction term for under-recovery shall be calculated as under:

$$E_t = ((Y_t \times F_t) + S_t + OM_t + U_t + K_t) \times V_t$$

such that if  $AY_t + \left(\frac{E_t}{V_t}\right) \geq AMAY_t$ , then

$$E_t = (AMAY_t - AY_t) \times V_t$$

where

$Y_t$  is the Yield per Unit calculated according to Clause 9.14;

$F_t$  is the forecast error correction term calculated according to Clause 9.15;

$V_t$  is the actual volumes handled by the Service Provider in Tariff Year  $t$ , and is the divisor in the calculation of the Actual Yield per Unit for Tariff Year  $t$  according to Clause 9.20;

$S_t$  is the security operating cost correction term calculated according to Clause 9.16;

$OM_t$  is the other mandated operating cost correction term calculated according to Clause 9.17;

$U_t$  is the statutory operating cost correction term calculated according to Clause 9.18.

$K_t$  is the recovery error correction term calculated according to Clause 9.19.

Explanation: Where  $D < 0$  the error correction term segregates any under-recovery as result of error in forecast of volumes by calculating the term  $(Y_t \times F_t)$ , which allows change in  $Y_t$  as a result of actual volumes.

The term  $(Y_t \times F_t)$ , is then added to the other terms (i.e.  $S_t$ ,  $OM_t$ ,  $U_t$  &  $K_t$ ), so that only under-recoveries resulting from actuals of forecast volumes, security operating costs, other mandated operating costs,

statutory operating costs and recovery error correction are allowed to be recovered.

*Illustration 13: The following example illustrates the approach for calculating error correction term based on the information contained in Annual Compliance Statement. The numbers in the illustration have been rounded to the nearest 2 places of decimal.*

<b>Error correction term</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Actual Yield per Unit</b>	AY	2.14	2.17	2.48	2.65	2.46
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Actual Maximum Allowed Yield</b>	AMAY	2.01	2.21	2.46	2.63	3.02
<b>(under) / over recovery</b>	$D = AY - AMAY$	0.14	(0.04)	0.02	0.02	(0.55)
<b>over-recovery (<math>D \geq 0</math>)</b>						
<b>Error Correction</b>	$AMAY - AY$	(0.14)	-	(0.02)	(0.02)	-
<b>Error Correction Term for over recovery (in Rupees)</b>	$E = (AMAY - AY) \times V$	(137.62)	-	(25.31)	(32.32)	-
<b>under-recovery (<math>D &lt; 0</math>)</b>						
<b>Yield per Unit for Tariff Year t after adjustment for WPI</b>	Y	2.01	2.17	2.35	2.53	2.71
<b>Forecast Error Correction</b>	F	-	0.02	-	(0.01)	0.05
<b>Application of Forecast Error Correction Term</b>	$(Y \times F)$	-	0.04	-	(0.02)	0.13
<b>Security operating cost correction term</b>	S	-	-	0.10	-	-
<b>Other mandated operating cost correction term</b>	OM	-	-	0.05	0.10	-
<b>Statutory operating cost correction term</b>	U	-	-	0.10	-	0.20
<b>Recovery error correction term</b>	K	-	-	(0.14)	0.03	(0.02)
<b>Error correction</b>	ECT	-	0.04	-	-	0.31
<b>Error Correction Term for under recovery (in Rupees)</b>	$E = ECT \times V$	-	37.16	-	-	434.66

- *Error correction term calculated above is an input to the recovery error correction term ( $K_t$ )*

## Chapter V

**10. Procedure for determination of Tariff(s) for Regulated Service(s) deemed ‘not material’; or ‘material but competitive’**

- 10.1. The Authority shall determine its assessment of materiality and competition for Service Provider(s), providing Regulated Service(s) deemed to be either ‘not material’ or ‘material but competitive’, subject to Clause 4 & 5, in the Multi Year Tariff Order for the Control Period.
- 10.2. Service Provider(s), providing Regulated Service(s) deemed to be either ‘not material’ or ‘material but competitive’ shall submit its Annual Tariff Proposal for approval by the Authority, in the manner and form provided in AI.7.1 of Appendix I. The said proposal shall be supported by the following:
- (a) Details of consultation with stakeholders along with:
    - (i) documented evidence that consultations with stakeholders have been undertaken;
    - (ii) summary of concerns raised by the stakeholders;
    - (iii) details of remedial action, if any, undertaken by the Service Provider, with reasons, in respect of the concerns so raised;
    - (iv) reasons for not addressing the balance concerns.
  - (b) Evidence of agreements, if any, between the Service Provider and the user of the Regulated Service(s) clearly indicating the Tariff(s) that are proposed by the Service Provider and agreed to by user.
- 10.3. The Authority shall duly consider the proposal and may, where deemed necessary, direct an analysis of the said proposal, require submission of additional information, and further stakeholder consultations, prior to granting approval for the same.
- 10.4. The Service Provider(s) shall submit information, at the end of each Tariff Year, in the form and manner provided in Section AI.8.3 of Appendix I. In addition, the Service Provider(s) shall submit copies of annual audited statutory accounts.



## Appendix I

### **AI.1. Procedure for collecting data and information required**

- AI.1.1. To enable the Authority to determine Tariff(s) pursuant to these Guidelines, the Service Provider(s) shall submit a comprehensive Multi Year Tariff Proposal in the prescribed Form A and in accordance with Section AI.2.
- AI.1.2. During the Control Period, the Service Provider(s) shall maintain the required information for submission to the Authority as under:
  - AI.1.2.1. Annual Tariff Proposal in accordance with Section AI.7;
  - AI.1.2.2. Annual Compliance Statement in accordance with Section AI.8.
- AI.1.3. The Service Provider(s) shall submit one (1) original and four (4) duplicate hard copies and one (1) soft copy for the Multi Year Tariff Proposal, Annual Tariff Proposal and Annual Compliance Statement.
- AI.1.4. In case of discrepancies, if any, between the information contained in original hard copy and any other copies, the information contained in the original hard copy shall be relied upon by the Authority.
- AI.1.5. The information requirements are set out hereunder.

### **AI.2. Procedure for preparing the Multi Year Tariff Proposal (read with Clause 6.1)**

- AI.2.1. Multi Year Tariff Proposal shall clearly outline the Aggregate Revenue Requirement for each Tariff Year of the Control Period based on these Guidelines.
- AI.2.2. The Multi Year Tariff Proposal shall clearly demonstrate how the Service Provider has arrived at the proposed Aggregate Revenue Requirement based on consideration of the Regulatory Building Blocks and other aspects outlined in the Business Plan.
- AI.2.3. The Service Provider(s) shall also submit the calculation of the historic Aggregate Revenue Requirement on a basis that is consistent with the proposed Aggregate Revenue Requirement. Such information shall be submitted in the prescribed Form F1(c).

- AI.2.4. The Multi Year Tariff Proposal should be supported by:
    - AI.2.4.1. Materiality Assessment and Competition Assessment in prescribed forms Form F1(a) and Form F1(b) respectively, in accordance with Clause 4 and Clause 5.
    - AI.2.4.2. Service Provider Business Plan in accordance with Section AI.3;
    - AI.2.4.3. Information relating to the Regulatory Building Blocks in accordance with Section AI.4;
    - AI.2.4.4. Historical and forecasted Volumes in accordance with Section AI.5;
    - AI.2.4.5. Historical Revenues in accordance with Section AI.6.
  - AI.2.5. The proposal shall include:
    - AI.2.5.1. documented evidence that consultations with stakeholders have been undertaken;
    - AI.2.5.2. summary of concerns raised by the stakeholders;
    - AI.2.5.3. details of remedial action, if any, undertaken by Service Provider, with reasons, in respect of the concerns so raised;
    - AI.2.5.4. reasons for not addressing the balance concerns.
  - AI.2.6. As part of the Multi Year Tariff Proposal, data and information should be provided on a projected basis for the Control Period and a longer duration where specified.
- AI.3. Service Provider Business Plan**
- AI.3.1. The Service Provider(s) shall submit a 10 year Business Plan, after due consideration and approval by its Board of Directors or such competent authority.
  - AI.3.2. The Business Plan shall be based on due considerations of related factors and forecast components for the period including clear rationale for projections of various parameters and, should be submitted along with an MS Excel 2003/ MS Excel 2007 based model.

- AI.3.3. The Multi Year Tariff Proposal should reconcile with the Business Plan under submission.
- AI.3.4. The Business Plan should summarize and project key financial statements for each year of the plan (Balance Sheet, P&L Statement and Cash Flow Statement) in the prescribed Form F-2, F-3 and F-4, respectively and should clearly explain how items have been accounted for, including definitions (explanations) of turnover, asset valuation approaches, depreciation, taxation and other operational parameters. Additional supporting schedules or justifications shall be provided in such form and manner as contained in audited accounts.
- AI.3.5. The aggregate forecasted values in financial statements, to be submitted in the prescribed forms, must reconcile with the forecasted values under Regulatory Building Blocks.
- AI.3.6. The audited Balance Sheet, P&L Statement and Cash Flow statements, along with supporting schedules or justifications, for the previous two financial years should be submitted.

**AI.4. Information relating to Regulatory Building Blocks (read with Clause 8)**

- AI.4.1. The Multi Year Tariff Proposal should present detailed justification for each of the Regulatory Building Blocks enumerated herein below:-

AI.4.2. Fair Rate of Return

AI.4.2.1. The Service Provider(s) should submit an estimate of the required FRoR, in the prescribed Form F5, and use the said FRoR for the purpose of calculating the Aggregate Revenue Requirement in the Multi Year Tariff Proposal under submission.

AI.4.2.2. Service Provider(s) shall indicate its assessment of the possible (i) low; (ii) high; and (iii) most likely estimates of all the components in calculating the FRoR, subject to information

required in sub-sections AI.4.2.3, AI.4.2.4 and AI.4.2.5 of this Section AI.4.

AI.4.2.3. Cost of equity

- (a) The Service Provider(s) shall submit its assessment of cost of equity based on Capital Asset Pricing Model with supporting evidence including:
  - (i) The risk free rate: Source / evidence shall be provided for the nominal risk free rate estimated including any assumptions and justifications regarding inflation rates.
  - (ii) The equity market risk premium: Source / evidence of the equity market risk premium used, including: methodology for calculation (geometric / arithmetic), base country used, any adjustments applied for country risk, time period of data considered and the type of risk free asset used for comparison of return.
  - (iii) Equity beta: The approach used to estimate the equity beta, the data source, the systematic risks of the Service Provider, the underlying asset and debt beta assumptions. Where international comparator analysis of betas is undertaken with other comparable Service Provider(s), a detailed justification of the basis for selecting the comparators would be required, including the regulatory regime faced by such Service Provider(s), its consistency with the Authority's regulatory approach and any differences in the commercial environment.
- (b) The Service Provider(s) shall also provide a range and a central point estimate of the cost of equity, with detailed justification for the point estimate chosen.

- (c) Service Provider(s) shall illustrate the sensitivity to changes in various assumptions for the most likely estimate together with a detailed sensitivity analysis in context thereto.

AI.4.2.4. Cost of debt

- (a) The Service Provider(s) shall submit details of its approach to raising debt, including:
  - (i) The sources of all debt, including any intra-group loans or interest free loans and grants;
  - (ii) Details of the procedure it undertakes when raising debt;
  - (iii) Method used by Service Provider to assesses different debt financing options and the approval procedures in context thereto.
- (b) The Service Provider(s) shall submit an estimate of the repayments, interest payments and outstanding at the end of each Tariff Year for all kinds of debt expected to be incurred over the Control Period and provide a weighted average cost of debt for the same. In addition, Service Provider(s) shall submit, in the prescribed Form 6(a), information related to each current and future loan as under:
  - (i) Source;
  - (ii) Type of Loan (Project Specific/ Working Capital);
  - (iii) Total Loan Amount Sanctioned;
  - (iv) Loan Tenure;
  - (v) Interest Type (Fixed/ Floating);
  - (vi) If Fixed interest, Rate of Interest %;
  - (vii) Base Rate, if Floating Interest;
  - (viii) Margin, if Floating Interest;

- (ix) Are there any caps/floor;
  - (x) If above is yes, specify caps/floor;
  - (xi) Moratorium Period;
  - (xii) Moratorium effective from;
  - (xiii) Repayment Period;
  - (xiv) Repayment Start Date;
  - (xv) Repayment Frequency;
  - (xvi) Arrangement Fees;
  - (xvii) Outstanding Loan;
  - (xviii) Other terms;
  - (xix) Currency denomination of loan and rate (where loan is not in INR).
- (c) Where the Service Provider expects to raise further debt during the Control Period, it shall submit a forecast of the details of such debt in a manner consistent with the information requirements indicated hereinabove.
- (d) Where the Service Provider has entered into variable rate arrangements, a forecast of the relevant base rate should be provided (e.g. LIBOR) from a recognised source
- (e) Details of interest and finance charges, arrangement fees incurred for raising finance and capitalized during the Tariff Year shall be submitted as in the prescribed Form F6(b).

#### AI.4.2.5. Gearing

- (a) The Service Provider(s) shall submit details of its capital structure (current capital structure and forecast capital structure) in respect of the Control Period. The said details shall be supported by evidence, in form of underlying

information or documentation relating to efficiency of such capital structure.

- (b) Information shall be submitted, in the prescribed Form F6(c), in respect of all stakeholder contributions, grants and subsidies, if any, as may have been received by the Service Provider. Further, additional information or justifications shall be provided in such form and manner as may be appropriate for the said purpose.
- (c) Submissions shall be evidenced by documents in support thereof.

#### AI.4.3. Regulatory Asset Base

AI.4.3.1. Information on initial RAB as required in Clause 8.2.4, shall be submitted in the prescribed Form F7, and shall contain the following:

- (a) Details of working capital, in the prescribed Form F8(a), including historic working capital balances, composition of debtors and creditors, interest arrangements on working capital and operating norms for working capital management.
- (b) Information on stakeholder contributions for the asset (historical and proposed), as prescribed in Form-F8(b), and shall contain details, including the maximum amount of stakeholder contribution approved for the project, year of approval, approved tenure for stakeholder contribution, accumulated contributions as on the date of submission of the Multi Year Tariff Proposal and the annual collection, if any, proposed in each Tariff Year in the Control Period.

- (c) Assets proposed to be excluded from the RAB together with detailed justifications and shall be submitted in the prescribed Form F8(c).
- AI.4.3.2. The forecast RAB shall include the forecast of the capital expenditure to be commissioned during each Tariff Year of the Control Period including the adjustment(s) for forecast depreciation for the same. The forecast RAB shall include information on the asset disposals, including land or building, whether through sale, partial sale, long lease or joint venture and disposals or transfers by the Service Provider to another other entity, if any.
- AI.4.3.3. The forecast WIP assets shall include the forecast WIP balances in reference to the expected date of commissioning of such asset(s) for each Tariff Year in the Control Period.
- AI.4.3.4. Summary of information shall be submitted in the prescribed Form F9.
- AI.4.3.5. The Service Provider(s) shall submit a 10 year capital expenditure plan for the purpose of forecast RAB and WIP Assets. The capital expenditure plan shall provide details of expenditure made by the Service Provider, as under:
- (a) Projects yet to be completed (WIP);
  - (b) Projects completed in the previous Control Period;
  - (c) Planned capital expenditure for the next 10 years.
- AI.4.3.6. The Service Provider shall submit a detailed description of project, for each individual project, including :
- (a) Project technical information;



- (b) Justifications for project(s), including targeted improvement in context to improving quality of service and enhancing customer satisfaction, upgrading technology, creating additional capacity for providing efficient service;
- (c) Phasing of the project;
- (d) Costing of the project;
- (e) Total capital expenditure forecasted for the project;
- (f) Total capital expenditure incurred for the project;
- (g) Duration and completion dates of planning, design and construction phases;
- (h) Phase-wise commissioning date of the project;
- (i) Year-wise capital expenditure additions, commissioning, WIP for the project;
- (j) Year-wise sources of funding for the project, clearly highlighting therein the extent of on and off-balance sheet financing and impact on gearing;
- (k) Average actual and forecasted debt rate for the project during the construction phase;
- (l) Interest charges, finance charges and other expense capitalised during the Tariff Year.

AI.4.3.7. A detailed description of project costs incurred or expected to be incurred for each individual project including :

- (a) Development costs (soft costs) classified into (i) planning; (ii) design; (iii) inspection; (iv) construction management; (v) environmental; (vi) permits; and (vii) geotechnical costs;
- (b) Construction costs classified into (i) gross quantities; and (ii) unit costs of all major project components;
- (c) Other cost of the project including (i) financial cost; (ii) land acquisition costs; and (iii) relocation costs.

AI.4.3.8. Service Provider(s) shall submit, for the second and all subsequent Control Period(s), in the prescribed Form F10(a), year-wise information on forecasted and actual capital expenditure, commissioned or undertaken, during the previous Control Period.

AI.4.3.9. The capital expenditure plan, including an estimate of year-wise expenditure and commissioning planned for various assets, shall be submitted in the prescribed Form F10(b).

AI.4.3.10. Estimates of sources of financing for total capital expenditure proposed during the each Tariff Year shall be submitted in the prescribed Form 10(c).

AI.4.3.11. Expenses proposed to be capitalised during the next Control Period shall be submitted in the prescribed Form F10(d).

AI.4.3.12. Summary of information pertaining to year-wise opening, additions, commissioning and closing values of WIP shall be submitted in the prescribed F10(e).

#### AI.4.4. Depreciation

AI.4.4.1. For all assets identified in either the initial or forecast RAB, the following information shall be provided:

- (a) Forecast of depreciation by fixed asset; and

- (b) Depreciation rate by asset, including justification for the proposed rate based on Companies Act, 1956 or any other evidence based on reasonable estimates of useful economic life of the asset.

#### AI.4.5. Operating Expenditure

AI.4.5.1. Service Provider(s) shall submit details on all operating expenses (historical actual costs and projected expenses for the Control Period) with detailed justifications, assumptions and cost drivers used for calculating such costs. The Service Provider(s) shall clearly identify efficiency considerations, if any, for each cost category in estimating operating expenditure during the Control Period.

AI.4.5.2. Payroll costs - The Service Provider(s) shall provide all payroll costs related to full-time employees as well as outsourcing costs as under:

- (a) Department-wise full-time and part-time/ contract employee numbers to be submitted under various heads, in prescribed Form F11(a).
- (b) Department-wise payroll costs to be submitted under various heads, in prescribed Form F11(b), including :
  - (i) salary, allowances and benefits to employees
  - (ii) PF Contribution, Gratuity, Superannuation and other such funds
  - (iii) Overtime
  - (iv) Training costs
  - (v) Staff welfare expenses with their detailed breakup

- (c) Assumptions and justifications used in the calculations shall be supported by relevant information including historical trends, productivity indicators and cost drivers.
- (d) Payroll costs related to capital projects shall be submitted separately.

AI.4.5.3. Administration and general expenses - Service Provider(s) shall submit, in prescribed Form F11(c), as under:

- (a) all general administration and corporate costs, including break-up of all expenses related thereto:

Provided that the said costs shall be further segregated as :

- (i) Administration charges, including director's sitting fees, communication expenses, travelling and conveyance, advertisement, office maintenance, printing and stationery, other allocated overhead expenses.
  - (ii) Legal and Auditor's Fees
  - (iii) Consultancy and advisory expenses
  - (iv) Other charges including land lease rent, insurance costs, miscellaneous expenses
- (b) Copy of Board approvals, consultancy, legal, and other contracts, insurance documents, rent agreements and other relevant documents shall be submitted as proof thereof.
  - (c) Costs related to capital projects proposed to be capitalized shall be submitted separately.

AI.4.5.4. Repair and maintenance costs - Service Provider(s) shall submit, in prescribed Form F11(d), as under:

- (a) details of repair and maintenance costs related to all asset categories as defined in the depreciation schedule, for example:
  - (i) Building
  - (ii) Plant and machinery
  - (iii) Electrical installations
  - (iv) Furniture
  - (v) IT
  - (vi) Office equipment
  - (vii) Vehicles
- (b) Assumptions and justifications used in the calculations shall be supported by relevant information including historical trends cost driver.

AI.4.5.5. Utilities & outsourcing costs - Service Provider(s) shall submit, in prescribed Form F11(e), as under:

- (a) utilities related costs, including electricity charges and water charges. The detailed assumptions used for arriving at such costs including the number of units consumed, effective per unit rate and efficiencies achieved, if any, shall be clearly highlighted
- (b) department-wise outsourcing costs including the basis for arriving at such costs. The said submission shall be accompanied by documents in support thereof including, contractual documents, details of procedures followed in awarding the said contracts and resolutions of the AAI in relation thereto:

Provided that the department-wise list shall be the same as indicated in Section AI.4.5.2 hereinabove.

- (c) Costs related to capital projects proposed to be capitalized shall be submitted separately.

AI.4.5.6. Other Outflows - Service Provider(s) shall submit, in prescribed Form F11 (f), details for any other operating costs, including detailed justifications along with cost drivers, elasticity, any contractual documents etc.

**AI.5. Historical and forecasted volumes**

- AI.5.1. The Service Provider(s) shall submit 10 year historical volumes broken down by type of service provided.
- AI.5.2. The Service Provider(s) shall submit a traffic forecast model for (i) the Control Period; and (ii) long term forecast for 15 years, clearly listing therein the core assumptions and justifications including GDP growth rates, elasticity applied, traffic assumptions, any other critical assumptions for the purposes of reviewing the forecasts.
- AI.5.3. The key sensitive variables impacting the forecasts, its expected range and impact on the forecasts shall be clearly explained.
- AI.5.4. The Service Provider(s) shall submit a comparison of forecast numbers to other relevant forecasts (for example, forecasts made by IATA or other industry forums).
- AI.5.5. The forecast of cargo volumes for provision of its service shall be submitted by the cargo facility Service Provider(s) in the prescribed Form F12 (a).
- AI.5.6. The historic and forecast ATM volumes for provision of its service shall be submitted by ground handling Service Provider(s), fuel supply Service Provider(s) in the prescribed Form F12 (b) and Form F12 (c) respectively.
- AI.5.7. The forecast of fuel throughput shall be submitted by fuel supply Service Provider(s) in the prescribed Form F12 (d).
- AI.5.8. The proposed lower and upper band for forecast error correction term as mentioned in the Guidelines shall be provided in the prescribed Form F12(a). F12(c) and F12(d).

**AI.6. Historical Revenues**

AI.6.1. The Service Provider(s) shall submit revenues received under the following heads, including the schedule of historic charges:

AI.6.1.1. Break up of all revenues from Regulated Service(s) in the prescribed Form F13 (a).

AI.6.1.2. Break up of all other revenue generating activities in the prescribed Form F13 (b).

**AI.7. Procedure for preparing the Annual Tariff Proposal (read with Clause 9.9)**

AI.7.1. For Regulated Service(s) deemed to be either ‘not material’ or ‘material but competitive’, the Service Provider(s) shall submit, for the consideration of the Authority, an Annual Tariff Proposal for review of Tariff(s) to be charged in the following Tariff Year in a Control Period, in the prescribed Form B and Form F14 (b). The said proposal shall be supported by either of the following:

AI.7.1.1. Details of consultation with stakeholders along with:

- (a) documented evidence that consultations with stakeholders have been undertaken;
- (b) summary of concerns raised by the stakeholders;
- (c) details of remedial action, if any, undertaken by the Service Provider, with reasons, in respect of the concerns so raised;
- (d) reasons for not addressing the balance concerns.

AI.7.1.2. Evidence of agreements, if any, between the Service Provider and the user of the Regulated Service(s) clearly indicating the Tariff(s) that are proposed by the Service Provider.

AI.7.2. For Regulated Service(s) deemed to be ‘material and not competitive’, the Service Provider(s) shall submit, for the consideration of the Authority an Annual Tariff Proposal based on Estimated Maximum Allowed Yield per

Unit for review of Tariff(s) to be charged in a Tariff Year in a Control Period, in the prescribed Form B, Form 14 (a) and Form F14 (b). The said proposal shall be supported by either of the following:

AI.7.2.1. Details of consultation with stakeholders along with:

- (a) documented evidence that consultations with stakeholders have been undertaken;
- (b) summary of concerns raised by the stakeholders;
- (c) details of remedial action, if any, undertaken by the Service Provider, with reasons, in respect of the concerns so raised;
- (d) reasons for not addressing the balance concerns.

AI.7.2.2. Evidence of agreements, if any, between the Service Provider and the user of the Regulated Service(s) clearly indicating the Tariff(s) that are proposed by the Service Provider.

**AI.8. Procedure for preparing the Annual Compliance Statement (read with Clause 9.12)**

AI.8.1. Service Provider(s), where the Regulated Service(s) is determined to be 'material and not competitive', shall submit to the Authority an Annual Compliance Statement, in accordance with the requirement outlined above in Clause 9.12, and in the prescribed Form C and Form F15.

AI.8.2. In addition to the above, Service Provider(s) shall submit information pertaining to each Tariff Year on the following:

AI.8.2.1. Performance report on the Regulatory Building Blocks, in the prescribed Form F16;

AI.8.2.2. Revenues from Regulated Service(s) relating to individual Tariff(s), in the prescribed Form-F17.

AI.8.2.3. Revenue from services other than Regulated Service(s), in the prescribed Form F18.



- AI.8.2.4. Operating expenditure, in the prescribed Form F19, including details on any individual operating expenditure not identified in the Multi Year Tariff Order. The statement shall be supported by reconciliation between operating expenditure and the audited accounts.
  - AI.8.2.5. Cash flow statement, in the prescribed Form F4. The statement shall be supported by reconciliation with the net cash position in the audited accounts;
  - AI.8.2.6. P&L statement, in the prescribed Form F20. The statement shall be supported by reconciliation with the operating profit in the audited accounts;
  - AI.8.2.7. RAB reconciliation statement, in the prescribed Form F21, including details on the calculation of the opening and closing RAB for the Tariff Year and, adjustments for actual capital expenditure, actual disposal proceeds, actual depreciation. The statement shall be supported by reconciliation between the fixed assets in the audited accounts and the closing RAB including adjustments, if any.
- AI.8.3. The Service Provider(s), where the Regulated Service(s) is determined to be 'not material' or 'material but competitive', shall submit to the Authority the information according to Clause AI.8.2.1, AI.8.2.2, AI.8.2.3 and AI.8.2.4.
- AI.8.4. The Service Provider(s) shall have the information provided in Section AI.8.1, AI.8.2 approved by its Board of Directors or other such competent authority, as the case may be, and certified by an independent auditor confirming the genuineness of the information contained therein.

## Appendix II

**AII.1. Explanation of Materiality Assessment**

AII.1.1. The Authority considers materiality assessment as a key stage in determining its approach for economic regulation of the Regulated Service(s), as presented in Clause 3.1.

AII.1.2. In respect of Regulated Service(s) provided for the cargo facility at the airport, the Authority considers that materiality of the service is linked to the cargo volumes at the airport. The materiality shall be assessed based on cargo volumes in MT at the major airport as a percentage of cargo volumes in MT at all major airports, in terms of Clause 4.2. The percentage share of cargo volumes for each major airport, as per latest available AAI statistics, is presented in the table below:

		<b>Total Cargo Volumes (in MT)</b>	<b>% of Total Cargo Volumes at</b>
		<b>April 2009 – March 2010</b>	<b>Major Airports</b>
<b>1</b>	Mumbai	582,636	30.7%
<b>2</b>	Delhi	497,386	26.2%
<b>3</b>	Chennai	322,675	17.0%
<b>4</b>	Bangalore	174,644	9.2%
<b>5</b>	Kolkata	106,585	5.6%
<b>6</b>	Hyderabad	66,459	3.5%
<b>7</b>	Cochin	40,636	2.1%
<b>8</b>	Trivandrum	33,150	1.7%
<b>9</b>	Ahmedabad	22,675	1.2%
<b>10</b>	Pune	17,845	0.9%
<b>11</b>	Calicut	17,500	0.9%
<b>12</b>	Jaipur	6,209	0.3%
<b>13</b>	Guwahati	5,037	0.3%
<b>14</b>	Goa	4,377	0.2%
	Total	1,897,814	100%

*Source: AAI Traffic Reporter*

AII.1.3. In respect of Regulated Service(s) provided for the supply of fuel to the aircraft, the Authority considers that materiality of the service is linked to

the aircraft movements at the airport. The materiality shall be assessed based on total aircraft movements, both international and domestic, at the major airport as a percentage of total aircraft movements at all major airports, according to Clause 4.1. The percentage share of aircraft movements for each major airport, as per latest available AAI statistics, is presented in the table below:

<b>Aircraft Movements (Domestic + International)</b>		<b>% of Total Aircraft Movements at Major Airports</b>	
<b>April 2009 – March 2010</b>			
<b>1</b>	Mumbai	229,801	22.0%
<b>2</b>	Delhi	229,227	22.0%
<b>3</b>	Chennai	110,165	10.6%
<b>4</b>	Bangalore	104,696	10.0%
<b>5</b>	Kolkata	85,711	8.2%
<b>6</b>	Hyderabad	80,016	7.7%
<b>7</b>	Cochin	40,903	3.9%
<b>8</b>	Ahmedabad	33,753	3.2%
<b>9</b>	Trivandrum	25,351	2.4%
<b>10</b>	Goa	24,326	2.3%
<b>11</b>	Guwahati	21,695	2.1%
<b>12</b>	Pune	21,622	2.1%
<b>13</b>	Jaipur	18,458	1.8%
<b>14</b>	Calicut	17,615	1.7%
	<b>Total</b>	<b>1,043,339</b>	<b>100%</b>

*Source: AAI Traffic Reporter*

- AI.1.4. In respect of Regulated Service(s) provided for ground handling services relating to aircraft, passengers and cargo at an airport, the Authority notes that under the extant Government Policy (as laid down vide AIC 03/2010 dated 2nd June 2010 issued by Director General of Civil Aviation) self-handling by all airlines, except foreign airlines, is permitted at all airports, except at the airports located at Delhi, Mumbai, Chennai, Kolkatta, Bangalore and Hyderabad. Even at metro airports, the policy lays down the requirement of three or more service providers. This policy prescription

almost eliminates the possibility of airlines, except foreign airlines, facing monopoly situation in ground handling services. However, in absence of self handling option to foreign airlines, the ground handling services to foreign airlines are to be provided by independent service provider, which can lead to a monopoly situation in absence of competition according to Clause 5.

- AII.1.5. The Authority, therefore, considers that materiality assessment of the Regulated Service(s) provided for ground handling services relating to aircraft, passengers and cargo at an airport is more pertinent to the foreign airlines (both passenger and cargo). As such, the materiality shall be assessed based on international aircraft movements at the major airport as a percentage of total international aircraft movements at all major airports, according to Clause 4.3. The percentage share of international aircraft movements for each major airport, as per latest available official statistics, is presented in the table below:

	<b>Aircraft Movements (International ) April 2009 – March 2010</b>	<b>% of Total International Aircraft Movements at Major Airport</b>
<b>1</b> Mumbai	65,169	24.8%
<b>2</b> Delhi	63,438	24.1%
<b>3</b> Chennai	31,674	12.1%
<b>4</b> Cochin	18,091	6.9%
<b>5</b> Trivandrum	15,185	5.8%
<b>6</b> Calicut	14,708	5.6%
<b>7</b> Hyderabad	13,567	5.2%
<b>8</b> Bangalore	13,509	5.1%
<b>9</b> Kolkata	13,493	5.1%
<b>10</b> Ahmedabad	7,036	2.7%
<b>11</b> Goa	3,028	1.2%
<b>12</b> Jaipur	2,730	1.0%
<b>13</b> Pune	1,156	0.4%
<b>14</b> Guwahati	46	0.0%
Total	262,830	100%

*Source: AAI Traffic Reporter*

## Appendix III

**Comprehensive Illustration of determination of Aggregate Revenue Requirement**

This appendix provides a comprehensive illustration of the computation of the Aggregate Revenue Requirement and the Regulatory Building Blocks. Full details of each illustration are provided in the Chapter III. The numbers in all illustrations have been rounded to the nearest integers.

*Illustration I: The following example illustrates the calculation of Aggregate Revenue Requirement for a Control Period.*

		Tariff	Tariff	Tariff	Tariff	Tariff
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>RAB for calculating ARR</b>	RAB	1,410	1,381	967	898	848
<i>– see Illustration IV</i>						
<b>Fair Rate of Return on RAB</b>	FRoR	16%	16%	16%	16%	16%
<i>– see illustration II</i>						
	RAB x FRoR	226	221	155	144	136
<b>Depreciation</b>	D	313	377	352	369	412
<i>– see Illustration V</i>						
<b>Operating Expenditure</b>	O	2,000	2,200	2,400	2,550	2,800
<b>Tax</b>	T	40	31	269	432	606
<b>Revenues from services other than Regulated Services</b>	NAR	79	29	76	96	54
		ARR <sub>1</sub>	ARR <sub>2</sub>	ARR <sub>3</sub>	ARR <sub>4</sub>	ARR <sub>5</sub>
<b>Aggregate Revenue Requirement</b>	$ARR_t = RAB_t \times FRoR + O_t + D_t + T_t - NAR_t$	2,500	2,800	3,100	3,400	3,900

*Illustration II: The following example illustrates this approach where the forecasted debt, equity and cost of debt varies over the Control Period.*

<b>Fair rate of Return</b>					
	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Debt (D)</b>	2,000	2,700	2,700	2,700	2,900
<b>Equity (E)</b>	1,500	1,500	1,500	3,000	3,000
<b>Debt+Equity (C)</b>	3,500	4,200	4,200	5,700	5,900
<b>Cost of Debt (Kd)</b>	13.90%	14.00%	15.00%	14.20%	14.50%
<b>Cost of Equity (Ke)</b>	18.00%	18.00%	18.00%	18.00%	18.00%
<b>Individual Year Gearing (G)</b>	57.1%	64.3%	63.4%	47.4%	49.2%
<b>Weighted Average Gearing (WG)</b>	55.3%				
<b>Weighted Average Cost of Debt (Ra)</b>	14.3%				
<b>Cost of Equity (Re)</b>	18.0%				
<b>Fair Rate of Return</b>	16.0%	$FRoR = WG \times Rd + (1-WG) \times Re$			

*Illustration III: The following example illustrates the approach for forecasting RAB for the Control period. The numbers in the illustration have been rounded to the nearest integers.*

<b>Forecast RAB</b>							
		2010-11	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Opening RAB<sub>t-1</sub></b>	OR	1,500 (see illustration IV)	1,250	1,570	1,193	741	1,053
<b>Commissioned Assets – See Illustration VI</b>	CA	-	633	-	-	681	-
<b>Depreciation – See Illustration V</b>	DR	250	313	377	352	369	412
<b>Disposals</b>	DI	-	-	-	100	-	-
<b>Incentive Adjustments</b>	IA	-	-	-	-	-	-
<b>Closing RAB<sub>t</sub></b>	$CR=OR+CA-DR-DI+IA$	1,250	1,570	1,193	741	1,053	641
<b>RAB for calculating ARR</b>	$RA=(OR+CR)/2$		1,410	1,381	967	898	848

*Illustration IV: The following example illustrates this approach for calculation of Initial RAB.*

<b>Fixed assets data from fixed asset register</b>						
<b>Asset</b>	Useful Economic Life (EL)	Original Cost of Fixed Assets (OC)	Capital Receipt (SC)	Depreciation rate (DR = 1/EL)	Years in Operation (Y)	Accumulated Depreciation AD = (OC-SC) x DR x Y
<b>Asset 1</b>	25	1,250	-	4.00%	5	250
<b>Asset 2</b>	10	2,000	1,000	10.00%	5	500
	Total	3,250	1,000			750

<b>Initial RAB Valuation</b>		
<b>Original Cost of fixed assets</b>	3,250	OC
<b>Accumulated depreciation</b>	750	AD
<b>Capital receipt</b>	1,000	SC
<b>Initial RAB</b>	1,500	IR=OC-AD-SC

*Illustration V: The following example illustrates the approach for forecasting depreciation for the Control Period*

<b>Forecast Depreciation</b>									
	Original Cost of Fixed Assets	Useful Economic Life (EL)	Depreciation rate (DR=1/EL)	2010 -11	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Asset 1</b>	1,250	25	4.00%	50	50	50	25	-	-
<b>Asset 2</b>	2,000	10	10.00%	200	200	200	200	200	200
<b>Asset 3</b>	633	5	20.00%	-	63	127	127	127	127
<b>Asset 4</b>	681	8	12.50%	-	-	-	-	42	85
			Total	250	313	377	352	369	412



*Illustration VI: The following example illustrates this approach for calculation of Work in progress assets, financing allowance and commissioned assets.*

		<b>Work in Progress Assets</b>					
		<b>2010</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>
		<b>-11</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Opening WIP: WIP<sub>t-1</sub></b>	OW	-	-	-	558	638	-
<b>Capital Expenditure</b>	CE	-	833	521	-	-	-
<b>Financing Allowance</b>	FA=R <sub>d</sub> x (OW+(CE-CA-CR)/2)	-	-	37	80	43	-
<b>Capital Receipts</b>	SC	-	200	-	-	-	-
<b>Commissioned Assets</b>	CA	-	633	-	-	681	-
<b>Closing WIP: WIP<sub>t</sub></b>	CW = OW + CE + FA - SC - CA	-	-	558	638	-	-

## Appendix IV

**Comprehensive Illustration of determination of error correction procedure**

This appendix provides a comprehensive illustration of the error correction procedure outlined in Chapter V. The numbers in the illustration have been rounded to the nearest integers or two decimal places, where appropriate.

*Illustration A: The following example illustrates the approach for calculating Yield per Unit(Y),  $Y_1$  and  $X_t$ . These Aggregate Revenue Requirement and Units in the illustration have been rounded to the nearest integers and the Yield per Unit has been rounded to nearest 2 decimal places.*

		<b>Yield per Unit (Y)</b>				
		<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>
		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Aggregate Revenue Requirement</b>	ARR	2500	2800	3100	3400	3900
<b>Volumes estimated</b>	VE	1000	1150	1323	1521	1749
<b>Present Value (ARR)</b>	PV (ARR)	2500	2413	2304	2178	2154
<b><math>\Sigma</math>PV(ARR)</b>	11550					
<b><math>\Sigma</math>VE</b>	6743					
<b><math>Y = \Sigma</math> PV(ARR) / <math>\Sigma</math> VE</b>	1.71					

		<b>Y1 and X</b>				
		<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>	<b>Tariff</b>
		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Forecasted WPI</b>	$WPI_t$	10%	10%	10%	10%	10%
<b>X</b>	$X_t$	2%	2%	2%	2%	2%
<b>Yield per Unit for Tariff Year t</b>	$Y_t$	2.01	2.17	2.34	2.53	2.73
<b>Revenue = VE x Y</b>	VE x Y	2005	2491	3095	3842	4772
<b>Present Value (VE x Y)</b>	PV (VE x Y)	2005	2147	2300	2462	2635
<b><math>\Sigma</math>PV(VE x Y)</b>	11550					
<b><math>\Sigma</math>VE</b>	6743					
<b><math>Y = \Sigma</math> PV(VE x Y) / <math>\Sigma</math> VE</b>	1.71					

- $Y_1$  and  $X$  are calculated considering various factors such that

$$\sum PV(ARR) / \sum VE = \sum PV(VE \times Y) / \sum VE$$

- In this illustration, for simplicity,  $X$  has been taken as same for all 5 years
- Yield per Unit for the second Tariff Year onwards (i.e.  $Y_2$  to  $Y_5$ ) is calculated using the formula:  $Y_t = Y_{t-1} \times (1+WPI-X)$
- the discounting rate for calculating  $PV$  is equal to the Fair Rate of Return determined by the Authority according to Clause 8.1

*Illustration B: The following example illustrates the approach for calculating Estimated Maximum Allowed Yield per Unit (EMAY). The numbers in the illustration have been rounded to the nearest 2 decimal places.*

<b>Estimated Maximum Allowed Yield per Unit</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Yield per Unit for Tariff Year t</b>	Y	2.01	2.17	2.34	2.53	2.73
<b>Error correction term for Tariff Year t-2 (in Rupees)</b>	$E_{t-2}$	-	-	(137.62)	37.16	(25.31)
<b>Compounding Factor</b>	$r = \text{FRoR}$	16.0%	16.0%	16.0%	16.0%	16.0%
<b><math>E_{t-2} \times (1+r^2)</math></b>	a	-	-	(185.18)	50.00	(34.05)
<b>Volumes Estimated</b>	VE	1,000	1,150	1,323	1,521	1,749
<b>Recovery Error Correction Term</b>	$K=a/VE$	-	-	(0.14)	0.03	(0.02)
<b>Estimated Maximum Allowed Yield per Unit</b>	$EMAY_t = Y+K$	2.01	2.17	2.20	2.56	2.71

- Yield per Unit for the purpose of calculating Estimated Maximum Allowed Yield per Unit shall be determined by the Authority in the Multi Year Tariff Order. The calculation of the Yield per Unit is given in illustration A.
- Compounding factor,  $r$ , for error correction term shall be equal to the FRoR as calculated in Illustration II in Appendix III.
- Error correction term for Tariff Year  $t-2$ , calculated in Illustration F, is used for calculating EMAY for Tariff Year  $t$ .

- *The Tariff(s) proposed for the Tariff Year shall be consistent with Estimated Maximum Allowed Yield per Unit*

*Illustration C: The following example illustrates the approach for calculating the Traffic Forecast Error Correction term. The numbers in the illustration have been rounded to the nearest 2 decimal places.*

<b>Forecast Error Correction Term</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Volumes Estimated</b>	VE	1000	1150	1323	1521	1749
<b>Upper band</b>	VH = VE x 1.1	1100	1265	1455	1673	1924
<b>Lower band</b>	VL = VE x 0.9	900	1035	1191	1369	1574
<b>Upper band correction term</b>	FH	-	-	-	(0.018)	0.000
<b>Lower band correction term</b>	FL	-	0.039	-	0.000	0.100
<b>Forecast Error Correction</b>	F=0.5(FH+FL)	-	0.02	-	(0.01)	0.05

- *Illustration assumes that the Authority sets the upper and lower bands at 10% of the forecasted volumes.*
- *The upper and lower bands on the correction term are calculated as:*

If  $V_t \geq VE_t$ ,

$$FH_t = -\left(\frac{V_t - VH_t}{VE_t}\right)$$

If  $V_t < VE_t$ ,

$$FL_t = \left(\frac{VL_t - V_t}{VE_t}\right)$$

*Illustration D: The following example illustrates the approach for calculating Actual Maximum Allowed Yield per Unit (AMAY) based on the information contained in Annual Compliance Statement. The numbers in the illustration have been rounded to the nearest 2 decimal places.*

<b>Actual Maximum Allowed Yield</b>						
		Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Yield per Unit for Tariff Year t</b>	a	2.01	2.17	2.34	2.53	2.73
<b>Adjustment to yield for actual changes in WPI</b>	b	-	-	0.01	-	(0.02)
<b>Yield per Unit for Tariff Year t after adjustment for WPI</b>	Y = a+b	2.01	2.17	2.35	2.53	2.71
<b>Forecast Error correction</b>	F	-	0.02	-	(0.01)	0.05
<b>Security operating cost correction term</b>	S	-	-	0.10	0.00	0.00
<b>Other mandated operating cost correction term OM</b>		-	-	0.05	0.10	0.00
<b>Statutory operating cost correction term</b>	U	-	-	0.10	0.00	0.20
<b>Error correction term for Tariff Year t-2 (in Rupees)</b>	$E_{t-2}$	-	-	(137.62)	37.16	(25.31)
<b>Compounding Factor</b>	r = FRoR	16.0%	16.0%	16.0%	16.0%	16.0%
<b><math>E_{t-2} \times (1+r^2)</math></b>	c	-	-	(185.18)	50.00	(34.05)
<b>Actual Volumes</b>	V	990	990	1,300	1,700	1,400
<b>Recovery Error Correction Term</b>	$K = c/V$	-	-	(0.14)	0.03	(0.02)
<b>Actual Maximum Allowed Yield, AMAY</b> $= Y \times (1+F)+S+OM+U+K$	AMAY	2.01	2.21	2.46	2.63	3.02

- *Forecast Error Correction shall be calculated according to Illustration C.*
- *Security operating cost correction term shall be calculated according to Clause 9.16*
- *Other Mandated operating cost correction term shall be calculated according to Clause 9.17*
- *Statutory operating cost correction term shall be calculated according to Clause 9.18*
- *Error correction term for Tariff Year t-2, calculated in Illustration F, is used for calculating AMAY for Tariff Year t.*

*Illustration E: The following example illustrates the approach for calculating Actual Yield per Unit (AY) based on the information contained in Annual Compliance Statement. The numbers in the illustration have been rounded to the nearest integers with the exception of Actual Yield per Unit, which has been rounded to nearest 2 decimal places.*

		<b>Actual Yield per Unit</b>				
		Tariff	Tariff	Tariff	Tariff	Tariff
		Year 1	Year 2	Year 3	Year 4	Year 5
<b>Total Actual Revenues</b>	R	2200	2180	3300	4600	3500
<b>Actual Revenues from services other than Regulated Service(s)</b>	NAR	77	31	81	91	50
<b>Actual Revenues subject to regulation</b>	AR = R – NAR	2123	2149	3219	4509	3450
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Actual Yield per Unit</b>	AY = AR / V	2.14	2.17	2.48	2.65	2.46

*Illustration F: The following example illustrates the approach for calculating error correction term based on the information contained in Annual Compliance Statement. The numbers in the illustration have been rounded to the nearest 2 places of decimal.*

<b>Error correction term</b>						
		<b>Tariff Year 1</b>	<b>Tariff Year 2</b>	<b>Tariff Year 3</b>	<b>Tariff Year 4</b>	<b>Tariff Year 5</b>
<b>Actual Yield per Unit</b>	AY	2.14	2.17	2.48	2.65	2.46
<b>Actual volumes</b>	V	990	990	1300	1700	1400
<b>Actual Maximum Allowed Yield</b>	AMAY	2.01	2.21	2.46	2.63	3.02
<b>(under) / over recovery</b>	D = AY – AMAY	0.14	(0.04)	0.02	0.02	(0.55)
<b>over-recovery (D≥0)</b>						
<b>Error Correction</b>	AMAY – AY	(0.14)	-	(0.02)	(0.02)	-
<b>Error Correction Term for over recovery (in Rupees)</b>	E=(AMAY - AY) x V	(137.62)	-	(25.31)	(32.32)	-
<b>under-recovery (D&lt;0)</b>						
<b>Yield per Unit for Tariff Year t after adjustment for WPI</b>	Y	2.01	2.17	2.35	2.53	2.71
<b>Forecast Error Correction</b>	F	-	0.02	-	(0.01)	0.05
<b>Application of Forecast Error Correction Term</b>	(Y x F)	-	0.04	-	(0.02)	0.13
<b>Security operating cost correction term</b>	S	-	-	0.10	-	-
<b>Other mandated operating cost correction term</b>	OM	-	-	0.05	0.10	-
<b>Statutory operating cost correction term</b>	U	-	-	0.10	-	0.20
<b>Recovery error correction term</b>	K	-	-	(0.14)	0.03	(0.02)
<b>Error correction</b>	ECT	-	0.04	-	-	0.31
<b>Error Correction Term for under recovery (in Rupees)</b>		-	37.16	-	-	434.66

- *Error correction term for under recovery is calculated using the formula*

$$E_t = ((Y_t \times F_t) + S_t + OM_t + U_t + K_t) \times V_t$$

such that if  $AY_t + \left(\frac{E_t}{V_t}\right) \geq AMAY_t$ , then

$$E_t = (AMAY_t - AY_t) \times V_t$$

- *Error correction term calculated above is an input to the recovery error correction term (Kt)*



## Schedule

This Schedule contains the various prescribed forms that relate to specific Clause(s) of the Guidelines or Section(s) of the Appendix, as the case may be.

**Form A:** (ref: Section AI.1 of Appendix I)

**BEFORE THE AIRPORTS ECONOMIC REGULATORY AUTHORITY OF INDIA**

**AT NEW DELHI**

**SUBMISSION OF MULTI YEAR TARIFF PROPOSAL FOR AND ON BEHALF OF:**

M/S

I, -----, aged----- resident of ----- acting in my official capacity as ----- in M/s----- having its registered office at ----- do hereby state and affirm as under that:

1. That I am duly authorized to act for and on behalf of M/s ----- in the matter of making this submission before the Airports Economic Regulatory Authority of India, New Delhi ('AERA');
2. I am competent to make this submission before AERA;
3. I am making this submission in my official capacity and the facts stated herein are based on official records ;
4. The contents of this submission which include (i) Business Plan; and (ii) Information relating to the Regulatory Building Blocks, are correct and true to my knowledge and belief and nothing material has been concealed there from.

Sd/

Place

Date:

**Form B:** (ref: Section AI.7 of Appendix I)

**BEFORE THE AIRPORTS ECONOMIC REGULATORY AUTHORITY OF INDIA**

**AT NEW DELHI**

**SUBMISSION OF PROPOSAL FOR DETERMINATION OF ANNUAL TARIFF FOR AND ON BEHALF OF:**

M/S

I, -----, aged----- resident of ----- acting in my official capacity as ----- in M/s----- having its registered office at ----- do hereby state and affirm as under that:

1. That I am duly authorized to act for and on behalf of M/s ----- in the matter of making this submission before the Airports Economic Regulation Authority of India, New Delhi ('AERA');
2. I am competent to make this submission before AERA;
3. I am making this submission in my official capacity and the facts stated herein are based on official records ;
4. The contents of the Annual Tariff Proposal submission which include (i) Estimated Maximum Allowed Yield per Unit (where determined by the Authority); (ii) Proposed detailed break-up of Tariff(s) (in context to Estimated Maximum Allowed Yield per Unit where determined by the Authority); and (iii) Justifications, are correct and true to my knowledge and belief and nothing material has been concealed there from.

Sd/

Place

Date:

Form C: (ref: Section AI.8 of Appendix I)

**BEFORE THE AIRPORTS ECONOMIC REGULATORY AUTHORITY OF INDIA**

**AT NEW DELHI**

**SUBMISSION OF ANNUAL COMPLIANCE STATEMENT FOR AND ON BEHALF OF:**

M/S

I, -----, aged----- resident of ----- acting in my official capacity as ----- in M/s----- having its registered office at ----- do hereby state and affirm as under that:

1. That I am duly authorized to act for and on behalf of M/s ----- in the matter of making this submission before the Airports Economic Regulatory Authority of India, New Delhi ('AERA');
2. I am competent to make this submission before AERA;
3. I am making this submission in my official capacity and the facts stated herein are based on official records ;
4. The contents of the Annual Compliance Statement submission are correct and true to my knowledge and belief and nothing material has been concealed there from.

Sd/

Place

Date:

Form 1 (a) - Materiality Assessment (ref: Section AI.2 of Appendix I)

Sl. No.	Materiality Assessment								
		2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-2011
	<b>Cargo Facility</b>								
1	Cargo volumes at Airport A								
2	Total Cargo volumes at Major Airports								
3	Materiality Index (MI <sub>C</sub> )								
	<b>Ground Handling</b>								
1	International Aircraft movements at Airport A								
2	Total international aircraft movements at Major Airports								
3	Materiality Index (MI <sub>G</sub> )								
	<b>Fuel Supply</b>								
1	Aircraft movements at Airport A								
2	Total aircraft movements at Major Airports								
3	Materiality Index (MI <sub>F</sub> )								

Form 1 (b) - Competition Assessment (ref: Section AI.2 of Appendix I)

Sl. No.	Details of competitive facilities
1	
2	
3	
4	
5	
6	

**Form F1 (c): Historical and Proposed Aggregate Revenue Requirement (ref: Section AI.2 of Appendix I)**

Sl. No.	Aggregate Revenue Requirement	Last available audited year#	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
1	Aggregate Revenue Requirement							

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F2 : Historical and Projected Balance Sheet (ref: Section A1.3 of Appendix I)

S.N.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	<b>SOURCES OF FUNDS</b>												
	<b>A) Shareholders' Funds</b>												
	<i>a) Share Capital</i>												
	<i>b) Share Application Money</i>												
	<i>c) Reserves and Surplus</i>												
	...												
	<b>B) Loan Funds</b>												
	<i>a) Secured Loans</i>												
	<i>b) Unsecured Loans</i>												
	...												
	<b>C) Capital Grants</b>												
	...												
	<b>D) Deferred Tax Liability</b>												
	...												
	<b>TOTAL SOURCES OF FUNDS</b>												
2	<b>APPLICATION OF FUNDS</b>												
	<b>A) Fixed Assets</b>												
	<i>a) Gross Block (Net of assets not in use)</i>												
	<i>b) less: Accumulated Depreciation</i>												
	<i>c) Net Block</i>												
	<i>d) Capital Work in Progress</i>												
	...												
	<b>B) Investments</b>												
	<b>C) Deferred Tax Assets</b>												
	<b>D) Current Assets, Loans and Advances</b>												
	<i>a) Sundry Debtors</i>												
	<i>b) Cash and Bank Balances</i>												
	<i>c) Inventories</i>												
	<i>d) Other Current Assets</i>												
	<i>e) Loans and Advances</i>												
	...												
	<b>Less: Current Liabilities and provisions:</b>												
	<i>a) Liabilities</i>												
	<i>b) Provisions</i>												
	...												
	<b>Net Current Assets</b>												
	<b>TOTAL APPLICATION OF FUNDS</b>												

# Fields in italics are indicative only

Form F3: Historical and Projected Profit and loss account (ref: Section AI.3 of Appendix I)

S.N.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	Revenue												
	<i>Revenues from Regulated Services</i>												
	<i>Revenues from other than Regulated Services</i>												
2	Operating expenditure												
	<i>Payroll Costs</i>												
	<i>Administrative and General Costs</i>												
	<i>Utilities and Outsourcing Costs</i>												
	<i>Concession Fees</i>												
	<i>Repair and Maintenance Costs</i>												
3	Earnings before depreciation, interest and taxation (EBDIT)												
	Depreciation and Amortisation												
4	Earnings before interest and taxation (EBIT)												
	Total interest and finance charges												
5	Profit / loss before tax												
	Provision for taxation												
6	Profit / loss after taxation												
7	Balance Carried to Balance Sheet												

# Fields in italics are indicative only



S.N.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	Cashflow from operating activities												
	<b>Net Profit before taxation</b>												
	<b>Adjustment for :</b>												
	<i>Depreciation and Amortisation</i>												
	<i>Loss / (Profit) on sale of assets(net)</i>												
	<i>Interest Income</i>												
	<i>Provisions - Additions(Write back) Net</i>												
	<b>Operating Profit before working capital changes</b>												
	<b>Adjustment for :</b>												
	<i>Decrease(increase) in Trade Receivables</i>												
	<i>Decrease(increase) in Inventories</i>												
	<i>Loans and Advances</i>												
	<i>(Decrease)/increase in Sundry Creditors</i>												
	<b>Cash generated from operation</b>												
	...												
	<b>Net Cash Flow from Operating Activities</b>												
2	Cashflow from investing activities												
	<i>Detail of cashflow from investing activity #1</i>												
	<i>Detail of cashflow from investing activity #2</i>												
	.....												
3	Cashflow from financing activities												
	<i>Detail of cashflow from financing activity #1</i>												
	<i>Detail of cashflow from financing activity #2</i>												
	.....												
4	Net change in cash and cash equivalents												
5	Cash and Cash Equivalents at the beginning of the period												
6	Cash and Cash Equivalents at the end of the period												

# Fields in italics are indicative only

Form F5: Cost of Equity and Post-tax FRoR Forecast (ref: Section A1.4 of Appendix I)

	Tariff Year 1			Tariff Year 2			Tariff Year 3			Tariff Year 4			Tariff Year 5		
	Low	High	Point Estimate	Low	High	Point Estimate	Low	High	Point Estimate	Low	High	Point Estimate	Low	High	Point Estimate
Gearing															
Pre-tax cost of debt															
Risk-free rate															
Equity-risk premium															
Beta															
Post-tax cost of equity															
Post-tax FRoR															

\* Forecasted FRoR in this sheet should be used for determining Aggregate Revenue Requirement in the Multi Year Tariff Proposal

**Form F6 (a): Loan Master (ref: Section AL4 of Appendix I)**

Provide details of all debts (all types of debt instruments).

Particulars	Last available audited year#	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>Secured Loan</b>							
Repayments during the year							
Interest payments during the year							
Outstanding at the end of the year							
<b>Unsecured Loan</b>							
Repayments during the year							
Interest payments during the year							
Outstanding at the end of the year							

For every loan (actual/proposed, secured/unsecured) the following information should also be provided/ indicated

1	Particulars
2	Source
3	Type of Loan (PS/ WC)
4	If PS, then indicate the Project/ Apportionment to a project
5	Total Loan Amount Sanctioned
6	Loan Tenure
7	Interest Type (Fixed/ Floating)
8	If Fixed interest, rate of Interest %
9	Base Rate, if Floating Interest
10	Margin, if Floating Interest
11	Are there any Caps/Floor?
12	If above is yes, specify caps.floor
13	Moratorium Period
14	Moratorium effective from
15	Repayment Period
16	Repayment Start Date
17	Repayment Frequency
18	Arrangement Fees
19	Outstanding Loan
20	Other terms

**Legend**

<b>PS</b>	Project Specific
<b>WC</b>	Working Capital

> Data from this sheet should be linked to all the sheets wherever details about Debt, Interest Charges, Arrangement fees, Cost of Debt etc. is getting used

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F6(b): Summary Statement of Interest and Finance Charges (ref: Section AL4 of Appendix I)

Sl.No.		Particulars	Last available audited year <sup>^</sup>	Financial Year before Tariff Year 1 <sup>*</sup>	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	1	Interest charges on Government Loans, Bonds And Advances							
		Government Loans							
		Bonds							
		Foreign Currency Loans / Credits							
		Debentures							
		.....							
		Total							
	2	Interest on Long Term Loans / Credits from the FIs/banks/organisations approved by the Government							
		Secured							
		.....							
		Unsecured							
		.....							
		Total							
		Total = 1+2							
B		Cost of raising finance & Bank Charges on project loans							
C		Grand Total Of Interest & Finance Charges: A + B							
D		Less: Interest & Finance Charges Capitalised							
E		Net Total of Interest and Finance Charges on Project related Loans							
F		Interest on Working Capital Loans							
G		Other interest charges (Provide head-wise details)							
H		Total interest and finance charges chargeable to P&L account (E+F+G)							

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F6 (c): Contributions, Grants and subsidies Master (ref: Section AI.4 of Appendix I)

Contributions																							
Particulars	Source	Total Amount	Last available audited year#			Financial Year before Tariff Year 1*			Tariff Year 1			Tariff Year 2			Tariff Year 3			Tariff Year 4			Tariff Year 5		
			OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB
1																							
2																							
Grants																							
Particulars	Source	Total Amount	Last available audited year#			Financial Year before Tariff Year 1*			Tariff Year 1			Tariff Year 2			Tariff Year 3			Tariff Year 4			Tariff Year 5		
			OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB
1																							
2																							
Subsidies																							
Particulars	Source	Total Amount	Last available audited year#			Financial Year before Tariff Year 1*			Tariff Year 1			Tariff Year 2			Tariff Year 3			Tariff Year 4			Tariff Year 5		
			OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB	OB	Add.	CB
1																							
2																							

Legend	
<b>OB</b>	Opening Balance for the year
<b>Add.</b>	Additions during the year
<b>CB</b>	Closing Balance for the year

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F7: Format for identifying Initial Regulatory Asset Base (ref: Section AI.4 of Appendix I)

Fixed Asset already commissioned as on.....

S.N.	Asset Name	Asset Type	Description of the Asset	Commission Date	Useful Life	Original Cost of Asset	Depreciation Rate	Accumulated Depreciation
1								
2								
3								
4								
5								

**Form F8 (a): Current Assets & Liabilities (ref: Section AI.4 of Appendix I)**

Sl.No.	Particulars	Last available audited year#	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	Current Assets, Loans and Advances							
	Sundry Debtors							
	Inventories							
	Cash and Bank Balances							
	Loans and Advances							
	Others							
	TOTAL OF 'A'							
B	Current Liabilities and Provisions							
I	Current Liabilities							
	Sundry creditors							
	Liabilities towards Suppliers							
	....							
II	Provisions							
	....							
	TOTAL OF 'B' (I+II)							
C	NET CURRENT ASSETS (= A - B)							

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F8 (b): Format for providing asset-wise information of stakeholder contributions (ref: Section AI.4 of Appendix I)

Details of User Contributions for the assets												
S.N.	Contribution name	Asset Name	Extent of User Contribution approved for the project	Year of approval	Tenure for User Contribution Collection	Actual Accumulated Collection till beginning of previous year	Accumulated Collection estimated till the beginning of first Tariff Year*	Total Collection proposed in Tariff Year 1	Total Collection proposed in Tariff Year 2	Total Collection proposed in Tariff Year 3	Total Collection proposed in Tariff Year 4	Total Collection proposed in Tariff Year 5
1	<i>Grant</i>	<i>Asset A</i>										
2		<i>Asset B</i>										
3		.....										
4	<i>Development Fee</i>	<i>Asset C</i>										
5		.....										

\* Projected values to be provided  
 # Fields in italics are indicative only



**Form F8 (c): Format for providing proposed exclusions from RAB (ref: Section AL.4 of Appendix I)**

Details of Proposed Excluded Assets from RAB						
S.N.	Asset Name	Book Value	Accumulated Depreciation	Justifications for exclusion	Any Land associated with asset	If yes, Details of land
1	<i>Asset A</i>					
2	<i>Asset B</i>					
3	.....					
4	.....					
5	.....					

# Fields in italics are indicative only

Form F9: Formats for Forecast and Actual Roll-forward RAB (ref: Section AI>4 of Appendix I)

		Forecast for the Control Period						
		Last available audited year <sup>^</sup>	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
<b>A</b>	<b>Opening RAB</b>							
	<i>Building</i>							
	<i>Plant &amp; Machinery</i>							
	<i>Electrical Installation</i>							
	<i>Furniture and Fittings</i>							
	....							
<b>B</b>	<b>Additions - WIP Capitalisation</b>							
	<i>Building</i>							
	<i>Plant &amp; Machinery</i>							
	<i>Electrical Installation</i>							
	<i>Furniture and Fittings</i>							
	....							
<b>C</b>	<b>Disposals/ Transfers</b>							
	<i>Building</i>							
	<i>Plant &amp; Machinery</i>							
	<i>Electrical Installation</i>							
	<i>Furniture and Fittings</i>							
	....							
<b>D</b>	<b>Depreciation Charge</b>							
	<i>Building</i>							
	<i>Plant &amp; Machinery</i>							
	<i>Electrical Installation</i>							
	<i>Furniture and Fittings</i>							
	....							
<b>E</b>	<b>Closing RAB (A+B-C-D)</b>							
	<i>Building</i>							
	<i>Plant &amp; Machinery</i>							
	<i>Electrical Installation</i>							
	<i>Furniture and Fittings</i>							
	....							
<b>F</b>	<b>Average RAB</b>	-	-	-	-	-	-	-

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F10 (a): Capital Projects Completed before current Review for Roll-Forward of RAB (ref: Section AI.4 of Appendix I)

Project Details				Projected Capital Expenditure																			
S.N.	Project Name	Project Type	Comn. Date	Tariff Year 1				Tariff Year 2				Tariff Year 3				Tariff Year 4				Tariff Year 5			
				Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP
1	<i>Project 1</i>	<i>Buildings</i>																					
2	<i>Project 2</i>	<i>Vehicles</i>																					
3	<i>Project 3</i>	<i>P&amp;M</i>																					
4	<i>Project 3</i>	<i>F&amp;F</i>																					
..	...	...																					

Project Details				Actual Capital Expenditure																			
S.N.	Project Name	Project Type	Comn. Date	Tariff Year 1				Tariff Year 2				Tariff Year 3				Tariff Year 4				Tariff Year 5			
				Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP	Capex	Com.	CDate	WIP
1	<i>Project 1</i>	<i>Buildings</i>																					
2	<i>Project 2</i>	<i>Vehicles</i>																					
3	<i>Project 3</i>	<i>P&amp;M</i>																					
4	<i>Project 3</i>	<i>F&amp;F</i>																					

Legend	
Project name	Project Name should be a unique name or a primary key assigned to a capex project
Project Type	Type of the project and the asset class to which the capex project belongs
Comn. Date	Date on which the capital project was commenced
Capex	Year-wise Capex incurred on the project excluding any capital receipts like grants, user contributions etc.
WIP	Work-in-Progress at the end of every Tariff Year
Com.	Commissioning in a particular Tariff Year
CDate	Date of commissioning in a particular Tariff Year

# Fields in italics are indicative only

Form F10 (b): Capital Expenditure Projected Plan - 10 year Master (ref: Section AL4 of Appendix I)

Note:- Information to be provided for 10 year period for all projects either spilling into the period or starting during the period

Project Details				Estimated WIP, Capex and Commissioning in each year																												
S.N.	Project Name	Project Type	Comn. Date	Financial Year before Tariff Year 1*			Tariff Year 1					Tariff Year 2					Tariff Year 3					.....					Tariff Year 10					
				TCAPEX	TCOMM	WIP	Capex	FinAlw	Com.	CDate	WIP	Capex	FinAlw	Com.	CDate	WIP	Capex	FinAlw	Com.	CDate	WIP	Capex	FinAlw	Com.	CDate	WIP	Capex	FinAlw	Com.	CDate	WIP	
1	<i>Project 1</i>	<i>Buildings</i>																														
2	<i>Project 2</i>	<i>Vehicles</i>																														
3	<i>Project 3</i>	<i>P&amp;M</i>																														
4	<i>Project 3</i>	<i>F&amp;F</i>																														

Legend	
Project name	Project Name should be a unique name or a primary key assigned to a capex project
Project Type	Type of the project and the asset class to which the capex project belongs
Comn. Date	Date on which the capital project was commenced
Capex	Year-wise Capex estimated to be incurred on the project excluding any capital receipts like grants, user contributions etc
WIP	Work-in-Progress at the end of every Tariff Year
Com.	Estimated commissioning in a particular Tariff Year
CDate	Estimated date of commissioning in a particular Tariff Year
TCAPEX	Total Capex incurred on the project till the end of previous Control Period excluding any capital receipts like grants, user contributions etc
TCOMM	Total commissioning on the project till the end of previous Control Period
FinAlw.	Project-wise Financing Allowance for the year

\* Projected values to be provided  
 # Fields in italics are indicative only

**Form F10(c): Year-wise Capital Expenditure Financing Plans for next 10 years (ref: Section AI.4 of Appendix I)**

Note:- Information to be provided for 10 year period for all projects either spilling into the period or starting during the period

Project Details		Tariff Year 1				Tariff Year 2				Tariff Year 3				.....				Tariff Year 10				
SN.	Total Capex Planned	Internal Accrual	Equity infused	User Contributions	Total Debt	Internal Accrual	Equity infused	User Contributions	Total Debt	Internal Accrual	Equity infused	User Contributions	Total Debt	Internal Accrual	Equity infused	User Contributions	Total Debt	Internal Accrual	Equity infused	User Contributions	Total Debt	

Legend	
Total Capex	Total Capex Planned indicates the total forecated capex for all assets during the next 10 years
Internal Accrual	Internal Accrual (from free reserves and surplus) in the year
Equity Infused	Equity Infusion planned during the year
User Contributions	Representing Development Fees/ User Contributions/ Capital Grants/ Subsidies etc. planned during the year for the capital project
Total Debt	Total Debt planned for funding capex during the year

Form F10 (d): Summary Statement of Expenses Capitalised (ref: Section AI.4 of Appendix I)

Sl.No.	Particulars	Last available audited year#	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	Interest and Finance Charges Capitalised							
B	Cost of raising finance & Bank Charges							
C	Other Expenses Capitalised							
	Employee Expenses							
	Administrative and General Expenses							
	Utilities and Outsourcing Expenses							
	Any Other expense being capitalised							
D	Total Expenses Being Capitalised (A+B+C)							

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F10 (e): Additional Capital Projects Summary (ref: Section AI.4 of Appendix I)

Forecast WIP Assets						
		Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
E	Opening WIP Assets					
	<i>Building</i>					
	<i>Plant &amp; Machinery</i>					
	<i>Electrical Installation</i>					
	<i>Furniture and Fittings</i>					
	....					
F	Additions - New WIP					
	<i>Building</i>					
	<i>Plant &amp; Machinery</i>					
	<i>Electrical Installation</i>					
	<i>Furniture and Fittings</i>					
	....					
G	WIP Capitalization					
	<i>Building</i>					
	<i>Plant &amp; Machinery</i>					
	<i>Electrical Installation</i>					
	<i>Furniture and Fittings</i>					
	....					
H	Closing WIP Assets					
	<i>Building</i>					
	<i>Plant &amp; Machinery</i>					
	<i>Electrical Installation</i>					
	<i>Furniture and Fittings</i>					
	....					

# Fields in italics are indicative only

Form F11 (a): Employee Strength (ref: Section AL4 of Appendix I)

S.N.	Particulars - with detailed breakup	Last available audited year <sup>^</sup>	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	<b>Department-wise Full-Time Employees</b>							
	<i>Department 1</i>							
	<i>Department 2</i>							
	<i>Department 3</i>							
	<i>Department 4</i>							
	.....							
B	<b>Department-wise Part-Time/ Contractual Employees</b>							
	<i>Department 1</i>							
	<i>Department 2</i>							
	<i>Department 3</i>							
	<i>Department 4</i>							
	.....							

\* Projected values to be provided

# Fields in italics are indicative only

<sup>^</sup> Information for last financial year for which audited accounts are available



**Form F11 (b): Payroll Related Expenditure and Provisions (ref: Section A1.4 of Appendix I)**

S.N.	Particulars - with detailed breakup	Last available audited year^	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	<i>Salaries and Wages</i>							
B	<i>PF Contribution</i>							
C	<i>Medical Expenses</i>							
D	<i>Overtime</i>							
E	<i>Staff Welfare Fund</i>							
F	.....							
1	Grand Total							
2	Employee expenses capitalised							
3	Net Employee expenses (1)-(2)							

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F11 (c): Administration and General Expenditure (ref: Section AL4 of Appendix D)

S.N.	Particulars - with detailed breakup	Last available audited year <sup>^</sup>	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	Administration Charges							
	<i>Director's Sitting Fees</i>							
	<i>Rates &amp; Taxes</i>							
	<i>Lease / Rent</i>							
	<i>Rates &amp; Taxes</i>							
	<i>Communication expenses</i>							
	<i>Travelling and Conveyance</i>							
	<i>Advertisement</i>							
	<i>Office Maintenance</i>							
	<i>Printing and Stationery</i>							
	<i>Allocated Overhead Expenses (Provide details)</i>							
	.....							
B	Legal Charges/ Auditors's Fees							
	<i>Auditor's Fees</i>							
	<i>Legal Charges</i>							
	.....							
C	Consultancy/ Advisory Expenses							
	<i>Consultancy Charges</i>							
	<i>Technical Fees</i>							
	<i>Other Professional Charges</i>							
	.....							
D	Other Charges							
	<i>Land Lease</i>							
	<i>Insurance Costs</i>							
	<i>During Construction period</i>							
	<i>During Operation period</i>							
	<i>Event Management / Inauguration Expenses</i>							
	<i>Recruitment and Training Charges</i>							
	<i>Bank Charges</i>							
	<i>Miscellaneous Expenses</i>							
	<i>Interest on short term loans</i>							
	.....							
E	Grand Total							
F	Administration & General expenses capitalised							
G	Net A&G expenses (E)-(F)							

\* Projected values to be provided

# Fields in italics are indicative only

<sup>^</sup> Information for last financial year for which audited accounts are available

Form F11 (d): Repair and Maintenance Expenditure (ref: Section A1.4 of Appendix I)

S.N.	Particulars - with detailed breakup	Last available audited year^	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	<i>Building</i>							
B	<i>Plant &amp; Machinery</i>							
C	<i>Electrical Installation</i>							
D	<i>Furniture and Fittings</i>							
E	.....							
1	Grand Total							

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F11 (e): Utilities and Outsourcing Expenditure (ref: Section AI.4 of Appendix I)

S.N.	Particulars - with detailed breakup	Last available audited year^	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	Utilities Costs							
	<i>Power Charges</i>							
	<i>Units Consumed</i>							
	<i>Effective Unit Rate</i>							
	<i>Power Costs</i>							
	<i>Water Charges</i>							
	<i>Units Consumed</i>							
	<i>Effective Unit Rate</i>							
	<i>Water Costs</i>							
	<i>Other - Mention all the applicable heads</i>							
	.....							
B	Department-wise Outsourcing Costs							
	<i>Airfield Services &amp; Facilities</i>							
	<i>Terminals</i>							
	<i>Maintenance</i>							
	<i>Cleaning</i>							
	.....							
1	Grand Total							
2	Utilities and Outsourcing expenses capitalised							
3	Net Utilities and Outsourcing expenses (1)-(2)							

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F11 (f) - Other Outflows (ref: Section AI.4 of Appendix I)

S.N.	Particulars	Last available audited year#	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	....							
B	....							
C	....							
1	Grand Total							

\* Projected values to be provided

# Information for last financial year for which audited accounts are available

Form F12 (a)- Historical and Projected Cargo Volumes in tonnes (ref: Section AI.5 of Appendix I)

Year	Domestic								International								Forecast Error Correction band*
	Loaded				Unloaded				Loaded				Unloaded				
	<i>General</i>	<i>Perishable</i>	<i>Valuable</i>	<i>Other</i>	<i>General</i>	<i>Perishable</i>	<i>Valuable</i>	<i>Other</i>	<i>General</i>	<i>Perishable</i>	<i>Valuable</i>	<i>Other</i>	<i>General</i>	<i>Perishable</i>	<i>Valuable</i>	<i>Other</i>	
2003-04																	
2004-05																	
2005-06																	
2006-07																	
2007-08																	
2008-09																	
2009-10																	
2010-2011																	
2011-2012																	
2012-2013																	
2013-2014																	
2014-2015																	
2015-2016																	
2016-2017																	
2017-2018																	
2018-2019																	
2019-2020																	

# Fields in italics are indicative only

\* Applicable for forecasted years only

**Form F12 (b)- Historical Aircraft Movements (ref: Section AL.5 of Appendix I)**

<b>Year</b>	<b>Domestic (Landing)</b>	<b>International (Landing)</b>
2003-04		
2004-05		
2005-06		
2006-07		
2007-08		
2008-09		
2009-10		
2010-2011*		

\* Projected values to be provided

Form F12 (c): Projected Aircraft Movements (ref: Section AI.5 of Appendix I)

Year	Domestic (Landing)			International (Landing)			Forecast Error Correction band
	Optimistic	Most Likely	Conservative	Optimistic	Most Likely	Conservative	
2011-2012							
2012-2013							
2013-2014							
2014-2015							
2015-2016							
2016-2017							
2017-2018							
2018-2019							
2019-2020							
2020-2021							



Form F12 (d) - Historical and Projected fuel throughput in kilolitres (ref: Section A1.5 of Appendix I)

Year	<i>Domestic Flights</i>	<i>International Flights</i>	Forecast Error Correction Band*
2003-04			
2004-05			
2005-06			
2006-07			
2007-08			
2008-09			
2009-10			
2010-2011			
2011-2012			
2012-2013			
2013-2014			
2014-2015			
2015-2016			
2016-2017			
2017-2018			
2018-2019			
2019-2020			

# Fields in italics are indicative only

\* Applicable for forecasted years only

Form F13 (a) - Historical Tariff(s) and Revenues from Regulated Services (ref: Section AL6 of Appendix I)

S.N.	Particulars	2003-04		2004-05		2005-06		2006-07		2007-08		2008-09		2009-10	
		Per Unit Tariff	Revenues	Per Unit Tariff	Revenues	Per Unit Tariff	Revenues	Per Unit Tariff	Revenues	Per Unit Tariff	Revenues	Per Unit Tariff	Revenues	Per Unit Tariff	Revenues
A	Revenues from Regulated Services														
1	<i>Tariff 1</i>														
2	<i>Tariff 2</i>														
3	<i>Tariff 3</i>														
4	....														
	Total Revenues														

# Fields in italics are indicative only

Form F13 (b) - Historical and Projected revenues from services other than Regulated Services (ref: Section AI.6 of Appendix D)

S.N.	Particulars	Last available audited year^	Financial Year before Tariff Year 1*	Tariff Year 1	Tariff Year 2	Tariff Year 3	Tariff Year 4	Tariff Year 5
A	Revenue from services other than Regulated Services							
1	<i>Revenues from .....</i>							
2	<i>Revenues from .....</i>							
3	<i>Revenues from .....</i>							
B	Other Revenues							
1	<i>Revenues from Interest Income</i>							
2	<i>Revenue from Any Other Sources (Please Specify)</i>							
	Total Revenues							

\* Projected values to be provided

# Fields in italics are indicative only

^ Information for last financial year for which audited accounts are available

Form F14 (a): Annual Tariff Proposal For Tariff Year t - Format for providing information on EMAY (ref: Section AI.7 of Appendix I)

S.N.	Particulars	For Tariff Year t
1	Yield per Unit	
2	Error Correction term (from year t-2)	
3	Estimated Maximum Allowed Yield (EMAY)	

**Form F14 (b): Annual Tariff Proposal For Tariff Year t - Format for providing information on Tariff (s) (ref: Section AI.7 of Appendix I)**

Tariff heading	Conditions of Tariff	Applicable Discount/ Surcharge	Estimated Units	Estimated Revenues
	e.g. Tariff per flight weight	e.g. Discount if paid within 15 days	e.g. Number of ATMs	Tariff * Estimated Units
<i>Tariff 1</i>				
<i>Tariff 2</i>				
<i>Tariff 3</i>				
.....				
Total			* Total units to reconcile traffic forecast	* Total estimated revenue consistent with Estimated Maximum Allowed Yield

\* The Service Provider must demonstrate that the Tariff (s) as proposed will ultimately result in a revenue equal to or less than ARR or EMAY, as the case may be

# Fields in italics are indicative only

**Form F15: Annual Compliance Statement (ref: Section AI.8 of Appendix I)**

S.N.	Particulars	Actuals for the Tariff Year under consideration
1	Yield per Unit	
	Actual WPI during the year	
2	Actual Maximum Allowed Yield per Unit	
	Security Operating Cost Correction term	
	Other Mandated Operating Cost Correction term	
	Statutory Cost Operating Correction term	
	Forecast Error Correction term	
	Recovery Error Correction term	
3	Actual Yield per Unit	
	Revenues subject to yield cap	
	Volumes	
4	Over recovery of allowed yield - Error correction	

**Form F16: Performance Report for the Tariff Year (ref: Section A1.8 of Appendix I)**

	Actual for the Tariff Year under consideration	Forecast as per the Multi Year Tariff Order
Total Revenue from Regulated Services (1)		
Total Revenue from services other than Regulated Services (2)		
Operating Expenditure (3)		
Depreciation (4)		
Total Expenditure (3) + (4) = (5)		
Regulatory operating Profit (1) - (2) - (5) = (6)		
Capital expenditure (7)		
<i>Opening RAB (8)</i>		
<i>Disposals/ Transfers (9)</i>		
<i>Closing RAB (8) + (7) - (9) = (10)</i>		
<i>Average RAB (8) + (10) / 2 = (11)</i>		
<i>Return on Average RAB (6) / (11)</i>		
<i>Total Volume (Cargo/Fuel throughput/ ATM) (12)</i>		
<i>Actual yield per unit (12/1)</i>		

# Fields in italics are only required for Service Provider deemed 'material' and 'non-competitive'

**Form F17: Revenues from Regulated Services recovered during the Tariff Year (ref: Section A1.8 of Appendix I)**

	Actual for the Tariff Year under consideration	Forecast as per the Multi Year Tariff Order
<i>Revenues from Tariff #1</i>		
<i>Revenues from Tariff #2</i>		
<i>Revenues from Tariff #3</i>		
....		
Total Revenues from Tariff(s) for Regulated Services		

# Fields in italics are indicative only



**Form F18: Revenue from services other than Regulated Services recovered during the Tariff Year (ref: Section A1.8 of Appendix I)**

	Actual for the Tariff Year under consideration	Forecast as per the Multi Year Tariff Order
<i>Revenue from services other than Regulated Services heading #1</i>		
<i>Revenue from services other than Regulated Services heading #2</i>		
<i>Revenue from services other than Regulated Services heading #3</i>		
<i>Revenue from services other than Regulated Services not identified in the Multi Year Tariff Order</i>		
<b>Total Revenues from services other than Regulated Services</b>		

# Fields in italics are indicative only

Form F19: Operating Expenditure incurred during the Tariff Year (ref: Section A1.8 of Appendix I)

	Actual for the Tariff Year under consideration	Forecast as per the Multi Year Tariff Order
<i>Operating expenditure heading #1</i>		
<i>Operating expenditure heading #2</i>		
<i>Operating expenditure heading #3</i>		
<i>Operating expenditure not identified</i>		
Total operating expenditure		

# Fields in italics are indicative only

Form F20: P&L Reconciliation Statement for the Tariff Year (ref: Section A1.8 of Appendix I)

S.N.	Particulars	Actual for the Tariff Year under consideration	Forecast as per the Multi Year Tariff Order
1	Revenue		
	<i>Revenues from Regulated Services</i>		
	<i>Revenues from services other than Regulated Services</i>		
2	Operating expenditure		
	<i>Payroll Costs</i>		
	<i>Administrative and General Costs</i>		
	<i>Utilities and Outsourcing Costs</i>		
	<i>Concession Fees</i>		
	<i>Repair and Maintenance Costs</i>		
3	Profit before depreciation, interest and taxation (PBDIT)		
	Depreciation and Amortisation		
4	Profit before interest and taxation (PBIT)		
	Total interest and finance charges		
5	Profit / loss before tax		
	Provision for taxation		
6	Profit / loss after taxation		
7	Balance Carried to Balance Sheet		
	Adjustments to reconcile as per statutory accounts		
8	Operating profit as per statutory accounts		

# Fields in italics are indicative only

\* Applicable only for Service Provider deemed 'material' and 'non-competitive'

**Form F21: RAB Reconciliation Statement (ref: Section A1.8 of Appendix I)**

S.N.	Particulars	Actual for the Tariff Year under consideration
1	Net fixed assets as per the statutory accounts	
	<i>Difference between net fixed assets and RAB</i>	
	<i>Difference between depreciation in statutory accounts and allowed regulatory depreciation</i>	
	<i>Intercompany transfers</i>	
	<i>Revaluations in statutory accounts</i>	
	<i>Reconciliation adjustment #1</i>	
	<i>Reconciliation adjustment #2</i>	
	.....	
2	Closing RAB	

# Fields in italics are indicative only

\* Applicable only for Service Provider deemed 'material' and 'non-competitive'