



**Airports Economic Regulatory Authority of India**

**In the matter of determination of aeronautical tariffs  
in respect of Trivandrum International Airport,  
Thiruvananthapuram (TVM) for the second Control Period  
(01.04.2016 – 31.03.2021).**

**28<sup>th</sup> March, 2017**

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

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## 1. Introduction

1.1. Trivandrum Airport commenced operations in 1935 and was declared as an international airport on 1<sup>st</sup> January, 1991.

1.2. In addition to civilian operations, Trivandrum International Airport (TVM) also caters to Indian Air Force and Coast Guard for their strategic operations. IAF has an exclusive apron for their operations at the airport.

1.3. The traffic handled by TVM during the 1<sup>st</sup> control period is given in table below:

Table 1 - Passenger and ATM traffic during the 1<sup>st</sup> control period at TVM

Year	Dom. Pax (mn)	Int. Pax (mn)	Total Pax (mn)	Dom. ATMs	Int. ATMs	Total ATMs
2012	0.98	1.84	2.82	11,708	15,531	27,239
2013	0.99	1.85	2.84	10,642	14,161	24,803
2014	0.99	1.95	2.94	9,631	14,150	23,781
2015	1.08	2.09	3.17	8,916	14,803	23,719
2016	1.20	2.27	3.47	9,692	16,309	26,001

1.4. TVM, with a traffic of more than 1.5 mppa, is a major airport as defined in Section 2 (i) of AERA Act. Accordingly, tariff determination of aeronautical services at the airport is undertaken by AERA.

1.5. Technical and Terminal building details of TVM are provided in the table below:

Table 2 – Technical and Terminal building details of TVM

Technical Details of TVM		
Particulars	Details	
Total airport area	628.59 acres	
Runway orientation and length	14/32 and 3373 m	
No. of Taxi Tracks	7	
No. of Apron Bays	20	
Aerodrome Category	4E	
Navigational Aids	DVOR, DME, ILS	
Operational hours	24 hours	
Terminal building Details		
Particulars	Domestic (T-I)	International (T-II)
Terminal Building Area	13,335 sq. m	32,528 sq. m
Immigration Counters	-	14 + 12
Customs Counters	-	02 + 09

<b>Particulars</b>	<b>Domestic (T-I)</b>	<b>International (T-II)</b>
Security Counters	3	4
Departure Conveyor	1	2
Arrival Conveyor	3	3
Peak hour passenger capacity	400 + 400	800 + 800
No. of Check-in Counters (CUTE)	14 + 4	30
Total Area of Car Parking	7,000 sq. m. (290 Cars)	23,445 sq. m. (700 Cars and 20 Coaches)

## 2. Methodology for Tariff determination

- 2.1. The Authority, vide its Order No. 13/2010-11 dated 12.01.2011 (“Airport Order”) and Direction No. 5/2010/11 dated 28.02.2011 (“Airport Guidelines”), has issued guidelines to determine tariffs at major airports based on single till mechanism. Subsequently, the Authority has amended guidelines vide its Order No. 14, 2016-17 dated 12.1.2017 to determine future tariffs using hybrid till.
- 2.2. The tariff determination process consists of true-up for 1<sup>st</sup> control period and determination of building blocks for 2<sup>nd</sup> control period. The Authority proposes to undertake true-up of 1<sup>st</sup> control period based on actual financials and traffic data under single till (as was applicable during 1<sup>st</sup> control period) and determination of building blocks for 2<sup>nd</sup> control period under hybrid till.
- 2.3. The Aggregate Revenue Requirement (ARR) under regulatory framework of Authority is calculated as under

$$ARR = \sum_{t=1}^5 (ARR_t) \text{ and}$$
$$ARR_t = (FRoR \times RAB_t) + D_t + O_t + T_t - \alpha \times NAR_t$$

Where

- 2.3.1. t is the Tariff Year in the control period;
- 2.3.2.  $ARR_t$  is the Aggregate Revenue Requirement for year t;
- 2.3.3. FRoR is the Fair Rate of Return for the control period;
- 2.3.4.  $RAB_t$  is the Aeronautical Regulatory Asset Base for year t;
- 2.3.5.  $D_t$  is the Depreciation corresponding to the Aeronautical RAB for year t;
- 2.3.6.  $O_t$  is the Aeronautical Operation and Maintenance Expenditure for year t, which include all expenditures incurred by the Airport Operator(s) towards aeronautical activities including expenditure incurred on statutory operating costs and other mandatory operating costs;
- 2.3.7.  $T_t$  is the Tax in year t, which includes payments by Airport Operator in respect of corporate tax on income from assets/ amenities/facilities/services taken into consideration for determination of ARR for year t;
- 2.3.8.  $\alpha$  is 30% cross subsidy factor for revenue from services other than aeronautical services under hybrid till for 2<sup>nd</sup> control period.  $\alpha$  is 100% cross

subsidy factor under single till for 1<sup>st</sup> control period; and

2.3.9.  $NAR_t$  is the revenue from services other than aeronautical services (Non-Aeronautical Revenues or NAR) for year t.

2.4. The true-up for 1<sup>st</sup> control period and determination of building blocks for 2<sup>nd</sup> control period are detailed in subsequent sections.

2.5. Based on ARR, Yield per Passenger is calculated as per formula given below:

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

Where,

2.5.1. Present value (PV) of  $ARR_t$  for a tariff year t is calculated 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.

2.5.2.  $VE_t$  is the Traffic volume in a tariff year t as estimated by the Authority

2.5.3.  $ARR_t$  is the Aggregate Revenue Requirement for tariff year t.

2.6. While determining building blocks and ARR for TVM, Authority proposes to-

2.6.1. Allocate CHQ/ RHQ overhead expenses on revenue basis as per the approach followed by the Authority while determining tariffs for Guwahati and Lucknow airports

2.6.2. Adopt depreciation rates consistent with Companies Act and for assets not defined in the Companies Act at 3.33%.

2.7. The Authority caps airport tariffs at a level where revenue generated through approved tariffs is equal to the permissible ARR for the Airport Operator. The Authority's approach on the above is detailed in subsequent sections.

### **3. Multi Year Tariff Proposal for TVM**

- 3.1. In the 1<sup>st</sup> control period, the Authority, vide its Order No. 15/2015-16 dated 17.04.2015 had decided that the tariffs at TVM would continue at the existing level on ad-hoc basis and advised AAI to submit MYTP for the 2<sup>nd</sup> control period well in time along with the actual financials till FY 2014-15 and the aggregate revenue requirements for the 1<sup>st</sup> control period.
- 3.2. Accordingly, AAI made submissions dated 29.02.2016 to the Authority for determination of tariffs for 2<sup>nd</sup> control period. Subsequent to the announcement of National Civil Aviation Policy, AAI made revised submissions under hybrid till on 29.11.2016.
- 3.3. AAI provides Communication, Navigation, Surveillance/ Air Traffic Management (CNS/ATM) services in addition to landing, parking and other aeronautical services at TVM. AAI has submitted that the tariff proposal does not consider revenues, expenditure and assets on account of CNS/ATM services. This consultation paper discusses the determination of tariffs for aeronautical services at the airport excluding CNS/ ATM services.
- 3.4. AAI has informed that accounts of AAI are audited by C&AG of India as mandated by the AAI Act. The C&AG's resident audit party audits the financial records and statements of AAI airports, regional/ field offices. However, the C&AG issues the final audit certificate for the AAI as a whole and only trial balance is available for TVM. The Authority has utilized these documents as submitted by AAI for determination of tariffs.

#### 4. True-up for First control period

4.1. True-up for 1<sup>st</sup> control period is calculated as difference between

4.1.1. Permissible aeronautical revenue calculated based on actual traffic and financials

4.1.2. Actual aeronautical revenue received by AAI for 1<sup>st</sup> control period

4.2. AAI has submitted opening RAB for the 1<sup>st</sup> control period under single till at ₹ 344.40 crore.

Table 3 – Opening RAB for the 1<sup>st</sup> control period as per AAI – Single till

S. No.	Particulars	Amount (₹ crore)
1	Original Cost of Airport Assets excluding CNS/ATM related assets as on 01.04.2011	449.45
2	Accumulated Depreciation as on 01.04.2011	105.05
3	<b>Opening RAB[(1)-(2)] as on 01.04.2011</b>	<b>344.40</b>

#### Permissible aeronautical revenues

4.3. AAI has calculated Aggregate Revenue Requirement of ₹ 728.04 crore (PV of ARR is ₹ 570.31 crore as on 1<sup>st</sup> April 2012) for 1<sup>st</sup> control period.

Table 4 - ARR as per AAI for the 1<sup>st</sup> control period – Single till

Details (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
Opening RAB	344.40	324.28	320.52	276.41	230.95
Assets capitalized during the year	29.08	49.49	10.21	6.57	33.63
Disposals/ Transfer	0.00	0.00	0.00	0.00	0.00
Depreciation	49.20	53.25	54.31	52.03	49.36
Closing RAB	324.28	320.52	276.41	230.95	215.23
<b>Average RAB</b>	<b>334.34</b>	<b>322.40</b>	<b>298.47</b>	<b>253.68</b>	<b>223.09</b>
Return on Average RAB@14%	46.81	45.14	41.79	35.52	31.23
Operating Expenditure	69.24	81.79	91.39	105.83	103.28
Depreciation	49.20	53.25	54.31	52.03	49.36
Corporate Tax	0	0	0.84	0.19	10.83
Less- Revenue from services other than Regulated services	23.57	29.20	40.57	46.33	54.32
<b>ARR as per AAI</b>	<b>141.67</b>	<b>150.97</b>	<b>147.76</b>	<b>147.24</b>	<b>140.39</b>
<b>Total ARR as per AAI</b>	<b>728.04</b>				
<b>Discounted ARR</b>	141.67	132.43	113.69	99.38	83.12
<b>PV of ARR for the control period as on 01.04.2012</b>	<b>570.31</b>				



#### Actual aeronautical revenues

4.4. AAI has submitted that it has earned ₹ 530.94 crore during 1<sup>st</sup> control period.

Correspondingly, AAI has submitted that it has a shortfall of ₹ 350.72 crore (future value as on 01 April 2017) during the 1<sup>st</sup> control period. The aeronautical revenues for the 1<sup>st</sup> control period is shown below:

Table 5 - Aeronautical revenue earned for the 1<sup>st</sup> control period as per AAI Submission – Single till

No.	Particulars (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
A	Revenues from Regulated Services					
1	Landing Charges:					
1.1	Domestic	7.59	6.79	6.71	6.45	6.57
1.2	International	18.07	18.54	17.37	17.99	20.30
1.3	Total Landing Charges	25.66	25.33	24.08	24.44	26.87
2	Parking and Housing Charges:	0.66	0.63	0.70	0.54	0.86
3	PSF(Facilitation Charges(FC)):					
3.1	Domestic	3.58	6.01	4.51	4.69	5.27
3.2	International	7.84	5.23	8.76	9.10	10.60
3.3	Total PSF (FC)	11.42	11.24	13.27	13.79	15.87
4	User Development Fees (UDF):					
4.1	Domestic	0.00	0.00	0.00	0.00	0.00
4.2	International	49.80	50.69	55.29	58.33	63.59
4.3	TOTAL UDF	49.80	50.69	55.29	58.33	63.59
5	Fuel Throughput Charges	1.21	1.25	1.30	1.60	1.65
6	Ground Handling Charges	2.32	7.64	10.31	11.93	11.05
7	CUTE services	0.73	1.47	2.32	1.32	1.75
	<b>Total Aeronautical Revenues</b>	<b>91.82</b>	<b>98.25</b>	<b>107.27</b>	<b>111.96</b>	<b>121.65</b>

Table 6 - ARR and its resultant shortfall as per AAI for 1<sup>st</sup> control period – Single till

No.	Components (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16	Total
1	ARR for year	141.67	150.97	147.76	147.24	140.39	<b>728.04</b>
2	Aeronautical Revenue	91.82	98.25	107.27	111.96	121.65	<b>530.94</b>
3	Shortfall	49.86	52.73	40.48	35.28	18.74	<b>197.09</b>

No.	Components (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16	Total
4	Future Value of shortfall as on 01.04.2017	109.44	101.52	68.37	52.27	19.11	<b>350.72</b>

### **Authority's Examination**

4.5. The Authority proposes adjustments on the following building blocks for calculating true-up of 1<sup>st</sup> control period

4.5.1. Adjustment of depreciation

4.5.2. Adjustment of non-aeronautical revenues

### **Adjustment for Depreciation**

4.6. AAI has used depreciation rates as per the accounting policy approved by AAI board.

The depreciation rates used by AAI for key assets are –

Table 7 - Depreciation rates as submitted by AAI

No.	Asset Class	As per AAI
1	Free hold land	0%
2	Runways	13%
3	Taxiways	13%
4	Aprons	13%
5	Road, bridges & culverts	13%
6	Terminal & other buildings in operational area	8%
7	Buildings-Temporary	100%
8	Buildings-Residential	5%
9	Fencing-Temporary	100%
10	Other buildings-Unclassified	8%
11	Computers & IT H/w & accessories	20%
12	Plant & machineries	11%
13	Tools & equipment	20%
14	Office furniture & fixtures	20%
15	Other vehicles	14%
16	Electrical installations & air conditioners	11%
17	Other office equipment / appliances	18%
18	F&F-operational area	20%
19	X-Ray baggage insp. system	11%
20	CFT/ firefighting equipment	13%
21	Boundary wall-Operational	8%
22	Intangible assets-computer s/w	20%
23	Boundary wall-Residential	5%

24	Motors cars/jeeps	14%
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4.7. The Authority proposes the following depreciation rates

4.7.1. For asset types not defined under Companies Act (runway, taxiway and aprons): 3.33% based on useful life of 30 years

4.7.2. For asset types defined under Companies Act: rates prevalent under the Companies Act 1956 till FY 2013-14 and as per the Companies Act 2013 from FY 2014-15 onwards as the effective date of implementation of the Companies Act 2013 is 01.04.2014. The depreciation rates as submitted by AAI and as considered by the Authority are given in Table 27.

4.8. Depreciation for the 1<sup>st</sup> control period has been calculated on the basis of actual date of capitalization of assets.

4.9. The revised depreciation for the 1<sup>st</sup> control period under single till is given below:

Table 8 – The Authority's consideration on depreciation for 1<sup>st</sup> control period – Single till

No.	Details (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16	Total
1	As per AAI	49.20	53.25	54.31	52.03	49.36	<b>258.15</b>
2	As per Authority	13.81	15.87	16.08	28.67	29.69	<b>104.13</b>

4.10. In respect of cost of land, the Authority notes that land is not a depreciable asset and if taken into RAB, the return over it has to be paid perpetually. Besides, if the principle of FRoR based on cost of capital is applied on cost of land the aeronautical charges may have to be fixed at exorbitantly high rates. Since the Authority has so far not come across instances where the land cost is significant part of the RAB, it is necessary to examine all the ramifications of taking the value of cost of land into RAB. The Authority realizes that unless some kind of return is given on future land acquisitions for airport purposes, it could become a major hurdle for airport development. Therefore, it is proposed to conduct a study based on which the treatment to be given to cost of land can be determined on a sound footage.

4.11. It appears from the submissions of AAI for TVM that the value of land included in the RAB pertains only to additional compensation as per court directions and original cost

of land has not been included in the RAB. In the case of TVM the entire ARR is not being recovered through the charges proposed to be fixed in the consultation paper. Therefore, it is proposed to exclude the cost of land from the RAB till a final decision is taken on the issue.

4.12. The change in depreciation rates and exclusion of land from RAB results in a change in average RAB of the 1<sup>st</sup> control period as shown below –

Table 9 – The Authority's consideration on average RAB for 1<sup>st</sup> control period – Single till

No	Details (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
1	<b>As per AAI</b>					
	Opening RAB	344.40	324.28	320.52	276.41	230.95
	Additions	29.08	49.49	10.21	6.57	33.63
	Disposals					
	Depreciation	49.20	53.25	54.31	52.03	49.36
	Closing RAB	324.28	320.52	276.41	230.95	215.23
	<b>Average RAB</b>	<b>334.34</b>	<b>322.40</b>	<b>298.47</b>	<b>253.68</b>	<b>223.09</b>
2	<b>As per Authority</b>					
	Opening RAB	336.04	351.30	384.88	379.00	356.90
	Additions	29.08	49.44	10.21	6.57	33.54
	Disposals					
	Depreciation	13.81	15.87	16.08	28.67	29.69
	Closing RAB	351.30	384.88	379.00	356.90	360.74
	<b>Average RAB</b>	<b>343.67</b>	<b>368.09</b>	<b>381.94</b>	<b>367.95</b>	<b>358.82</b>

#### Adjustment for Non-Aeronautical revenues

4.13. The Authority noted that AAI has considered lease rental revenues from ground handling agencies, oil companies and cargo as non-aeronautical revenues during the 1<sup>st</sup> control period. As per the provisions of the AERA Act, the services rendered in respect of ground handling, oil companies and cargo are aeronautical services.

4.14. The Authority proposes to consider the revenues from Cargo facility, Ground Handling Services and Supply of fuel to aircraft including land lease rentals as aeronautical revenue.

Table 10 – Comparison of NAR as considered by AAI and the Authority for 1<sup>st</sup> control period

NAR (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
<b>NAR as submitted by AAI (1)</b>	<b>23.57</b>	<b>29.20</b>	<b>40.57</b>	<b>46.33</b>	<b>54.32</b>
<b>Adjustment</b>					

<i>Revenue from Cargo, Ground handling and fuel services treated as aeronautical (2)</i>	0.90	1.41	1.69	2.84	5.32
<b>NAR as per Authority (3 = 1 - 2)</b>	<b>22.7</b>	<b>27.8</b>	<b>38.9</b>	<b>43.5</b>	<b>49.0</b>

#### **Adjustment for operating expenditure (CHQ/ RHQ expenditure apportionment)**

4.15. Total CHQ/ RHQ expenses for AAI is as shown in table below. AAI has requested the apportionment of CHQ/ RHQ expenses while determining tariffs of major airports. CHQ/ RHQ expenses consist of three components – Expenditure for TVM employee's retirement benefit allocated at CHQ, overheads at CHQ and overheads at RHQ. The CHQ/ RHQ expense considered for apportionment have been net off against the income received by CHQ/ RHQ.

4.16. The retirement benefit is allocated on the basis of number of employees at TVM. The Authority proposes to allocate the CHQ/ RHQ overhead expenses for the airport services after excluding the ANS expenses on revenue basis which is consistent with the approach adopted by the Authority in MYTP of 1<sup>st</sup> Control Period for Guwahati and Lucknow airports. The Authority observes that as per the above methodology the CHQ/ RHQ overhead expenses are allocated in proportion to the capacity of the airport to absorb higher cost of CHQ/ RHQ. Under this methodology, a portion of CHQ/ RHQ expenses are allocated to Delhi and Mumbai airports based on revenue received by AAI from these airports.

Table 11 - Summary of CHQ/ RHQ Overheads as submitted by AAI for 1<sup>st</sup> control period

No.	in INR cr.	2012	2013	2014	2015	2016
	<b>Apportionment of CHQ/ RHQ overheads</b>					
1	CHQ Expenses	259.3	331.2	303.8	397.3	404.6
2	Less - CHQ Revenue	93.8	152.6	183.5	236.8	227.7
<b>3</b>	<b>Net CHQ Expenses (1-2)</b>	<b>165.6</b>	<b>178.7</b>	<b>120.3</b>	<b>160.5</b>	<b>176.9</b>
1	Southern Region - RHQ Expenses	27.3	45.1	54.1	66.5	68.6
2	Less - Southern Region - RHQ Revenues	3.1	4.7	3.7	1.5	9.2
<b>3</b>	<b>Net Southern Region RHQ Expenses (1-2)</b>	<b>24.2</b>	<b>40.5</b>	<b>50.4</b>	<b>65.1</b>	<b>59.4</b>
	<b>Total of Net CHQ and RHQ Expenses</b>	<b>189.7</b>	<b>219.1</b>	<b>170.7</b>	<b>225.6</b>	<b>236.3</b>
	<b>CHQ/ RHQ Overheads allocated to TVM</b>	<b>14.2</b>	<b>19.6</b>	<b>20.4</b>	<b>25.5</b>	<b>24.0</b>

No.	in INR cr.	2012	2013	2014	2015	2016
	<b>Apportionment of Retirement Benefits at CHQ</b>					
	<b>Total provision of retirement benefits at CHQ</b>	<b>159.7</b>	<b>289.4</b>	<b>160.0</b>	<b>275.2</b>	<b>182.9</b>
	<b>Provision of Retirement Benefits at CHQ for TVM</b>	<b>6.9</b>	<b>11.4</b>	<b>7.4</b>	<b>12.8</b>	<b>8.5</b>

4.17. In view of the above, the O&M expenditure for 1<sup>st</sup> control period is given in table below.

Table 12 - Summary of O&M expenditure as per the Authority for 1<sup>st</sup> control period -Single till

No.	Particulars (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
1	Pay roll Expenditure of TVM	31.5	33.4	43.7	45.9	47.5
2	Expenditure for TVM employees' retirement benefits allocated at CHQ	6.9	11.4	7.4	12.8	8.5
3	Less - Pay and Allowances of ANS unit	1.1	1.2	1.4	2.4	2.5
<b>A</b>	<b>Total Pay roll Expenditure (1+2-3)</b>	<b>37.4</b>	<b>43.6</b>	<b>49.7</b>	<b>56.3</b>	<b>53.5</b>
4	Administrative and General Expenditure	1.3	1.7	1.6	2.1	2.6
5	Apportionment of administration & General expenditure of CHQ/RHQ	14.2	19.6	20.4	25.5	24.0
<b>B</b>	<b>Total Administration &amp; General Expenditure(3+4)</b>	<b>15.5</b>	<b>21.2</b>	<b>21.9</b>	<b>27.6</b>	<b>26.6</b>
<b>C</b>	<b>Repairs and Maintenance Expenditure</b>	<b>7.7</b>	<b>6.4</b>	<b>7.1</b>	<b>7.3</b>	<b>9.2</b>
6	Power Charges	6.2	7.9	9.9	10.8	9.6
7	Water Charges	0.3	0.3	0.3	0.4	0.5
8	Others	1.7	1.9	2.1	2.9	3.1
<b>D</b>	<b>Utility and Outsourcing Expenditure</b>	<b>8.2</b>	<b>10.1</b>	<b>12.3</b>	<b>14.1</b>	<b>13.2</b>
<b>E</b>	<b>Other Outflows</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.5</b>	<b>0.7</b>
	<b>Total (A+B+C+D+E)</b>	<b>69.2</b>	<b>81.8</b>	<b>91.4</b>	<b>105.8</b>	<b>103.3</b>

Adjustment in base year for calculating present value of shortfall

4.18. The Authority noted that the present value factor considered by AAI for the shortfall in aggregate revenue collection in comparison to allowable aggregate revenue for the 1<sup>st</sup> control period (refer to Table 6) is as on 01.04.2017 instead of 01.04.2016. The Authority proposes to consider the present value of shortfall as on 01.04.2016.

#### Tax calculation for 1<sup>st</sup> control period

4.19. The tax calculation as submitted by AAI for 1<sup>st</sup> control period apportions actual tax liability of AAI based on the profit before tax of TVM and profit before tax of AAI.

4.20. The Authority noted that the tax liability of AAI would include tax as a result of income from Delhi and Mumbai airports. Therefore, the Authority proposes to determine tax for TVM by applying provisional tax rate of 34.60% on the standalone profit before tax of the airport. In addition, for calculation of tax, the Authority proposes to determine depreciation considering the depreciation rates applicable under Income Tax laws.

4.21. AAI has submitted revised tax calculations based on standalone financials of TVM as shown below. The Authority proposes to consider the tax calculation as submitted by AAI.

Table 13 – Revised amount of Tax as calculated by AAI for the 1<sup>st</sup> control period

Particular (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
Aeronautical Revenues	92.72	99.65	108.96	114.80	126.98
Non-Aeronautical Revenues	22.66	27.78	38.88	43.50	49.00
O&M (excluding retirement benefits and CHQ/ RHQ Overheads)	48.13	50.83	63.61	67.55	70.74
Retirement benefits and CHQ/ RHQ Overheads	21.12	30.97	27.78	38.28	32.55
Depreciation as per IT Act	46.38	47.18	42.07	37.43	37.56
PBT	-0.24	-1.54	14.38	15.04	35.14
<b>Tax</b>	<b>0.00</b>	<b>0.00</b>	<b>4.98</b>	<b>5.20</b>	<b>12.16</b>

#### Revised Aggregate Revenue Requirement

4.22. The ARR for the 1<sup>st</sup> control period has been revised based on adjustments detailed above.

4.22.1. Change in depreciation rates as per Table 27

4.22.2. Apportionment of CHQ/RHQ costs and change in tax calculation

4.22.3. Lease rentals from ground handling agencies, oil companies and cargo to be treated as aeronautical revenues

4.22.4. Correction of present value factor for shortfall calculation

Table 14 - ARR as per Authority for the 1<sup>st</sup> control period – Single till

Details (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
Average RAB	343.67	368.09	381.94	367.95	358.82
Return on Average RAB@14%	48.11	51.53	53.47	51.51	50.23
Operating Expenditure	69.24	81.80	91.39	105.83	103.28

Details (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16
Depreciation	13.81	15.87	16.08	28.67	29.69
Corporate Tax @34.6%	0.00	0.00	4.98	5.20	12.16
Less- Revenue from services other than Regulated services	22.66	27.78	38.88	43.50	49.00
<b>ARR as per Authority</b>	108.51	121.42	127.04	147.71	146.36
<b>Total ARR as per Authority</b>	<b>651.04</b>				
<b>Discounted ARR</b>	<b>108.51</b>	<b>106.51</b>	<b>97.75</b>	<b>99.70</b>	<b>86.66</b>
<b>PV of ARR for the control Period as on 01.04.2012</b>	<b>499.13</b>				

4.23. Correspondingly, the shortfall during the 1<sup>st</sup> control period between permissible aeronautical revenues and actual aeronautical revenues is calculated as below:

Table 15 - ARR, yield and shortfall as per Authority for 1<sup>st</sup> control period – Single till

No.	Components (₹ crore)	2011-12	2012-13	2013-14	2014-15	2015-16	Total
1	ARR for year (refer Table 14)	108.51	121.42	127.04	147.71	146.36	651.04
2	Aeronautical Revenue	92.72	99.65	108.96	114.80	126.98	543.11
3	Shortfall	15.79	21.77	18.08	32.92	19.38	107.94
4	Future Value of shortfall as on 01.04.2016	30.41	36.76	26.79	42.78	22.09	158.83

#### **Proposal No. 1. Regarding True-up for the 1<sup>st</sup> control period**

- 1.a. The Authority proposes to true-up the 1<sup>st</sup> control period on the basis of single till
- 1.b. The Authority proposes to adopt CHQ/RHQ overheads apportionment on revenue basis.
- 1.c. The Authority proposes to consider the revenues from Cargo facility, Ground Handling Services and Supply of fuel to aircraft including land lease rentals as aeronautical revenue.
- 1.d. The Authority proposes the following depreciation rates.
  - a. For asset types not defined under Companies Act (runway, taxiway and aprons): 3.33% based on useful life of 30 years.
  - b. For asset types defined under Companies Act: rates prevalent under the Companies Act 1956 till FY 2013-14 and as per the Companies Act 2013 from FY 2014-15 onwards as the effective date of implementation of the Companies Act 2013 is 01.04.2014. The depreciation rates as submitted by AAI and as considered by the Authority are given in Table 27.



1.e. The Authority proposes to consider short fall of ₹ 158.83 crore in the 1<sup>st</sup> control period to be added to ARR for the 2<sup>nd</sup> control period.

## 5. Traffic forecast

5.1. The traffic growth rates as submitted by AAI for 2<sup>nd</sup> control period are as follows:

Table 16 - Traffic Growth rates assumed by AAI for the 2<sup>nd</sup> control period

YEAR	Passenger			ATM		
	Domestic	International	Combined	Domestic	International	Combined
2016-17	30%	5%	13.62%	30%	4%	13.69%
2017-18	12%	5%	7.76%	12%	4%	7.41%
2018-19	12%	5%	7.87%	12%	4%	7.56%
2019-20	12%	5%	7.98%	12%	4%	7.70%
2020-21	12%	5%	8.09%	12%	4%	7.85%

5.2. AAI submitted that traffic growth rate for FY 2016-17 is based on extrapolation of actual traffic during the current financial year.

### **Authority's Examination**

5.3. The Authority noted that there has been significant volatility in the domestic traffic growth over the last 10 years. The growth rate of domestic passenger traffic over the past 10 years has fluctuated from -32% in FY 2008-09 to +84% in FY 2006-07. Given the significant volatility in short term traffic growth and potential for growth as a result of focus on regional connectivity, the Authority proposes to consider long term 10 year CAGR for the domestic traffic forecast.

5.4. The Authority calculated CAGR (Compounded Annual Growth Rate) for ATM and Passenger traffic from FY 2005-06 to FY 2015-16 (10 years CAGR) for TVM as under:

Table 17 - CAGR FY 2005-06 to FY 2015-16 (10 Years) for TVM

	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	CAGR (FY 2005-06 to FY 2015-16)
<b>Domestic</b>												
Passenger	12%	84%	18%	-32%	33%	7%	43%	1%	0%	10%	11%	14%
ATM	12%	129%	30%	-22%	18%	-19%	43%	-9%	-10%	-7%	9%	10%
<b>International</b>												
Passenger	15%	18%	18%	5%	15%	9%	0%	1%	5%	7%	9%	9%
ATM	9%	31%	28%	0%	17%	10%	-7%	-9%	0%	5%	10%	8%

5.5. The Authority proposes to adopt 30% growth rate for domestic passenger traffic for FY 2016-17 as submitted by AAI since it is based on extrapolation of actual traffic during the current financial year. The Authority proposes to adopt 14% growth rate for

domestic passenger traffic from FY 2017-18 to FY 2020-21 based on 10-year CAGR of domestic passenger traffic.

5.6. The Authority proposes to adopt 30% growth rate for domestic ATM traffic for FY 2016-17 as submitted by AAI since it is based on extrapolation of actual traffic during the current financial year. The Authority proposes to adopt 10% growth rate for domestic ATM traffic from FY 2017-18 to FY 2020-21 based on 10-year CAGR of domestic ATM traffic.

5.7. The Authority noted that CAGR of international passenger traffic for last 10 years was 9% while it was 4% for 5 years. The high growth under 10 year CAGR was a result of significantly higher growth in the initial years of the period. As the growth in the earlier years is not representative of the trend in the later years, the Authority proposes 5% growth rate for international passenger traffic for 2<sup>nd</sup> control period as per the projections submitted by AAI.

5.8. The Authority proposes 4% growth rate for international ATM for 2<sup>nd</sup> control period as per the projections submitted by AAI.

Table 18 - Traffic as considered by Authority for the 2<sup>nd</sup> control period

YEAR	Passenger			ATM		
	Domestic	International	Combined	Domestic	International	Combined
2016-17	1,555,119	2,388,270	<b>3,943,389</b>	12,600	16,961	<b>29,561</b>
2017-18	1,772,835	2,507,684	<b>4,280,519</b>	13,860	17,640	<b>31,499</b>
2018-19	2,021,032	2,633,068	<b>4,654,100</b>	15,246	18,345	<b>33,591</b>
2019-20	2,303,976	2,764,721	<b>5,068,698</b>	16,770	19,079	<b>35,849</b>
2020-21	2,626,533	2,902,957	<b>5,529,490</b>	18,447	19,842	<b>38,289</b>

5.9. The Authority proposes to true-up traffic as per actual growth achieved during the current control period at the time of determination of tariff for 3<sup>rd</sup> control period as explained in earlier orders of the Authority.

## **Proposal No. 2. Regarding Traffic Forecast**

2.a. The Authority proposes to consider the ATM and passenger traffic as per Table 18.

2.b. The Authority proposes to true up the traffic volume (ATM and Passengers) based on actual traffic in 2<sup>nd</sup> control period while determining tariffs for the 3<sup>rd</sup> control period.

## 6. Allocation of Assets (Aeronautical and Non-Aeronautical)

6.1. Under a hybrid till, only aeronautical assets are included as part of the Regulatory Asset Base. As a result of the shift from single till to hybrid till at the end of 1<sup>st</sup> control period, the assets need to be segregated and opening RAB for 2<sup>nd</sup> control period needs to be recalculated.

6.2. For the allocation of assets between aeronautical and non-aeronautical services, AAI had divided assets into aeronautical, non-aeronautical and common components. Common components have been further segregated into aeronautical and non-aeronautical assets by applying one of the following two ratios:

- 1) Terminal Area Ratio - ratio of aeronautical area to non-aeronautical area (applied for Terminal related assets)
- 2) Employee Ratio - ratio of staff providing commercial services (8 employees) to staff providing aeronautical services (373 employees)

6.3. The allocation of gross block of assets as on 01.04.2016 as submitted by AAI is given in the table below:

Table 19 – Allocation of gross block of assets as on 01.04.2016 between aeronautical and non-aeronautical services as submitted by AAI

Sr. No.	Assets	Aero Assets (₹ crore)	Total Assets (₹ crore)	% Aero
1	Free Hold Land	8.51	8.51	100.0%
2	Runways	36.65	36.65	100.0%
3	Taxiways	49.96	49.96	100.0%
4	Aprons	37.22	37.22	100.0%
5	Road, Bridges & Culverts	48.49	48.49	100.0%
6	Terminal & Other Buildings in operational Area	179.18	190.97	93.8%
7	Building Temporary	1.23	1.23	100.0%
8	Residential Building	3.83	3.83	100.0%
9	Fencing Temporary	1.08	1.08	100.0%
10	Other Buildings – Unclassified	7.89	7.97	99.0%
11	Computers & It H/W & Accessories	2.36	2.36	99.9%
12	Plant & Machineries	4.85	4.85	100.0%
13	Tools & Equipment	3.14	3.14	100.0%
14	Office Furniture & Fixtures	2.57	2.58	99.7%
15	Other Vehicles	1.28	1.28	100.0%
16	Electrical Installations & Air	143.93	144.20	99.8%

Sr. No.	Assets	Aero Assets (₹ crore)	Total Assets (₹ crore)	% Aero
	Conditioners			
17	Other Office Equipment /Appliances	0.93	0.93	100.0%
18	Furniture & Fittings (F&F) - Operational Area	3.54	3.55	99.8%
19	X-ray Baggage Insp. System	5.33	5.33	100.0%
20	CFT/Fire Fighting Equipment	22.06	22.06	100.0%
21	Boundary Wall;-Operational	0.96	0.96	100.0%
22	Intangible Assets-Computer S/W	0.15	0.15	100.0%
23	Boundary Wall:-Residential	0.07	0.07	100.0%
24	Motors Cars/Jeeps	1.05	1.05	100.0%
	<b>Total</b>	<b>566.28</b>	<b>578.43</b>	<b>97.9%</b>

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Allocation based on Terminal Area Ratio

6.4. In response to query by the Authority, AAI submitted the workings for the calculation of aeronautical area to non-aeronautical area ratio vide letter dated 16.12.2016.

Table 20 – Workings of Terminal Area Ratio calculation as submitted by AAI for FY 2015-16

S.No.	Category	Domestic Terminal (Sq.m)	International Terminal (Sq.m)	Total (Sq.m)
	<b>Non-Aeronautical Area</b>			
1	Restaurant / Snack Bars	38	177	215
2	T.R. Stall	198	594	792
3	Duty Free Shop	0	118	118
4	Hoarding & Display	0	0	0
5	Building Non-Residential	313	1,799	2,112
6	Admission Tickets	0	9	9
7	Cargo	0	0	0
8	Offices of AAI commercial, land & rest room	152	0	152
	<b>Total Non-Aeronautical Area</b>	<b>701</b>	<b>2,697</b>	<b>3,398</b>
	<b>Total Terminal Area</b>	<b>15,543</b>	<b>36,497</b>	<b>52,040</b>
	<b>Ratio of Non-Aeronautical to Total Terminal Area</b>			<b>6.53%</b>

6.5. AAI vide its submissions dated 25.01.2017 has proposed additional non-aeronautical area of 190 Sq.m and 212 Sq.m to be commissioned in FY 2016-17 and FY 2017-18. Out of 402 Sq.m area, 190 Sq.m will be available in Domestic Terminal and the remaining

212 Sq.m in International Terminal. With this addition, total non-aeronautical area increases to 4,098 Sq.m and ratio of non-aeronautical area to total terminal area increases to 8.94% in FY 2017-18.

6.6. The Authority observed that the percentage of non-aeronautical area is lower compared to similar airports. The Authority proposes to use 90% as aeronautical area for asset allocation of Terminal related assets to encourage growth of NAR which would cross-subsidize aeronautical charges.

6.7. Specific assets under Furniture & Fixtures inside Terminal Building have been considered as aeronautical by AAI. The Authority proposes to allocate these assets in the ratio of 90% to 10%.

6.8. Specific assets under Electrical Installations and Air Conditioners related to the Terminal Building have been considered as aeronautical by AAI. The Authority proposes to allocate these assets in the ratio of 90% to 10%.

6.9. Assets related to vehicles have been considered as aeronautical assets by AAI. The Authority proposes to use the employee ratio of 98% (ratio of employees for aeronautical activities to total employees) for allocation of specific assets related to vehicles (Motors Cars/Jeeps).

6.10. The asset allocation proposed by Authority is tabulated below:

Table 21 – Change in allocation of gross block of assets existing as on 01.04.2016 between aeronautical and non-aeronautical services proposed by the Authority

Sr. No.	Particulars	Aero Assets	Justification
1	Terminal & Other buildings in operational area	90.3%	Total assets are ₹ 190.97 crore out of which ₹ 13.56 crore are purely aeronautical assets and common assets are ₹ 176.58 crore. Common assets are allocated based on 90% ratio as aeronautical assets.
2	Other Buildings – Unclassified	97.0%	Total assets are ₹ 7.97 crore out of which ₹ 5.68 crore are purely aeronautical assets and common assets are ₹ 2.12 crore. Common assets of ₹ 0.43 crore allocated based on 90% ratio as aeronautical assets. Other common assets of ₹ 1.70 crore allocated based on employee ratio (97.9% aeronautical).
3	Office Furniture & Fixtures	99.5%	Total assets are ₹ 2.58 crore out of which ₹ 2.44 crore are purely aeronautical assets and

Sr. No.	Particulars	Aero Assets	Justification
			common assets are ₹ 0.13 crore. Common assets are allocated based on 90% ratio as aeronautical assets.
4	Electrical Installations & Air Conditioners	97.9%	Total assets are ₹ 144.20 crore out of which ₹ 115.08 crore are purely aeronautical assets and common assets are ₹ 29.03 crore. Common assets are allocated based on 90% ratio as aeronautical assets.
5	F&F-Operational Area	98.9%	Total assets are ₹ 3.55 crore out of which ₹ 3.15 crore are purely aeronautical assets and common assets are ₹ 0.40 crore. Common assets are allocated based on 90% ratio as aeronautical assets.
6	Motors Cars/Jeeps	99.6%	Total assets are ₹ 1.05 crore out of which ₹ 0.86 crore are purely aeronautical assets and common assets are ₹ 0.19 crore. Common assets are allocated based on employee ratio (97.9% aeronautical).
	<b>Total</b>	<b>96.2%</b>	

6.11. The cost of land has been excluded from the RAB of 2<sup>nd</sup> control period as per Section 4.11.

6.12. The allocation of gross block of assets as on 01.04.2016 as considered by the Authority based on revised asset allocation is given in the table below:

Table 22 – Allocation of gross block of assets as on 01.04.2016 between aeronautical and non-aeronautical services as considered by the Authority

Sr. No.	Assets	Aero Assets (₹ crore)	Total Assets (₹ crore)	% Aero
1	Free Hold Land	0	0	-
2	Runways	36.65	36.65	100.00%
3	Taxiways	49.96	49.96	100.00%
4	Aprons	37.22	37.22	100.00%
5	Road, Bridges & Culverts	48.49	48.49	100.00%
6	Terminal & Other Buildings in operational Area	172.48	190.97	90.32%
7	Building Temporary	1.23	1.23	100.00%
8	Residential Building	3.83	3.83	100.00%
9	Fencing Temporary	1.08	1.08	100.00%
10	Other Buildings – Unclassified	7.73	7.97	96.99%

<b>Sr. No.</b>	<b>Assets</b>	<b>Aero Assets (₹ crore)</b>	<b>Total Assets (₹ crore)</b>	<b>% Aero</b>
11	Computers & It H/W & Accessories	2.36	2.36	100.00%
12	Plant & Machineries	4.85	4.85	100.00%
13	Tools & Equipment	3.14	3.14	100.00%
14	Office Furniture & Fixtures	2.57	2.58	99.61%
15	Other Vehicles	1.28	1.28	100.00%
16	Electrical Installations & Air Conditioners	141.21	144.20	97.93%
17	Other Office Equipment /Appliances	0.93	0.93	100.00%
18	Furniture & Fittings (F&F) - Operational Area	3.51	3.55	98.87%
19	X-ray Baggage Insp. System	5.33	5.33	100.00%
20	CFT/Fire Fighting Equipment	22.06	22.06	100.00%
21	Boundary Wall;-Operational	0.96	0.96	100.00%
22	Intangible Assets-Computer S/W	0.15	0.15	100.00%
23	Boundary Wall:-Residential	0.07	0.07	100.00%
24	Motors Cars/Jeeps	1.05	1.05	100.00%
	<b>Total</b>	<b>548.15</b>	<b>569.91</b>	<b>96.18%</b>

### **Proposal No. 3. Allocation of assets between Aeronautical and Non-aeronautical services**

3.a.The Authority proposes the allocation of assets as on 1<sup>st</sup> April 2016 between aeronautical and non-aeronautical assets as detailed in Table 22.



## 7. Opening Regulatory Asset Base for Second control period

7.1. Opening RAB for 2<sup>nd</sup> control period under hybrid till as per AAI submission dated 29.11.2016 is ₹ 209.21 crore

Table 23 - Calculation of opening RAB as on 1<sup>st</sup> April 2016 as per AAI submission – Hybrid Till

S. No.	Particulars	Amount (₹ crore)
1	Original Cost of Airport Aeronautical Assets excluding CNS/ATM related assets as on 01.04.2011	437.72
2	Aeronautical asset addition during the 1 <sup>st</sup> control period	128.56
3	<b>Cost of Aeronautical Assets [(1)+(2)] as on 01.04.2016</b>	<b>566.28</b>
4	Accumulated Depreciation as on 01.04.2016	357.07
5	<b>Opening RAB[(3)-(4)] as on 01.04.2016</b>	<b>209.21</b>

7.2. The Authority proposes to adopt depreciation rates as detailed earlier in Section 4.7 for calculating RAB for 2<sup>nd</sup> control period.

7.3. The Authority proposes the allocation of assets between aeronautical and non-aeronautical assets as detailed in Table 22.

7.4. Based on revised depreciation rates and revised asset allocation, the opening RAB for 2<sup>nd</sup> control period considered by the Authority under hybrid till is ₹ 344.54 crore.

Table 24 - Calculation of opening RAB as on 1<sup>st</sup> April 2016 as per the Authority – Hybrid Till

S. No.	Particulars	Amount (₹ crore)
1	Original Cost of Airport Aeronautical Assets excluding CNS/ATM related assets as on 01.04.2011	420.00
2	Aeronautical asset addition during the 1 <sup>st</sup> control period	128.15
3	<b>Cost of Aeronautical Assets [(1)+(2)] as on 01.04.2016</b>	<b>548.15</b>
4	Accumulated Depreciation as on 01.04.2016	203.61
5	<b>Opening RAB[(3)-(4)] as on 01.04.2016</b>	<b>344.54</b>

## Proposal No. 4. Opening Regulatory Asset Base for the 2<sup>nd</sup> control period

4.a. The Authority proposes to consider the opening regulatory base for the 2<sup>nd</sup> control period under hybrid till as ₹ 344.54 crore

## 8. Capital Expenditure for Second control period

8.1. AAI has forecasted aeronautical capital expenditure of ₹ 492.65 crore for the 2<sup>nd</sup> control period as shown below:

Table 25 – Aeronautical assets to be capitalized at TVM for 2<sup>nd</sup> control period as per AAI

S.N.	Particulars (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
1	Runways	56	-	-	-	-
2	Taxiways	62	-	-	-	-
3	Aprons	-	-	-	-	40
4	Road, bridges & culverts	0.38	-	-	-	-
5	Terminal & other buildings in operational area	21.76	6	-	20	280.41
6	Buildings-residential	-	5.88	-	-	-
7	Electrical Installations and air conditioners	0.22	-	-	-	-
	<b>Total</b>	<b>140.36</b>	<b>11.88</b>	<b>0.00</b>	<b>20.00</b>	<b>320.41</b>

8.2. AAI has submitted following details of the proposed capital works to be undertaken during the control period:

### 8.2.1. Extension of parallel taxi track 'P' and construction of link taxi ways

The extension of parallel taxi track 'P' by 1312m and link taxi track (T2) 148.5m at right angle from parallel taxi track and from Air India MRO hangar to runway 14 beginning with taxi link (T6) 148.5m at right angle from parallel taxi track is proposed within the available land along with construction of Isolation Bay at the dumbbell 27. This will facilitate to reduce runway occupancy by aircrafts coming from International apron towards Chakai side. The work has been awarded to M/s NSC Projects at a cost of ₹ 61.22 crore.

### 8.2.2. Extension of air side arrival corridor with rotunda at NITB

Due to increase of international aircraft movements within a limited time, need was felt to provide additional in-contact facility by extending the corridor in the new international terminal building. The decision to this effect was taken at the review meeting held on 24.12.2012 at TVM.

The arrival corridor is being extended towards south east by 77m along with ramp facility and aerobridge rotunda similar to that of the existing building.

The work for proposed extension of air side corridor with rotunda for 4<sup>th</sup> aerobridge has been awarded to M/s SG Construction at a cost of ₹ 11.98 crore.

#### 8.2.3. Resurfacing and strengthening of runway and taxiways

The evaluation of existing pavement was carried out during May 2011 and declared PCN Value is 74/R/C/W/T for rigid portion and 62/F/C/W/T for flexible pavement of Runway. A safety audit was conducted during June 2013 and it was observed that "Runway is showing degeneration. An urgent maintenance/ resurfacing of the Runway is required to be carried out." The Surveillance Audit Inspection, DGCA during September 2013 observed a significant level difference at the merging point of asphalt and concrete surface of Runway, and the same needs to be rectified to improve riding/ safe aircraft operation. The condition of rigid pavement at physical beginning of Runway 32 includes concrete spalling, significant cracks, distressed junction, concrete spalling on wheel track etc.

The work has been awarded to M/s M S Khurana Engineering Ltd. at a cost of ₹ 52.7 crore.

#### 8.2.4. Construction of additional apron at NITB

To accommodate the additional domestic flights and future integrated operations from Chakai side, there is a need to extend the existing apron within the available land. The land towards north-western side up to Air India maintenance base is presently occupied by old Quarters and CISF Barracks which need to be dismantled for extension of apron. Alternatively, the apron can be extended towards North-Eastern side subject to handing over of additional 18.53 acres of land by State Govt. The exact requirement of additional apron bays is being evaluated.

#### 8.2.5. Construction of B, C & D Type quarters at AAI colony

At present the AAI colony is spread over an area of 22936 Sq.m having 33 quarters. As per the latest Committee report dated 11.01.2016 on Policy/ norms for Construction of Residential Quarters, 276 quarters are required to

be constructed. The quarters are proposed to be constructed in multi-storey construction to carve out area for commercial exploitation.

The present AAI Colony is situated close to ASR/MSSR Radar, due to which the construction of multi-storey flats may not get the height NOC. Appropriate decision would be taken in consultation with RED (SR) and APO, Trivandrum. Capital expenditure for development of quarters provided to ANS and commercial staff have not been considered as part of the capital expenditure in 2<sup>nd</sup> control period.

#### 8.2.6. Expansion of existing international terminal building at Chakai side for integrated operations

The new International Terminal Building on Chakai side having an area of 32,528 Sq.m was commissioned on 01.03.2011 at a cost of ₹ 289 crore. Due to operational reasons, recently Air India and Jet Airways have been allowed to operate domestic flights from the existing International Terminal Building towards Chakai side. AAI has been asking for transfer of 131.5 acres of land for development of Trivandrum Airport at par with international standards. Due to increase in land cost and resistance from the local population, the State Govt. vide G.O Letter dated 20.08.2014 has directed the Collector to acquire and handover 18.53 acres of land on north-eastern side contiguous to AAI boundary towards Chakai side. The land is yet to be handed over.

Considering the present scenario of limited available land towards Chakai side, AAI has proposed to extend the existing International Terminal Building linearly on both sides to cater for integrated operations.

The existing International Terminal Building for integrated operations is proposed to be expanded by 54,425 Sq.m catering to a peak hour of 3465 pax with an annual handling capacity of 4.37 mppa. The proposal is at planning stage. Accordingly, in 2025-26, it is envisaged that Chakai side will have 2 Terminals (Existing Int'l + New integrated Terminal) and Shanmugham side will continue to cater Domestic operations of LCC airlines through existing Terminal to meet the passenger traffic demand.

#### 8.2.7. Construction of new fire station at Chakai

The existing fire station is located on the South-West side of existing Runway. It is a very old structure. A new fire station (Cat. X) is proposed to be constructed behind the existing fire station, where the vacant land is available. After operationalization of new fire station, the old fire station shall be dismantled to make way for airside pavement.

#### **Authority's Examination**

8.3. The Authority requested AAI to submit the Capex to be incurred in FY 2016-17. In response to this, AAI vide submission dated 18.1.2017 provided the revised capital expenditure to be incurred in FY 2016-17 and 2<sup>nd</sup> control period. The Authority noted that total amount for Terminal building Capex is ₹ 300 crore and the aeronautical component is ₹ 280.41 crore as per AAI submissions. The Authority proposes to use 90% as aeronautical for asset allocation of Terminal related assets and proposes to consider ₹ 270 crore as aeronautical Capex towards Terminal building during the 2<sup>nd</sup> control period.

Table 26 - Revised aeronautical capital expenditure for 2<sup>nd</sup> control period as submitted by AAI

S.N.	Particulars (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
1	Runways	43	13	-	-	-
2	Taxiways	62	-	-	-	-
3	Aprons	-	-	-	-	40
4	Road, bridges & culverts	-	-	-	-	-
5	Terminal & other buildings in operational area	-	21	-	20	270
6	Buildings-residential	-	2	-	-	-
7	Electrical Installations and air conditioners	-	-	-	-	-
	<b>Total (₹ 471 crore)</b>	<b>105</b>	<b>36</b>	<b>0</b>	<b>20</b>	<b>310</b>

8.4. The Authority proposes to consider the total aeronautical Capex to be capitalized and added to RAB at ₹ 471 crore.

8.5. The Authority notes that the cost of the planned works is indicative. The Authority proposes to consider the addition to aeronautical assets during the 2<sup>nd</sup> control period as given in Table 26 subject to true-up of RAB based on actual aeronautical asset

addition while determining tariffs for the 3<sup>rd</sup> control period.

8.6. In the 2<sup>nd</sup> control period, project works related to extension of parallel taxi track (₹ 62 crore), resurfacing and re-strengthening of runway (₹ 56 crore), construction of additional aprons (₹ 40 crore), extension of air side arrival corridor (₹ 21 crore), construction of new fire station (₹ 20 crore) and the expansion of existing international terminal building at Chakai side for integrated operations (₹ 270 crore) are proposed to be taken up. These require user consultation as per the Guidelines. The Authority expects AAI to provide all the required project information as part of the consultation process with users. AAI has submitted user consultation for extension of parallel taxi track, extension of airside arrival corridor and resurfacing and re-strengthening work of runway.

8.7. The Authority has issued an order on Normative Approach to Building Blocks in Economic Regulations of major airports. AAI submitted that the total cost for expansion of Airport Terminal is ₹ 300 crore and area of such terminal is 54,425 sq. m. The Authority noted that the cost of terminal per square meter of terminal area is ₹ 55,121 which is within the threshold limits of normative cost as per Authority's guideline/order.

#### **Proposal No. 5. Regarding Capital Expenditure**

5.a. The Authority proposes to consider allowable project cost of ₹ 471 crore and accordingly to reckon the amount of ₹ 471 crore as addition for total assets during the 2<sup>nd</sup> control period.

5.b. AAI should undertake user stakeholder consultation process for major Capex items as per the Guidelines.

5.c. The Authority proposes to true-up the Opening RAB of the next control period depending on the Capex incurred and date of capitalisation of underlying assets in a given year.

## **9. Depreciation**

9.1. AAI has submitted that the depreciation rates used are as per AAI's approved accounting policy. The salient aspects of AAI's depreciation policy being followed are as under:

9.1.1. Method of depreciation: straight line;

9.1.2. 100% of depreciation rates of assets if assets are used in a financial year for 180 days or more. If the assets are used for less than 180 days in a year the depreciation is charged at 50% of the depreciation rates. This policy is effective from the financial year 2012-13;

9.1.3. Residual value for each asset is taken as Re.1 balance to be provided by way of depreciation as per prescribed rates.

### ***Authority's Examination***

9.2. The Authority notes that the depreciation policy of AAI is not in accordance with the depreciation rates adopted by the Authority in other private airports. AAI is a statutory body established under the AAI Act and it does not come under the Companies Act. The Board of AAI has approved the depreciation policy that has been adopted by AAI.

9.3. The Authority notes that on some of the assets the depreciation charged by AAI is not in line with the Companies Act 2013. The Authority is of the view that adoption of depreciation rates as prescribed under the Companies Act at any point of time is appropriate, considering the variation in policies adopted by the airport operators. The Authority further notes that there is no specific mention of the classes of assets viz. apron, taxiway and runway in the Companies Act 2013 or 1956 or in the Income Tax Act 1961.

9.4. In this regard, the Authority has separately commissioned a study to determine appropriate depreciation rates for regulation of airports in line with the provisions of the Companies Act 2013. The Authority will consider the recommendations of the study as and when the study is completed and submitted to the Authority for adjustment in RAB or true up depreciation.

9.5. In light of above, for the categories of assets (runway, taxiway and apron) where no specific depreciation rate/ useful life has been mentioned in the Companies Act, the

Authority proposes to adopt depreciation rate of 3.33%. This rate is proposed to be applied on runway, taxiway and apron assets existing as on 01.04.2011 and on these assets added during 1<sup>st</sup> and 2<sup>nd</sup> control period.

9.6. The Authority proposes to adopt the depreciation rates mentioned under Companies Act for assets as per the Companies Act 1956 till FY 2013-14 and as per the Companies Act 2013 from FY 2014-15 onwards as the effective date of implementation of the Companies Act 2013 is 01.04.2014.

9.7. The Authority proposes that for the new assets to be capitalized in the 2<sup>nd</sup> control period, depreciation is charged at 50% of the depreciation rates in the year of capitalization.

9.8. The depreciation rates as submitted by AAI and as considered by the Authority during the 1<sup>st</sup> and 2<sup>nd</sup> control period are given below:

Table 27 - Depreciation rates as submitted by AAI and as considered by the Authority

No.	Asset Class	As per AAI	As per Authority till FY 2014	As per Authority FY2015 onwards
1	Free hold land	0%	0%	0%
2	Runways	13%	3.33%	3.33%
3	Taxiways	13%	3.33%	3.33%
4	Aprons	13%	3.33%	3.33%
5	Road, bridges & culverts	13%	1.63%	3.33%
6	Terminal & other buildings in operational area	8%	1.63%	3.33%
7	Buildings-Temporary	100%	100%	33.33%
8	Buildings-Residential	5%	1.63%	3.33%
9	Fencing-Temporary	100%	100%	33.33%
10	Other buildings-Unclassified	8%	1.63%	3.33%
11	Computers & IT H/w & accessories	20%	16.21%	16.67%
12	Plant & machineries	11%	4.75%	6.67%
13	Tools & equipment	20%	4.75%	6.67%
14	Office furniture & fixtures	20%	6.33%	10%
15	Other vehicles	14%	9.50%	12.50%
16	Electrical installations & air conditioners	11%	4.75%	10%
17	Other office equipment/ appliances	18%	4.75%	20%
18	F&F-operational area	20%	6.33%	10%
19	X-Ray baggage insp. system	11%	4.75%	6.67%
20	CFT/ firefighting equipment	13%	4.75%	6.67%



No.	Asset Class	As per AAI	As per Authority till FY 2014	As per Authority FY2015 onwards
21	Boundary wall-Operational	8%	1.63%	3.33%
22	Intangible assets-computer s/w	20%	20%	20%
23	Boundary wall-Residential	5%	1.63%	3.33%
24	Motors cars/jeeps	14%	9.50%	12.50%

9.9. The revised depreciation for the 2<sup>nd</sup> control period as per hybrid till as proposed by the Authority is given below:

Table 28 - Authority's consideration on depreciation for the 2<sup>nd</sup> control period – Hybrid till

No.	Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21	Total
1	As per AAI	60.93	58.67	52.65	45.62	70.63	288.51
2	As per Authority	30.41	32.66	30.94	29.86	34.87	158.74

#### **Proposal No. 6. Regarding treatment of Depreciation**

6.a. The Authority proposes to adopt depreciation rates as per Table 27 and depreciation for the 2<sup>nd</sup> control period as per Table 28.

6.b. The Authority proposes to consider the recommendations of the study as and when the study is completed and submitted to the Authority for adjustment in RAB or true up depreciation.

## 10. RAB for Second control period

10.1. AAI has submitted Regulatory Asset Base for 2<sup>nd</sup> control period under hybrid till as follows:

Table 29 - Summary of the RAB and Depreciation for TVM (Airport Services) as per AAI for the 2<sup>nd</sup> control period

	Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
A	Opening Aeronautical RAB	209.21	288.64	241.85	189.20	163.58
B	Aeronautical Additional Assets capitalized during the year	140.36	11.88	0.00	20.00	320.41
C	Disposals/Transfers	0	0	0	0	0
	Depreciation					
D	Depreciation on opening RAB	43.78	40.74	34.72	26.09	23.47
E	Depreciation on additions	17.15	17.93	17.93	19.53	47.16
F	Closing Aeronautical RAB (A+B-C-D-E)	288.64	241.85	189.20	163.58	413.36
	<b>Average RAB (A+F)/2</b>	<b>248.92</b>	<b>265.24</b>	<b>215.52</b>	<b>176.39</b>	<b>288.47</b>

### Authority's Examination

10.2. The Authority proposes to adopt opening RAB for FY 2016-17 as detailed in Table 24.

10.3. The Authority proposes to adopt depreciation as proposed in Table 28.

10.4. The Authority proposes ₹ 471 crore as the addition of aeronautical assets to RAB as detailed in Table 26.

10.5. The revised Regulatory Asset Base as calculated by the Authority for 2<sup>nd</sup> control period under hybrid till is as follows:

Table 30 - Summary of forecast and Roll forward RAB and Depreciation for TVM (Airport Services) considered by the Authority for 2<sup>nd</sup> control period – Hybrid till

	Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
A	Opening Aeronautical RAB	344.54	419.13	422.46	391.52	381.66
B	Aeronautical Assets capitalized during the year	105.00	36.00	0.00	20.00	310.00
C	Disposals/Transfers	0.00	0.00	0.00	0.00	0.00
	Depreciation					
D	Depreciation on opening RAB	28.66	28.57	26.24	24.83	24.34
E	Depreciation on additions	1.75	4.10	4.70	5.03	10.52

	Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
F	Closing Aeronautical RAB (A+B-C-D-E)	419.13	422.46	391.52	381.66	656.80
	<b>Average RAB (A+F)/2</b>	<b>381.83</b>	<b>420.79</b>	<b>406.99</b>	<b>386.59</b>	<b>519.23</b>

10.6. The Authority proposes to true up the RAB of 2<sup>nd</sup> control period based on actual asset addition and revised depreciation rates, at the time of determination of tariff for the 3<sup>rd</sup> control period.

**Proposal No. 7. Regarding RAB for 2<sup>nd</sup> control period**

7.a. The Authority proposes to consider RAB for 2nd control period as given in Table 30

7.b. The Authority proposes to true up the RAB of 2nd control period based on actual asset addition and revised depreciation rates based on the outcome of the study commissioned by the Authority, at the time of determination of tariff for the 3<sup>rd</sup> control period.

## **11. Cost of Equity, Cost of Debt, Gearing, and Fair Rate of Return (FRoR)**

11.1. AAI has considered Fair Rate of Return (FRoR) as 14% at par with the decision taken by the Authority in Chennai, Kolkata Guwahati and Lucknow Airports for the 1<sup>st</sup> control period.

11.2. AAI has not apportioned any debt for TVM and financing activities are undertaken centrally at the corporate office of AAI. Due to lack of any debt on TVM's books, FRoR is determined based on capital structure of AAI as a whole.

### **Authority's Examination**

11.3. The Authority has recognised that AAI's capital structure may not be regarded as an efficient one in that it doesn't optimize the cost of funds from a regulatory perspective. The Authority desires that the FRoR allowed to AAI should come down over a period of time by optimizing capital gearing. The Authority may also consider a normative capital structure and determine the FRoR at a later date since it may not be reasonable to expect AAI to contract large amounts of debt over a short period of time.

11.4. The Authority notes that as per a study conducted in respect of the 'Fair Rate of Return Estimation for AAI' in July 2011 it estimated a figure of 14.96% as Fair Rate of Return for AAI.

11.5. The Authority notes that it has considered FRoR at 14% for Chennai and Kolkata airport in the 1<sup>st</sup> control period considering the recommendations of another study done by NIPFP. Based on the decision at Chennai and Kolkata airport, the Authority considered FRoR at 14% for Guwahati and Lucknow airport for 1<sup>st</sup> control period.

11.6. Based on the above, the Authority proposes to consider FRoR at the rate of 14% for TVM for the 1<sup>st</sup> and 2<sup>nd</sup> control period as submitted by AAI.

### **Proposal No. 8. Regarding FRoR**

8.a. The Authority proposes to consider the FRoR at 14% for TVM for the 1<sup>st</sup> and 2<sup>nd</sup> control period.

8.b. The Authority will undertake a study to determine FRoR for major AAI airports given the low debt structure of AAI as a whole.

## 12. Revenue from services other than aeronautical services

12.1. AAI has forecasted revenue from services other than aeronautical services as below:

Table 31 - Revenue from Non-aeronautical Services – Projected by AAI for 2<sup>nd</sup> control period

No.	Revenue from services other than Regulated Services (₹ crore)	2015-16 (base)	2016-17	2017-18	2018-19	2019-20	2020-21
	<b>Trading Concessions</b>						
1	Restaurants/Snack Bar	3.05	3.35	3.69	4.06	4.46	4.91
2	TR Stall/others	13.64	15.01	16.51	18.16	19.97	21.97
3	Duty Free shop	14.20	15.62	17.18	18.90	20.79	22.87
4	Hoardings & Displays	1.30	1.43	1.57	1.73	1.90	2.09
	<b>Rent and Services</b>						
5	Land Leases	6.94	7.46	8.02	8.62	9.26	9.96
6	Buildings (Residential)	0.01	0.01	0.01	0.01	0.01	0.01
7	Buildings (Non-Residential)	4.79	5.98	6.58	7.24	7.96	8.76
	<b>Miscellaneous</b>						
8	Car Parking	5.02	5.52	6.07	6.68	7.35	8.08
9	Miscellaneous - Admission Tickets, Rest Room and Others	5.37	5.91	6.5	7.15	7.87	8.65
	<b>Total</b>	<b>54.32</b>	<b>60.29</b>	<b>66.13</b>	<b>72.54</b>	<b>79.58</b>	<b>87.30</b>

12.2. The growth rates assumed by AAI for forecasting non aeronautical revenues are given below:

Table 32 – Assumption (growth rates) for Service other than Regulated Services for the 2<sup>nd</sup> Control Period as per AAI

No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Restaurants/Snack Bar	10%	10%	10%	10%	10%
2	TR Stall/others	10%	10%	10%	10%	10%
3	Duty Free shop	10%	10%	10%	10%	10%
4	Hoardings & Displays	10%	10%	10%	10%	10%
5	Land Leases	7.5%	7.5%	7.5%	7.5%	7.5%
6	Buildings (Residential)	0%	0%	0%	0%	0%
7	Buildings (Non-Residential)	24.9%	10%	10%	10%	10%
8	Car Parking	10%	10%	10%	10%	10%
9	Miscellaneous - Admission Tickets, Rest Room and Others	10%	10%	10%	10%	10%

### Authority's Examination

12.3. The Authority proposes to true up the non-aeronautical revenues for tariff

determination in the 3<sup>rd</sup> control period and accept the revenues from services other than regulated services as submitted by AAI other than adjustments as detailed below.

#### **Adjustment of lease rentals**

12.4. AAI has allotted following land to cargo, ground handling and fuel companies (CGF) for their operations. AAI has considered income from such land lease as non-aeronautical revenues

Table 33 – Details of land allotted to cargo, ground handling and supply of fuel service providers in 2<sup>nd</sup> control period

Service	Service Provider	Land Allocated (Sq.m)		Land Lease revenues (FY 2015-16) ₹ crore
		Paved	Unpaved	
Cargo	Kerala State Industrial Enterprises Limited (KSIEL)	7922	-	1.16
Ground Handling	Bhadra International India Limited	1706.19	649.31	0.86
Ground Handling	Air India Sats Airport Services Pvt. Ltd	6418.06	232.75	
Supply of Fuel to Aircraft	BPCL	578	4431	1.58
Supply of Fuel to Aircraft	IOCL	400	4435	
Supply of Fuel to Aircraft	HPCL	700	-	

12.5. As per the provisions of the AERA Act, services rendered in respect of cargo, ground handling and fuel supply are aeronautical services.

12.6. The Authority noted that AAI in their submission dated 29.11.2016 have increased land lease rentals from cargo, ground handling agencies and oil companies by 7.5% per annum and proposes to accept the same. The Authority noted that AAI has increased rent revenues from building non-residential for GH agencies by 10% and proposes to accept the same.

12.7. The Authority proposes to consider land lease revenues and building non-residential rent revenues on account of the aeronautical services of CGF as aeronautical revenue.

12.8. The Authority noted that revenue of ₹ 71.50 lakhs has been added to the lease rentals from Building Non-Residential. The Authority requested AAI to provide rationale

for such addition. AAI vide its submission dated 16.12.2016 stated as below:

*“The amount of ₹ 71.50 Lakhs has been projected as rent and services from domestic cargo in Building (Non-Residential) for the F.Y. 2016-17. The proposal for domestic cargo has been dropped. Accordingly, the projected amount may be removed.”*

12.9. The Authority proposes to remove such amount from the FY 2016-17 Building – Non-Residential revenues.

#### **Adjustment of increase in area**

12.10. The Authority noted that non-aeronautical area of 190 Sq.m will be added in FY 2016-17 and 212 Sq.m will be added in FY 2017-18 as per Section 6.5. In light of the above, AAI vide its submission dated 25.01.2017 proposed additional NAR due to utilization of this area. This additional NAR is added to Buildings Non-Residential revenues.

#### **Adjustment of commissioning of integrated terminal**

12.11. The Authority noted that the integrated terminal is expected to be commissioned in the last tariff year of the 2<sup>nd</sup> control period. AAI has submitted that commercial contracts for the integrated terminal are expected to be awarded in the 3<sup>rd</sup> control period and has thus not included corresponding revenues in 2<sup>nd</sup> control period.

12.12. The Authority observes that non-aeronautical revenue at TVM is low and expects AAI to utilize its resources better and maximize its non-aeronautical revenue to keep the aeronautical tariff down.

12.13. The Authority proposes to consider non-aeronautical revenues as given below:

Table 34 – Adjustment to Revenue from Non-aeronautical Services considered by Authority for 2<sup>nd</sup> control period

<b>Revenue from services other than Regulated Services (₹ crore)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
<b>Non-Aeronautical Revenues as per AAI (A)</b>	<b>60.29</b>	<b>66.13</b>	<b>72.54</b>	<b>79.58</b>	<b>87.30</b>
<b>Adjustment:</b>					
Revenue from cargo, ground handling and fuel services considered as aeronautical revenues (1)	5.76	6.24	6.76	7.32	7.93
Additional revenues from increase in non-aeronautical area (2)	0.82	2.81	3.09	3.40	3.74

Change in lease revenue on account of drop of domestic cargo terminal proposal (3)	0.72	0.79	0.87	0.95	1.05
<b>Adjustment by the Authority (B = -1+2-3)</b>	<b>-5.66</b>	<b>-4.21</b>	<b>-4.53</b>	<b>-4.87</b>	<b>-5.23</b>
<b>Non-Aeronautical Revenues as per Authority (A+B)</b>	<b>54.63</b>	<b>61.92</b>	<b>68.01</b>	<b>74.71</b>	<b>82.07</b>

**Proposal No. 9. Regarding Non Aeronautical Revenues**

- 9.a. The Authority proposes to consider the revenues accruing to AAI on account of the aeronautical services of Cargo facility, Ground Handling Services and Supply of fuel to aircraft (FTC) including land lease rentals and building rent from these activities as aeronautical revenue.
- 9.b. The Authority proposes to consider the Non Aeronautical Revenue as per Table 34
- 9.c. The Authority proposes to true up the non-aeronautical revenue for the 2<sup>nd</sup> control period based on the actual non aeronautical revenue earned by AAI while determining aeronautical tariffs for the 3<sup>rd</sup> control period.



### 13. Operation and Maintenance Expenditure

13.1. Operation and Maintenance (O&M) expenditure submitted by AAI is segregated into:

(i) Payroll expenses; (ii) Admin and General Expenditure; (iii) Repair and Maintenance Expenditure; (iv) Utilities and Outsourcing Expenditure; and (v) Other Outflows

13.2. Summary of aeronautical expenses proposed by AAI for 2<sup>nd</sup> control period is as below:

Table 35 - Summary of Aeronautical O&M expenditure as submitted by AAI for 2<sup>nd</sup> control period on hybrid till

No.	Particulars (₹ crore)	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	Pay roll Expenditure of TVM	46.48	50.56	70.78	77.00	83.77	91.15
2	Expenditure for TVM employees' retirement benefits allocated at CHQ	8.52	8.95	9.40	9.87	10.36	10.88
3	Less - Pay and Allowances of ANS unit	1.77	2.35	3.17	3.43	3.72	4.03
A	<b>Total Pay roll Expenditure (1+2-3)</b>	<b>53.23</b>	<b>57.16</b>	<b>77.01</b>	<b>83.43</b>	<b>90.41</b>	<b>97.99</b>
4	Administrative and General Expenditure	2.78	3.06	3.36	3.69	4.05	4.45
5	Apportionment of administration & General expenditure of CHQ/RHQ	20.75	21.79	22.88	24.02	25.22	26.48
B	<b>Total Administration &amp; General Expenditure(4+5)</b>	<b>23.53</b>	<b>24.84</b>	<b>26.23</b>	<b>27.71</b>	<b>29.27</b>	<b>30.93</b>
C	<b>Repairs and Maintenance Expenditure (Total)</b>	<b>9.07</b>	<b>9.98</b>	<b>10.98</b>	<b>12.08</b>	<b>13.28</b>	<b>14.61</b>
6	Power Charges	9.51	9.51	9.51	9.51	9.51	9.51
7	Water Charges	0.54	0.54	0.54	0.54	0.54	0.54
8	Others	3.04	3.34	3.68	4.05	4.45	4.90
D	<b>Utility and Outsourcing Expenditure (6+7+8)</b>	<b>13.08</b>	<b>13.39</b>	<b>13.72</b>	<b>14.09</b>	<b>14.50</b>	<b>14.94</b>
E	<b>Other Outflows</b>	<b>0.71</b>	<b>0.75</b>	<b>0.79</b>	<b>0.83</b>	<b>0.87</b>	<b>0.91</b>
	<b>Total (A+B+C+D+E)</b>	<b>99.63</b>	<b>106.11</b>	<b>128.73</b>	<b>138.14</b>	<b>148.33</b>	<b>159.38</b>

13.3. The details of the assumptions made by AAI for O&M Expenditure are given below:

Table 36 – Assumptions made by AAI for each item of O&M expenditure

No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
1	Payroll Expenses					

No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21
	Salaries and Wages	9%	40%*	9%	9%	9%
	PF contribution	9%	40%*	9%	9%	9%
	Fringe benefits including perks & medical expenses	9%	40%*	9%	9%	9%
	Allocation of Retirement Benefit provided at CHQ in r/o TVM Employees	5%	5%	5%	5%	5%
<b>2</b>	<b>R&amp;M Expenses</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>	<b>10%</b>
<b>3</b>	<b>Utility and outsourcing Expenditure</b>					
	Power & Water charges	0%	0%	0%	0%	0%
	Other outsourcing costs	10%	10%	10%	10%	10%
<b>4</b>	<b>Administration and General Expenditure</b>					
	Admin & General Expenses	10%	10%	10%	10%	10%
	Other fees like Aerodrome licensing	0%	0%	0%	0%	0%
	Apportionment of CHQ/RHQ Expenses	5%	5%	5%	5%	5%
<b>5</b>	<b>Other Outflows</b>					
	Collection charges on UDF	5%	5%	5%	5%	4%
	Collection charges on PSF	6%	6%	6%	6%	4.8%

\* Higher growth rate for increase in Payroll costs in FY 2017-18 is due to 7<sup>th</sup> Pay Commission revision

13.4. AAI has segregated total O&M expenditure for the 2<sup>nd</sup> control period into aeronautical expenses, non-aeronautical expenses, and common expenses. Common expenses in turn have been allocated between aeronautical and non-aeronautical services.

13.5. Expense allocation as submitted by AAI for 2<sup>nd</sup> control period is tabulated below:

Table 37 – O&M Expense allocation as submitted by AAI

Sr. No.	Particulars	Aero Expense	Non-Aero Expense
1	Payroll Expenses - Non-CHQ	98%	2%
2	Payroll Retirement benefit expenses Apportionment – CHQ	100%	0%
3	Admin and General Expenses – Non CHQ	94%	6%
4	Admin and General overheads Expenses Apportionment – CHQ/RHQ	100%	0%
5	R&M Expenses	98%	2%
6	Utility and Outsourcing Charges	99%	1%
7	Other Outflows	100%	0%
	<b>Total</b>	<b>99.6%</b>	<b>0.4%</b>

**Authority's Examination**

13.6. The Authority considered the operating expenses and their projections submitted by AAI and noted the following.

**Forecasting of payroll expenses**

13.6.1. The Authority notes that payroll costs components – Salaries and Wages, Fringe Benefits, including perks & medical expenditure and PF contribution have been increased by AAI at the growth rate of 9% annually for 2<sup>nd</sup> control period except for FY 2017-18. These growth rates appear to be on a higher side. The Authority proposes growth rate of 7% for the above payroll components.

13.6.2. The Authority notes that expenditure on apportionment of retirement benefits provided to CHQ in respect of TVM employees is increased at 5% annually for 2<sup>nd</sup> control period which is different from the 7% for the above mentioned payroll components. The Authority proposes to apply the same growth rate of 7% annually except for FY 2017-18 for expenditure on apportionment of retirement benefits provided to CHQ in respect of TVM employees (as per discussion with AAI).

13.6.3. The Authority has in particular noted that an increase of 40% has been projected in the pay roll expenditure in FY 2017-18 due to tentative increase in salary and wages on account of wage revision. The Authority notes that Public Sector Undertakings are covered under separate wage revision mechanism. Moreover, the Authority is of the view that as on date there is no actual evidence of the said outflow in FY 2017-18 and hence proposes to true up the expenditure in the 3<sup>rd</sup> control period. In view of above, an increase of 25% is proposed for projection of the pay roll expenditure for FY 2017-18.

13.6.4. The Authority proposes to adopt CHQ/RHQ overheads apportionment for the 2<sup>nd</sup> control period based on actual revenue basis data provided by AAI. The Authority proposes to increase CHQ/RHQ overheads apportionment costs (admin & general expenditure of CHQ/RHQ) by 5% per annum for the 2<sup>nd</sup> control period as submitted by AAI.

**Segregation of aeronautical expenses**

13.7. The Authority noted that the Payroll Costs in the operational expenditure have been allocated using percentage of employees for aeronautical services to total employees which is 98.16%. To account for common service employees handling both aeronautical and non-aeronautical activities, the Authority proposes to use ratio of 95% to 5% for allocation of payroll costs.

13.8. The Authority noted that apportionment of retirement benefits provided in CHQ in respect of Trivandrum airport and apportionment of admin CHQ/RHQ expenses have been considered as 100% aeronautical expenses. The Authority proposes to use the ratio of 90% to 10% for aeronautical and non-aeronautical allocation.

13.9. The Authority noted that the expenses related to vehicles such as R&M – Vehicles and Consumption of petrol/ lubricants etc. have been considered 100% aeronautical expense. The Authority proposes to allocate aforementioned expenses using employee ratio into aeronautical and non-aeronautical expenses.

13.10. Terminal Area ratio for calculation of aeronautical assets is proposed as 90%. This ratio has been applied to specific expenses in R&M – Civil, R&M – Equipment and Furniture and Conservancy Charges/ Cleaning Contracts.

#### **Correction in projection**

13.11. The Authority has carried out minor revision in the operational expenditure pertaining to Travelling Expenses, Freight Charges/ Shifting Expenses, R&M – Electricals and Photocopy Expenses for FY 2015-16 after consultation with AAI.

13.12. The O&M expenditure for FY2015-16 which includes both aeronautical and non-aeronautical expense is given in the table below:

Table 38 – Total O&M expenditure for FY 2015-16 as proposed by the Authority

<b>No.</b>	<b>Particulars (₹ crore)</b>	<b>2015-16</b>
1	Pay roll Expenditure of TVM	47.48
2	Expenditure for TVM employees' retirement benefits allocated at CHQ	8.52
3	Less - Pay and Allowances of ANS unit	2.48
<b>A</b>	<b>Total Pay roll Expenditure (1+2-3)</b>	<b>53.51</b>
4	Administrative and General Expenditure	2.59
5	Apportionment of administration & General expenditure of CHQ/RHQ	24.02
<b>B</b>	<b>Total Administration &amp; General Expenditure(4+5)</b>	<b>26.62</b>

No.	Particulars (₹ crore)	2015-16
<b>C</b>	<b>Repairs and Maintenance Expenditure (Total)</b>	<b>9.24</b>
6	Power Charges	9.56
7	Water Charges	0.54
8	Others	3.11
<b>D</b>	<b>Utility and Outsourcing Expenditure (6+7+8)</b>	<b>13.21</b>
<b>E</b>	<b>Other Outflows</b>	<b>0.71</b>
	<b>Total (A+B+C+D+E)</b>	<b>103.28</b>

13.13. Expense allocation proposed to be considered by the Authority after above changes for 2<sup>nd</sup> control period is tabulated below:

Table 39 – Expense allocation between aeronautical and non-aeronautical services proposed by the Authority

Sr. No.	Particulars	Aero Expense	Non-Aero Expense
1	Payroll Expenses - Non-CHQ	95%	5%
2	Payroll Retirement benefit expenses Apportionment – CHQ	90%	10%
3	Admin and General Expenses – Non CHQ	94%	6%
4	Admin and General overheads Expenses Apportionment – CHQ/RHQ	90%	10%
5	R&M Expenses	97%	3%
6	Utility and Outsourcing Charges	98%	2%
7	Other Outflows	100%	0%
	<b>Total</b>	<b>94.1%</b>	<b>5.9%</b>

13.14. In view of above, the O&M expenditure is reworked for the purpose of determination of aeronautical tariffs for the 2<sup>nd</sup> control period under hybrid till and given in table below.

Table 40 - Summary of Aeronautical O&M expenditure as per the Authority for the 2<sup>nd</sup> control period as per hybrid till

No.	Particulars (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
1	Pay roll Expenditure of TVM	48.21	60.26	64.41	68.85	73.60
2	Expenditure for TVM employees' retirement benefits allocated at CHQ	8.21	10.26	10.98	11.75	12.57
3	Less - Pay and Allowances of ANS unit	2.23	2.79	2.98	3.19	3.41
<b>A</b>	<b>Total Pay roll Expenditure (1+2-3)</b>	<b>54.19</b>	<b>67.73</b>	<b>72.41</b>	<b>77.41</b>	<b>82.76</b>
4	Administrative and General Expenditure	2.67	2.94	3.22	3.54	3.89

No.	Particulars (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
5	Apportionment of administration & General expenditure of CHQ/RHQ	22.70	23.84	25.03	26.28	27.59
<b>B</b>	<b>Total Administration &amp; General Expenditure(4+5)</b>	<b>25.37</b>	<b>26.77</b>	<b>28.25</b>	<b>29.82</b>	<b>31.49</b>
<b>C</b>	<b>Repairs and Maintenance Expenditure (Total)</b>	<b>9.87</b>	<b>10.85</b>	<b>11.94</b>	<b>13.13</b>	<b>14.44</b>
6	Power Charges	9.51	9.51	9.51	9.51	9.51
7	Water Charges	0.54	0.54	0.54	0.54	0.54
8	Others	3.24	3.56	3.91	4.31	4.74
<b>D</b>	<b>Utility and Outsourcing Expenditure (6+7+8)</b>	<b>13.28</b>	<b>13.60</b>	<b>13.96</b>	<b>14.35</b>	<b>14.78</b>
<b>E</b>	<b>Other Outflows</b>	<b>0.75</b>	<b>0.79</b>	<b>0.83</b>	<b>0.87</b>	<b>0.91</b>
	<b>Total (A+B+C+D+E)</b>	<b>103.45</b>	<b>119.75</b>	<b>127.39</b>	<b>135.59</b>	<b>144.38</b>

13.15. The Authority noted that O&M expenditure at TVM is on higher side and expects AAI to reduce the O&M expenditure.

**Proposal No. 10. Regarding Operation and Maintenance expenditure**

10.a. The Authority proposes to consider the operational and maintenance expenditure as given in Table 40 above, for the purpose of determination of aeronautical tariffs for the 2<sup>nd</sup> control period.

10.b. The Authority expects AAI to reduce O&M expenditure over a period of time.

10.c. The Authority proposes to true up the O&M expenditure for 2016-17 to 2020-21 of the 2<sup>nd</sup> control period based on the actuals at the time of determination of tariffs for the 3<sup>rd</sup> control period.

10.d. The Authority proposes the following factors for corrections while determining tariffs for the next control period:

- (i) Mandated cost incurred due to directions issued by regulatory agencies like DGCA;
- (ii) Cost of actual operating expenses including electricity;
- (iii) All statutory levies in the nature of fees, levies, taxes and other such charges by Central or State Government or local bodies, local taxes, levies directly imposed on and paid by AAI on final product/service provided by AAI will be reviewed by the Authority for the purpose of corrections. Any additional expenditure by way

of interest payments, penalties, fines and such penal levies associated with such statutory levies which AAI has to pay, for either any delay or non-compliance, the same may not be trued up.

## **14. Taxation**

14.1. AAI has submitted tax calculations using provisional tax rate of 34.60 % for the 2<sup>nd</sup> control period. AAI had calculated the tax considering depreciation rates applicable under Income Tax laws.

### ***Authority's Examination***

#### **Adjustment for 30% of non-aeronautical revenues**

14.2. AAI vide their submissions dated 29.11.2016 calculated tax for aeronautical services under hybrid till taking into account 30% of revenues from services other than regulated services as part of total revenues. As per MIAL Order No. 32/2012-13 (Decision No. XV), the Authority had decided to consider corporate tax pertaining to earnings from aeronautical services under shared till. Therefore, the Authority proposes to exclude non-aeronautical component from revenues considered while determining tax for aeronautical services.

#### **Adjustment of aeronautical Capex**

14.3. The Authority proposes to consider aeronautical Capex of ₹ 471 crore as given in Table 26 while calculating depreciation as per IT Act

#### **Adjustment of O&M Expenses**

14.4. The Authority proposes to consider O&M expenses as given in Table 40.

#### **Adjustment of aeronautical revenues on account of CGF lease and rent correction**

14.5. The Authority proposes to modify total aeronautical revenues considering lease rentals from CGF as aeronautical as mentioned in Section 12.7

#### **Continuation of existing tariffs in FY 2016-17**

14.6. The Authority proposes to consider existing tariffs while calculating aeronautical revenues for FY 2016-17 as the revised tariffs as submitted by AAI are proposed to be applicable from 01.06.2017 onwards.

#### **Revised Tax as considered by the Authority**

14.7. The amount of tax as per submission of AAI and that arrived by the Authority after considering the above mentioned changes is given below:

Table 41 - Amount of Tax for aeronautical services as per AAI submission and as calculated



by the Authority for the 2<sup>nd</sup> control period - Hybrid till

<b>Income Tax (₹ crore)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>Total</b>
As per AAI	1.77	30.09	36.82	43.45	39.77	151.90
As per Authority	5.79	24.31	35.44	42.92	45.57	154.02

14.8. The detailed calculation of tax for aeronautical service by the Authority is given in table below:

Table 42 - Amount of Tax for aeronautical services as calculated by the Authority for the 2<sup>nd</sup> control period - Hybrid till

<b>Particular (₹ crore)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
Aeronautical Revenues	136.66	214.39	253.05	280.85	312.07
Aeronautical O&M (excluding CHQ/ RHQ Overheads)	72.55	85.65	91.38	97.56	104.22
CHQ/ RHQ Overheads	30.91	34.10	36.01	38.03	40.16
Depreciation as per IT Act	16.49	24.38	23.24	21.21	35.99
PBT	16.72	70.26	102.43	124.05	131.71
<b>Tax for aeronautical services</b>	<b>5.79</b>	<b>24.31</b>	<b>35.44</b>	<b>42.92</b>	<b>45.57</b>

14.9. The taxes actually paid/ apportioned in the 2<sup>nd</sup> control period are proposed to be trued up after review in the next control period.

#### **Proposal No. 11. Regarding Taxation**

11.a. The Authority proposes the corporate tax for aeronautical activities as per Table 42 for the 2<sup>nd</sup> control period.

11.b. The Authority proposes to true up the difference between the actual/ apportioned corporate tax paid and that estimated by the Authority for the 2<sup>nd</sup> control period during determination of tariffs for the 3<sup>rd</sup> control period.

## 15. Aggregate Revenue Requirement for Second control period

15.1. AAI has submitted Aggregate Revenue Requirement (ARR) the yield per passenger (YPP) for the 2<sup>nd</sup> control period as per hybrid till. AAI has shown the true-up value separately from yield calculations for 2<sup>nd</sup> control period. During discussions, AAI had requested for including true-up while calculating tariff for 2<sup>nd</sup> control period.

Table 43 - ARR and Yield as per AAI for the 2<sup>nd</sup> control period – Hybrid till

Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
Average Aeronautical RAB	248.92	265.24	215.52	176.39	288.47
Return on Average Aeronautical RAB@14%	34.85	37.13	30.17	24.69	40.39
Aeronautical Operating Expenditure	106.11	128.73	138.14	148.33	159.38
Depreciation on aeronautical RAB	60.93	58.67	52.65	45.62	70.63
Aeronautical Corporate Tax @34.60%	0	18.69	26.35	35.11	33.63
Less- 30% of Non-Aeronautical Revenues	18.09	19.84	21.76	23.87	26.19
<b>ARR as per AAI</b>	<b>183.81</b>	<b>223.38</b>	<b>225.55</b>	<b>229.89</b>	<b>277.84</b>
<b>Total ARR as per AAI</b>	<b>1,489.41</b>				
No. of Passengers (as per Actual/Projected)	3,943,389	4,249,417	4,583,809	4,949,551	5,349,967
<b>Discounted ARR</b>	<b>183.81</b>	<b>195.95</b>	<b>173.56</b>	<b>155.17</b>	<b>164.50</b>
<b>True up short fall in 1<sup>st</sup> control period as on 01.04.2016</b>	<b>350.72</b>				
<b>PV of ARR for the control period as on 01.04.2016</b>	<b>1,223.71</b>				
<b>Total Passengers during the control period</b>	<b>23,076,133</b>				
<b>Yield per passenger for the control period (PV of ARR for the control period/Total passengers during the control period)</b>	<b>530.29</b>				

### Authority's examination

15.2. The Authority has examined the calculations of AAI for various elements of the regulatory building blocks that contribute to the calculation of ARR.

15.3. The Authority has estimated the following ARR and yield for the 2<sup>nd</sup> control period under hybrid till based on various submissions of AAI and proposals considered by Authority in earlier sections on the building blocks.

Table 44 - ARR and Yield as per Authority for the 2<sup>nd</sup> control period – Hybrid till

Details (₹ crore)	2016-17	2017-18	2018-19	2019-20	2020-21
Average Aeronautical RAB	381.83	420.79	406.99	386.59	519.23
Return on Average Aeronautical RAB@14%	53.46	58.91	56.98	54.12	72.69
Aeronautical Operating Expenditure	103.45	119.75	127.39	135.59	144.38
Depreciation on aeronautical RAB	30.41	32.66	30.94	29.86	34.87
Aeronautical Corporate Tax @34.6%	5.79	24.31	35.44	42.92	45.57
Less – 30% of Non-Aeronautical Revenues	16.39	18.58	20.40	22.41	24.62
<b>True up short fall in 1<sup>st</sup> control period as on 01.04.2016</b>	158.83				
<b>ARR as per Authority</b>	<b>335.54</b>	<b>217.06</b>	<b>230.34</b>	<b>240.08</b>	<b>272.89</b>
<b>Total ARR as per Authority</b>	<b>1,295.91</b>				
<b>Discounted ARR</b>	<b>335.54</b>	<b>190.40</b>	<b>177.24</b>	<b>162.05</b>	<b>161.57</b>
<b>PV of ARR for the control period as on 01.04.2016</b>	<b>1,026.81</b>				
No. of Passengers (as per Projected)	3,943,389	4,280,519	4,654,100	5,068,698	5,529,490
<b>Total Passengers during the control period</b>	<b>23,476,195</b>				
<b>Yield per passenger for the control period (PV of ARR for the control period/Total passengers during the control period)</b>	<b>437.38</b>				
Target yield per pax	533.03	552.38	572.43	593.21	614.74
<b>Target Aeronautical Revenues</b>	<b>210.19</b>	<b>236.45</b>	<b>266.41</b>	<b>300.68</b>	<b>339.92</b>

## 16. Annual Tariff Proposal

16.1. AAI has submitted ATP(s) for all years of the 2<sup>nd</sup> control period.

16.2. AAI has submitted the revision in tariff w.e.f. 01.04.2017 till 31.03.2021.

16.3. AAI has proposed for a scheme of rebate in landing charges depending on the number of landings per week for domestic flight operations.

16.4. Accordingly AAI has submitted the ATP(s) for 2<sup>nd</sup> control period in respect of TVM.

The ATP(s) as submitted by AAI for the tariff years 2017-18 onwards (w.e.f. 01.04.2017) is annexed herewith for stakeholder consultation.

### Authority's Examination

16.5. The Authority proposes to merge UDF and PSF (facilitation) charges and only UDF charges to be applicable on each domestic and international embarking passenger w.e.f. 01.06.2017.

16.6. The revised tariffs as applicable from 01.06.2017 as submitted by AAI and as proposed by the Authority are given in table below:

Table 45 - Revised aeronautical tariffs as submitted by AAI and as proposed by the Authority

Particular	Existing Tariff	Revised tariff by AAI	Revised tariff proposed by Authority
<b>Rate per landing - International Flight</b>			
Up to 100 MT	₹ 250.50 per MT		
Above 100 MT	₹ 25,050/- + ₹ 336.60 per MT in excess of 100 MT		
Up to 25 MT		₹ 300 Per MT	₹ 300 Per MT
Above 25 MT up to 50 MT		₹ 7,500 + ₹ 350 per MT in excess of 25 MT	₹ 7,500 + ₹ 350 per MT in excess of 25 MT
Above 50 MT up to 100 MT		₹ 16,250 + ₹ 400 per MT in excess of 50 MT	₹ 16,250 + ₹ 400 per MT in excess of 50 MT
Above 100 MT to 200 MT		₹ 36,250 + ₹ 460 per MT in excess of 100 MT	₹ 36,250 + ₹ 460 per MT in excess of 100 MT
Above 200 MT		₹ 82,250 + ₹ 520 per MT in excess of 200 MT	₹ 82,250 + ₹ 520 per MT in excess of 200 MT
<b>Rate per Landing - Domestic Flight</b>			

Particular	Existing Tariff	Revised tariff by AAI	Revised tariff proposed by Authority
Up to 100 MT	₹ 187.90 per MT		
Above 100 MT	₹ 18,790/- + ₹ 252.50 per MT in excess of 100 MT		
Up to 25 MT		₹ 160 Per MT	₹ 160 Per MT
Above 25 MT up to 50 MT		₹ 4,000 + ₹ 280 per MT in excess of 25 MT	₹ 4,000 + ₹ 280 per MT in excess of 25 MT
Above 50 MT up to 100		₹ 11,000 + ₹ 320 per MT in excess of 50 MT	₹ 11,000 + ₹ 320 per MT in excess of 50 MT
Above 100 MT to 200 MT		₹ 27,000 + ₹ 390 per MT in excess of 100 MT	₹ 27,000 + ₹ 390 per MT in excess of 100 MT
Above 200 MT		₹ 66,000 + ₹ 440 per MT in excess of 200 MT	₹ 66,000 + ₹ 440 per MT in excess of 200 MT
<b>Housing Charges</b>			
Up to 100 MT	₹ 8.10 per hour per MT		
Above 100 MT	₹ 810/- + ₹ 10.80 per MT per hour in excess of 100 MT		
Up to 25 MT		₹ 6 Per Hour Per MT	₹ 6 Per Hour Per MT
Above 25 MT up to 50 MT		₹ 150 + ₹ 8 per MT per Hour in excess of 25 MT	₹ 150 + ₹ 8 per MT per Hour in excess of 25 MT
Above 50 MT up to 100		₹ 350 + ₹ 16 per MT per Hour in excess of 50 MT	₹ 350 + ₹ 16 per MT per Hour in excess of 50 MT
Above 100 MT to 200 MT		₹ 1,150 + ₹ 20 per MT per Hours in excess of 100 MT	₹ 1,150 + ₹ 20 per MT per Hours in excess of 100 MT
Above 200 MT		₹ 3,150 + ₹ 22 per MT per Hours in excess of 200 MT	₹ 3,150 + ₹ 22 per MT per Hours in excess of 200 MT
<b>Parking Charges</b>			
Up to 100 MT	₹ 4.10 per hour per MT		

Particular	Existing Tariff	Revised tariff by AAI	Revised tariff proposed by Authority
Above 100 MT	₹ 410/- + ₹ 5.40 per MT per hour in excess of 100 MT		
Up to 25 MT		₹ 3 Per Hour Per MT	₹ 3 Per Hour Per MT
Above 25 MT up to 50 MT		₹ 75 + ₹ 4 per Hour per MT in excess of 25 MT	₹ 75 + ₹ 4 per Hour per MT in excess of 25 MT
Above 50 MT up to 100		₹ 175 + ₹ 8 per MT per Hour in excess of 50 MT	₹ 175 + ₹ 8 per MT per Hour in excess of 50 MT
Above 100 MT to 200 MT		₹ 575 + ₹ 10 per MT per Hours in excess of 100 MT	₹ 575 + ₹ 10 per MT per Hours in excess of 100 MT
Above 200 MT		₹ 1,575 + ₹ 11 per MT per Hours in excess of 200 MT	₹ 1,575 + ₹ 11 per MT per Hours in excess of 200 MT
<b>Throughput Charges</b>			
Rate per KL	₹ 139.80	₹ 146.80	₹ 146.80
<b>Passenger Service Fee (PSF) – Facilitation</b>			
Domestic Passenger	₹ 77 per embarking passenger	₹ 450 per embarking passenger	Nil
	\$ 1.93 per embarking passenger	\$ 11.28 per embarking passenger	Nil
International Passenger	₹ 77 per embarking passenger	₹ 950 per embarking passenger	Nil
	\$ 1.93 per embarking passenger	\$ 23.81 per embarking passenger	Nil
<b>User Development Fee (UDF) (UDF proposed by Authority instead of PSF(FC) above)</b>			
Domestic Passenger	Nil	Nil	₹ 450 per embarking passenger
International Passenger	₹ 575 per embarking passenger	Nil	₹ 950 per embarking passenger
<b>Passenger Service Fee (PSF) – Security*</b>			
Domestic Passenger	₹ 130 per	₹ 130 per	₹ 130 per

Particular	Existing Tariff	Revised tariff by AAI	Revised tariff proposed by Authority
	embarking passenger	embarking passenger	embarking passenger
	\$ 3.25 per embarking passenger	\$ 3.25 per embarking passenger	\$ 3.25 per embarking passenger
International Passenger	₹ 130 per embarking passenger	₹ 130 per embarking passenger	₹ 130 per embarking passenger
	\$ 3.25 per embarking passenger	\$ 3.25 per embarking passenger	\$ 3.25 per embarking passenger

\* PSF-Security is determined by MoCA and the rates as provided by MoCA from time to time shall be applicable

16.7. Additionally, from 01.04.2018, the increase in tariffs as submitted by AAI is given below. The Authority proposes to accept the increase in tariffs for the second control period as submitted by AAI.

16.7.1. Yearly increase of 4% per annum every subsequent year (FY 2018-19 onwards) in UDF per departing passenger charges

16.7.2. Yearly increase of 4% every subsequent year (FY 2018-19 onwards) in landing charges

16.7.3. Yearly increase of 5% per annum every subsequent year (FY 2018-19 onwards) in fuel throughput charges during the 2<sup>nd</sup> control period

16.8. The Authority noted that AAI's proposed tariff applicable from 1<sup>st</sup> April, 2017 will not be able to recover the proposed ARR for the 2<sup>nd</sup> control period. Hence, the Authority proposes to accept the revised tariffs as submitted by AAI which would be applicable from 1<sup>st</sup> April 2017. The estimated aeronautical revenues based on tariffs as proposed by AAI is indicated in Table 46.

16.9. The Authority notes that revenue from tariff as proposed by AAI would not meet aeronautical revenue permissible for the 2<sup>nd</sup> control period. The resultant shortfall as on 01.04.2016 is ₹ 133.03 crore. The Authority proposes to consider the shortfall of ₹ 133.03 crore as on 01.04.2016 in the 2<sup>nd</sup> control period while determining tariffs for the 3<sup>rd</sup> control period.

Table 46 - Projected Revenue, Target Revenue and shortfall as per the Authority for the 2<sup>nd</sup> control period

<b>Projected Aero Revenue based on AAI proposed tariffs (₹ crore)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
Landing	29.65	41.07	47.26	51.96	57.17
Parking and Housing	0.97	2.02	2.37	2.53	2.70
UDF	83.84	147.27	177.37	198.11	221.58
FTP+ITP and lease rentals	3.58	3.93	4.37	4.83	5.34
Ground Handling Charges and lease rentals	15.38	16.60	17.92	19.36	20.90
CUTE	1.99	2.15	2.33	2.51	2.71
Cargo Charges	1.25	1.34	1.44	1.55	1.67
<b>Total Projected Revenue</b>	<b>136.66</b>	<b>214.39</b>	<b>253.05</b>	<b>280.85</b>	<b>312.07</b>
<b>Target Aero Revenue</b>	<b>210.19</b>	<b>236.45</b>	<b>266.41</b>	<b>300.68</b>	<b>339.92</b>
Short fall (-)/ Excess (+) in revenue, i.e. difference (Projected – Permissible)	-73.53	-22.06	-13.36	-19.83	-27.85
PV value as on 01.04.2016 with Discount rate (14.00%)	-73.53	-19.35	-10.28	-13.39	-16.49
<b>Total PV of difference as on 01.04.2016 for the control period</b>	<b>-133.03</b>				

16.10. The Authority noted that AAI has taken 6% inflation rate while determining the Yield per Passenger for tariff years in the 2<sup>nd</sup> control period and X factor of 0.01% from FY 2018-19 onwards. As per RBI issued Results of the Survey of Professional Forecasters on Macroeconomic Indicators – Round 43, the WPI inflation is forecasted to be 3.64% for the next 5 years. The Authority proposes to revise WPI for the 2<sup>nd</sup> control period to 3.64%.

16.11. The Authority proposes that any shortfall/ excess in revenues for the 2<sup>nd</sup> control period based on proposed tariffs by AAI to be considered while determining aeronautical tariffs for the 3<sup>rd</sup> control period.

16.12. The Authority notes that ASQ rating at Trivandrum has been more than 3.75 in every quarter of 1<sup>st</sup> control period as required under Section 6.14.3 of Airport Guidelines. Details of the ASQ ratings are provided below.



Table 47 – Quarterly ASQ rating of TVM during the 1<sup>st</sup> control period

Quarter	2012	2013	2014	2015	2016
Q1	4.15	3.97	4.26	4.51	4.87
Q2	4.48	4.06	4.28	4.49	4.90
Q3	3.78	4.12	4.3	4.89	4.38
Q4	3.99	4.16	4.33	4.27	Awaited
Average	4.10	4.08	4.29	4.54	-

**Proposal No. 12. Regarding tariff rate card**

- 12.a. To accept Annual Tariff Proposals as given in Table 45 (and Annexure) for determination of tariff during 2<sup>nd</sup> control period as the present value of proposed revenues (yield) by AAI is lower than the present value of ARR (yield) as per Authority. Detailed tariff card is provided in Annexure for stakeholder comments.
- 12.b. To continue with waiver of landing charges for (a) aircraft with a maximum certified capacity of less than 80 seats, being operated by domestic scheduled operators (b) Helicopters of all types as approved by Govt. of India vide order no. G.17018/7/2001-AAI dated 9th Feb.2004 in order to encourage and promote intra-regional connectivity at TVM.
- 12.c. To provide waiver of landing and other charges in line with National Civil Aviation Policy under Regional Connectivity Scheme.
- 12.d. To merge UDF and PSF (facilitation) charges and only UDF charges to be applicable on each domestic and international embarking passenger w.e.f. 01.06.2017.
- 12.e. The Authority proposes to consider shortfall in revenues for the 2<sup>nd</sup> control period based on proposed tariffs by AAI while determining aeronautical tariffs for the 3<sup>rd</sup> control period.

## 17. Summary of Proposals

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## 18. Stakeholders' Consultation Timeline

18.1. In accordance with the provision of Section 13(4) of the AERA Act, 2008, the proposal contained in the Section – Summary of proposals (Section 17 above) read with the relevant discussion in the other sections of the paper is hereby put forth for Stakeholders' Consultation. To assist the Stakeholders in making their submissions in a meaningful and constructive manner, necessary documents are enclosed as **Annexure I**. For removal of doubts, it is clarified that the contents of this consultation paper may not be construed as any Order or Direction by the Authority. The Authority shall pass an order, in the matter, only after considering the submissions of the stakeholders' in response hereto and by making such decisions fully documented and explained in terms of the provisions of the Act.

18.2. The Authority welcomes written evidence based feedback, comments and suggestions from stakeholders on the proposal made in (Section 17 above), latest by 28.04.2017 at the following address.

Secretary

Airports Economic Regulatory Authority of India

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**Chairperson**

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**Annexure 1 – Detailed Tariff Card as proposed by the Authority to be applicable from 01.06.2017 to 21.03.2018**

**1) LANDING CHARGES**

**Rate per landing - International Flight**

<b>Weight of the Aircraft</b>	<b>Proposed - Rate Per Landing (In ₹)</b>
Up to 25 MT	₹ 300 Per MT
Above 25 MT up to 50 MT	₹ 7,500 + ₹ 350 per MT in excess of 25 MT
Above 50 MT up to 100	₹ 16,250 + ₹ 400 per MT in excess of 50 MT
Above 100 MT to 200 MT	₹ 36,250 + ₹ 460 per MT in excess of 100 MT
Above 200 MT	₹ 82,250 + ₹ 520 per MT in excess of 200 MT

**Rate per Landing - Domestic Flight**

<b>Weight of the Aircraft</b>	<b>Proposed - Rate Per Landing (In ₹)</b>
Up to 25 MT	₹ 160 Per MT
Above 25 MT up to 50 MT	₹ 4,000 + ₹ 280 per MT in excess of 25 MT
Above 50 MT up to 100	₹ 11,000 + ₹ 320 per MT in excess of 50 MT
Above 100 MT to 200 MT	₹ 27,000 + ₹ 390 per MT in excess of 100 MT
Above 200 MT	₹ 66,000 + ₹ 440 per MT in excess of 200 MT

**Incentives for increasing the Domestic Flight Operation:**

<b>Proposed</b>	
No. of Landing (Domestic) per week per operator for Incentives	*Incentive offered on total landing charges
075	1%
125	2%
175	3%
225	4%
275	5%
Incentive on total landing Charges will be offered only if the payment is made within the stipulated time.	

**Note**

	<b>Proposed</b>
1)	All domestic legs of international routes flown by Indian Operators will be treated as domestic flights as far as landing charges is concerned, irrespective of flight number assigned to such flights.

2)	No landing charges shall be payable in respect of a) aircraft with a maximum certified capacity of less than 80 seats, being operated by domestic scheduled operators at airport and b) helicopters of all types c) Approved Flying school/flying training institute aircrafts.
3)	Charges shall be calculated on the basis of nearest MT (i.e. 1000 kg)
4)	Flight operating under Regional Connectivity Scheme will be completely exempted from landing charges from the date the scheme is operationalized by GOI.

## **II) PARKING AND HOUSING CHARGES**

	<b>Proposed Rates (In ₹)</b>	<b>Proposed Rates (In ₹)</b>
<b>Weight of the Aircraft</b>	<b>Parking Charges Rates per Hour</b>	<b>Housing Charges Rates per Hour</b>
Up to 25 MT	₹ 3 Per Hour Per MT	₹ 6 Per Hour Per MT
Above 25 MT up to 50 MT	₹ 75 + ₹ 4 per Hour per MT in excess of 25 MT	₹ 150 + ₹ 8 per MT per Hour in excess of 25 MT
Above 50 MT up to 100	₹ 175 + ₹ 8 per MT per Hour in excess of 50 MT	₹ 350 + ₹ 16 per MT per Hour in excess of 50 MT
Above 100 MT to 200 MT	₹ 575 + ₹ 10 per MT per Hours in excess of 100 MT	₹ 1,150 + ₹ 20 per MT per Hours in excess of 100 MT
Above 200 MT	₹ 1, 575 + ₹ 11 per MT per Hours in excess of 200 MT	₹ 3,150 + ₹ 22 per MT per Hours in excess of 200 MT

### **Note**

	<b>Proposed</b>
1)	No parking charges shall be levied for the first two hours. While calculating free parking period, standard time of 15 minutes shall be added on account of time taken between touch down time and actual parking time on the parking stand. Another standard time of 15 minutes shall be added on account of taxiing time of aircraft from parking stand to take off point these periods shall be applicable for each aircraft irrespective of actual time taken in the movement of aircraft after landing and before takeoff.
2)	For calculating chargeable parking time any part of an hour shall be rounded off to the next hour.
3)	Charges shall be calculated on the basis of nearest MT.
4)	Charges for each parking period shall be rounded off to nearest Rupee
5)	At the in-contact stands and open stands, after free parking, for the next two hours normal parking charges shall be levied. After this period, the charges shall be double the

	<b>Proposed</b>
	normal parking charges.
6)	It is proposed to waive off the night parking charges in principle for all domestic scheduled operators at Trivandrum Airport if the State Government has brought the rate of tax (VAT) on ATF up to 5%. The above waiver of night parking charges (between 2200 hrs. to 0600 hrs) will be made applicable from the date of implementation of 5% tax on ATF by the State Govt. In the event of upward revision in the tax rate of ATF by the State Govt., the relief of free night parking charges will also be deemed to be withdrawn for all the airports within the jurisdiction of the said State
7)	Flight operating under Regional Connectivity Scheme will be completely exempted from parking charges from the date the scheme is operationalized by GOI.

### **III) THROUGHPUT CHARGES**

<b>Proposed</b>
<b>Proposed Rate Per KL (IN ₹)</b>
₹ 146.80

### **IV) PASSENGER SERVICE FEE (PSF) – FACILITATION**

	<b>Proposed</b>
Domestic Embarking Passenger	Nil
International Embarking Passenger	Nil

### **V) PASSENGER SERVICE FEE (PSF) – SECURITY\***

Proposed	
₹ 130/- per embarking International/ Domestic passenger	\$ 3.25 per embarking International/ Domestic passenger

\* PSF-Security is determined by MoCA and the rates as provided by MoCA from time to time shall be applicable

### **VI) USER DEVELOPMENT FEE (UDF)**

<b>Particulars</b>	<b>Proposed</b>
Domestic	₹ 450 per embarking passenger
International	₹ 950 per embarking passenger

### **Notes**

	<b>Proposed</b>
1)	Collection charges: if the payment is made within 15 days of receipt of bills, then collection charges at 2.5% of UDF per passenger is payable by AAI to Airline operators. No collection charges shall be payable if the operator fails to pay the UDF to AAI within the credit period and incase of part payment. Airlines to make full payment of UDF collection to AAI and raise a separate invoice for the collection



	charges on UDF to AAI.
2)	No collection charges are payable to casual operator/non-scheduled operators
3)	No UDF will be levied for Transit Passengers
4)	Revised UDF charges will be applicable on tickets issued on or after 01.06.2017.

**VII) GENERAL CONDITION:**

- a) All the above Charges are excluding of Service Tax. Service Tax at the applicable rates are payable in addition to above charges.