File No. AERA/20010/MYTP/DIAL/2011-12/Vol-IV

Order No. 03/2012-13

Airports Economic Regulatory Authority of India

In the matter of Determination of Aeronautical Tariff in respect of IGI Airport, New Delhi for the 1st Regulatory Period (01.04.2009-31.03.2014)

Date of Order : 20th April, 2012

Date of Issue : 24th April, 2012

AERA Building
Administrative Complex
Safdarjung Airport
New Delhi - 110 003

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AERA

F.No. AERA/20010/MYTP/DIAL/2011-12/Vol-IV
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1. Brief Facts of the case

1.1. In the year 2003, the Airports Authority of India Act, 1994, was amended to enable setting up of private airports and the leasing of existing airports to private operators. The Amendment Act of 2003 was brought in to effect on 01.07.2004. In pursuance thereof, the Government of India (GoI), had approved the modernization, up-gradation and development of the Delhi and Mumbai Airports through private sector participation. Airports Authority of India (AAI) initiated the process of selecting a lead partner for executing the modernization projects and undertook a competitive bidding.

1.2. In so far as IGI Airport, New Delhi is concerned a consortium led by the GMR Group was awarded the bid for operating, maintaining, developing, designing, constructing, upgrading, modernising, financing and managing the Airport. Post selection of the private consortium a special purpose vehicle, namely Delhi International Airport Private Limited (DIAL), was incorporated on 1st March 2006 with AAI retaining 26% equity stake and balance 74% of equity capital acquired by members of consortia. The GMR consortia comprised GMR Group entities, Fraport AG, Malaysia Airports Holdings Bhd and India Development Fund (which exited the consortium subsequently). On 4th April 2006, DIAL signed the Operation, Management and Development Agreement

(OMDA) with AAI and took over the operations of IGI Airport on 3rd May 2006. As per schedule 7 of OMDA a "New Parallel Runway" and "International/ domestic terminal development, Terminal design to cater for design year not earlier than 2012" were to be completed within 2 years and by 31.03.2010, respectively.

1.3. DIAL entered into various agreements with AAI, GoI and Government of National Capital Territory of Delhi (GoNCT) to give effect to the transaction. As indicated earlier the OMDA was executed between DIAL and AAI on 4th April 2006, whereby the AAI granted to DIAL the exclusive right and authority during the term to undertake some of the functions of AAI being the functions of operations, maintenance, development, design, construction, upgradation, modernizing, finance and management of the IGI Airport and to perform services and activities constituting aeronautical services and non-aeronautical services (but excluding Reserved activities) at the airport. The OMDA has a term of 30 years with DIAL having a right to extend the agreement for a further period of 30 years subject to its satisfactory performance under the various provisions governing the arrangement between DIAL and AAI. In addition to the OMDA, DIAL also entered into the State Support Agreement (SSA) with GoI on 26th April 2006 which outlined the support from GOI. Besides OMDA and the SSA, Lease Deed Agreement, State Government Support Agreement (SGSA), Shareholders Agreement (SHA), CNS/ATM Agreement, etc., were also entered into between DIAL and relevant parties.

1.4. Provisions regarding "Tariff and Regulation" have been made in Chapter XII of OMDA and clause 3.1 read with Schedule 1 of the SSA.

1.5. DIAL submitted a proposal for revision of tariffs for aeronautical services at IGI Airport, New Delhi, for the Authority's consideration and approval on 20th June 2011.Pursuant to their submission, a series of discussions/ meetings/presentations were held (during the period June to November, 2011) on the proposal including discussions in respect of the financial model developed by DIAL for this purpose.

1.6. Briefly stated, DIAL had filed their tariff proposal seeking a onetime increase in aeronautical tariff based on the X Factor of (-)629% for determination of aeronautical tariffs (for the five year tariff period FY 2009-10 to 2013-14, with the revised tariff assumed to come into effect from

01.09.2011). DIAL vide their letters No.DIAL/Fin-Acc/2011-12/726 dated 20.07.2011, 04.10.2011, 21.10.2011, 15.11.2011, 21.11.2011 and 25.11.2011 made additional submissions, as a result of which this X factor increased from **(-)629% to (-)874%** in their subsequent submissions (for the 5 year tariff period as above and from 01.02.2012).

1.7. DIAL made the proposal (dated 20.06.2011) based on their understanding of the principles of tariff fixation provided in the SSA. They considered the first regulatory period as a 5 year period commencing from FY 2009-10 and upto 2013-14. They had assumed that the charging of revised tariff to commence w.e.f 01.09.2011 (subsequently *amended to 01.02.2012 vide their submission dated 04.10.2011).* Along with the proposal, considerations/ assumptions made for preparing the proposal for determination of tariffs for aeronautical services were also submitted. These include:

1.7.1. The principles used for the current filing for revision of tariffs for aeronautical services;

1.7.2. The project cost considered in the current filing and the calculation of Regulatory Asset Base;

1.7.3. The means of finance and calculation of Weighted Average Cost of Capital;

1.7.4. The forecasts of operation and maintenance expenses and rationale for the same; and

1.7.5. The forecasts of non-aeronautical revenues and rationale for the same.

1.8. DIAL also submitted the following reports/studies to support their submissions:

1.8.1. Certification of values of the regulated asset base as per books of accounts - certified by Statutory Auditors;

1.8.2. Report on terminal area allocation - undertaken by Jacobs Consultancy;

1.8.3. Report on allocation of the operation and maintenance costs undertaken by Jacobs Consultancy;

1.8.4. Report on determination of cost of equity of Delhi Airport by the international aviation advisory firm Leigh Fisher; and

1.8.5. Traffic forecast study for Delhi Airport carried out by Madras School of Economics.

1.8.6. Report on Operating Costs Bench Marking prepared for Delhi Airport by the international aviation advisory firm Leigh Fisher.

1.9. DIAL stated that considering the provisions of concession documents and various assumptions laid out in their submissions, the target revenue was determined and thereafter the 'X' factor was computed as "the average equalization factor" of the discounted target revenue and projected aeronautical revenue over the regulatory period.

1.10. DIAL submitted that Inflation has not been factored in their forecasts for future years and assumed that the Authority will provide a CPI based increase over and above X factor, based on actual CPI data.

1.11. Further, in their submissions dated 20.06.2011, they stated that no discounts had been considered by them, though it was requested that the Authority may consider published discounts available to eligible customers to be allowed as cost, for healthy growth of the industry. Thereafter, vide their submission dated 15.11.2011, DIAL proposed to allow a non-discriminatory 2% discount on all landing charges, received by them within 15 days (credit period), for all domestic scheduled landings and for this purpose assumed that the discount will be availed in respect of 50% of domestic scheduled landings.

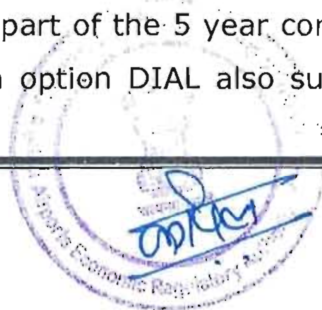
1.12. DIAL submitted that the current aeronautical yields are very low as historically these have increased only by a mere 10% in 2009 over more than a decade with no inflation adjustment. On the other hand the operation costs increased significantly along with deployment of lumpy capex as part of the modernization and expansion of the airport undertaken by them resulting in a lop-sided revenue-cost structure necessitating a large tariff increase in line with the SSA. In view of the same DIAL formulated the following broad principles:

1.12.1. Rationale to charge both departing and arriving passengers;

1.12.2. Ensuring that the impact of the increase is broken into differential buckets based on distance of flight to enable smooth absorption; and

1.12.3. Promoting transfer traffic to provide a fillip to development of a hub.

1.13. In line with the above, DIAL also submitted a tariff rate card, structured to be applicable for the remaining part of the 5 year control period viz. 01.02.2012 to 31.03.2014. However, as an option DIAL also submitted a rate card for an



optional control period of 7.5 years, which was proposed to be applicable from 01.02.2012 to 30.09.2016.

1.14. While DIAL's tariff proposal was under consideration, the Authority issued Order No.28/2011-12 dated 14.11.2011 [DF Order] in the matter of levy of Development Fee (DF) at IGI Airport, New Delhi, thereby determining the rate and period of levy of DF to be collected at the airport. In the process the Authority also decided the allowable project cost for the purposes of DF.The DF Order indicated that the Authority would consider certain items for review at the time of tariff determination for the airport.

1.15. Thereafter, DIAL made further submissions vide letter No. DIAL/2011-12/Fin-Acc/1583 dated **15.11.2011** requesting the Authority to consider the changes in certain assumptions and made further submissions as under:

1.15.1. **Interest Rate: Rupee Term loan**: Change from the assumed interest rate of 11.75% p.a to 12.17% p.a with the earlier assumption of 0.5% increase year on year for the subsequent years.

1.15.2. **Discount**: Allow a non discriminatory 2% discount on all landing charges received within 15 days (credit period) for all domestic scheduled landings, assuming that discount shall be availed in respect of 50% of domestic scheduled landings.

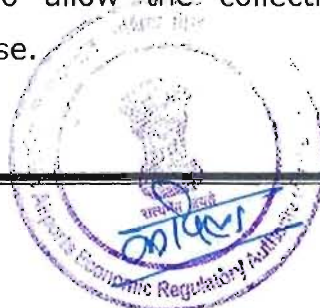
1.15.3. **Fuel Throughput Charges (FTC):** To remove the escalation of 7% in FTC, envisaged w.e.f. 01.04.2011 and consider the same at the rate of Rs.601.07 per KL w.e.f. the tariff approval date till 31.03.2013 and an escalation @ 7% every year thereafter.

1.15.4. **Cute Counter Charges**: Proposal to charge cute counter charges from domestic airlines @ Rs. 500 per departing domestic flight over and above the Rs. 1500 per international flight already being charged.

1.15.5. **Readjustment of the RAB**: considering the actual date and amount of DF loan withdrawal for the FY 2011-12 upto FY 2013-14.

1.15.6. **Interest on debt raised by securitisation of DF:** to allow the interest amounts as part of operating expenditure.

1.15.7. **Collection Charges:** to allow the collection charges, on DF, payable to the airlines as an expense.



1.15.8. **Disallowance of CIP area for Non Aeronautical Service**: The Authority vide DF Order decided that the area measuring 8652 sq.mts meant for food court and retail at CIP, office and hotel level may not be included in the gross floor area of Terminal 3 (T3). Pursuant to the aforesaid decision, DIAL requested that the non-aeronautical revenue accruing from this area would not be eligible for cross subsidization and as a result the ratio between AERO and NON AERO as certified by them would undergo a change leading to consequential changes in Aero RAB and costs.

1.15.9. **Methodology of incorporating CPI:** DIAL submitted that in CPI-X methodology of tariff determination, as envisaged in the SSA, the CPI was tariff add-on to cover inflation and in this methodology the efficient way was to determine X factor without considering inflationary increases and only considering real increases in costs which provides an "unadulterated" X factor bereft of inflation. Thereafter the CPI inflation coverage on actual year on year basis is to be provided which ensures transparency and ease of computation. DIAL stated that the X factor had been computed in the model accordingly and requested that this may be continued.

1.15.10. **Forecast of CPI**: 5 year forecast of CPI-IW at 7% p.a based on Survey of Professional Forecasters as published by RBI on its website.

1.15.11. **Revision of Rate card:** Submission of a revised rate card based on the above changes.

1.16. Vide submission dated 21.11.2011, DIAL forwarded the details of the amount of interest on debt raised by securitization of DF, collection charges to be paid to airlines on the DF collected from the period 01.04.2009 to 31.10.2011, revenue accruing from the reduction in Gross Floor Area of 8652 sq.mts, deletions arising out of the Authority's Order dated 14.11.2011 and the resultant change in Aero/Non Aero split of the RAB. These submissions have been dealt with under the relevant Regulatory Building Blocks in the following sections.

1.17. Further, vide their submission dated 25.11.2011, DIAL stated that the financial model had been revised by them. The financial model reworked by DIAL contained the following adjustments/ changes/ revisions:

1.17.1. **Discount for timely payment:** DIAL made a provision for a 2% non discriminatory discount on landing fees for domestic scheduled landings

along with the assumption that the same would be availed in respect of 50% of domestic scheduled landings.

1.17.2. **CUTE Counter Charges:** CUTE counter charges @ Rs. 500/- per domestic departure movement, with changes incorporated in financial model and changes made in non aero revenue and consequential impact on cross subsidy.

1.17.3. **US Dollar rate**: A change in assumption in the USD INR exchange rate from Rs.45 per USD in the financial model to Rs.45.26 to determine the USD tariff for tickets booked in foreign currency, based on average RBI reference rate for past 6 months.

1.17.4. **Interest on DF**: The interest amount on DF till 30th Nov 2011 included as an operating cost in view of the Authority's DF Order dated 14th November 2011.

1.17.5. **Collection Charges on DF:** The revised model considered collection charges on DF as part of DIAL's operating expenditure.

1.17.6. **Disallowance of 8652 sqmts of Non aeronautical area in T3:** The revised model excluded the revenue from the commercial area of 8652 sqmts disallowed in CIP/office area (As a result of disallowances in the Order No.28/2011-12 dated 14th November 2011).

1.17.7. **RAB and Operating cost split:** As a result of the disallowances in DF Order, DIAL submitted revised certificates received from the Jacobs Limited and Brahmayya & Co for change in the aeronautical and non-aeronautical mix. Further, for the purpose of RAB, DIAL assumed that the Authority will favorably consider their request of inclusion of Rs.79.49 crore disallowed while determining DF as part of RAB.

1.17.8. **Rupee Loan Rate:** DIAL updated the cost of rupee term loan to 12.17% for the year 2011-12 based on their Auditors certificate.

1.17.9. **External Commercial Borrowings:** Revision in the ECB amount and rate as per the Auditors certificate and consequent updation in the model.

1.17.10. **Fuel Throughput:** retaining their assumption that the escalation in fuel throughput charges w.e.f 1st April 2011 would be allowed retrospectively.

1.17.11. **Future DF Monetization:** Revised schedule of DF monetization based on the DF Order as under: (Amount : Rs. in crore)

Table 1 DIAL's Revised schedule of DF monetization based on the DF Order

Details / Year	2011-12	2012-13	2013-14
DF as already approved pending monetization	887.35		
Delhi Jal Board payment	39.00	7.50	7.50
ATC Tower	80.00	150.00	120.00
Total	1303.35	157.50	127.50

1.17.12. **Collection Charges on UDF:** DIAL also incorporated UDF as one of the pricing components and in their assumptions considered the collections charges, payable to the airlines, towards collection of UDF. DIAL have assumed an amount of Rs.3/- per pax as collection charges of UDF.

1.18. Based on the changes proposed, as indicated in para 1.17 above, DIAL submitted that the X Factor would be (-) 874% thereby leading to a higher increase in tariffs. DIAL also submitted a revised Rate Card, indicating the proposed revision in aeronautical charges on this basis, for the Authority's approval. In the alternate, DIAL submitted separately a Rate Card without Revenue Share on UDF, for the consideration of Authority.

1.19. During the course of consideration of the proposal DIAL made presentations on the following:

1.19.1. Traffic forecast of IGI Airport, New Delhi;

1.19.2. Cost allocation between aeronautical and non-aeronautical assets;

1.19.3. Cost of equity;

1.19.4. Operating and maintenance costs;

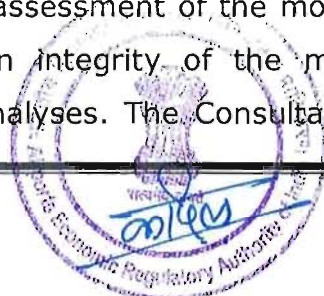
1.19.5. Joint ventures set up by DIAL;

1.19.6. Case studies of some similar airports (Athens);

1.19.7. Comparisons of landing charges of various airports in the world, (both in the units of Special Drawing Right and in INR);

1.19.8. General tariff filing, and other matters having bearing on the tariff determination.

1.20. In order to analyse, review and advise on the financial model used by DIAL as a part of their tariff application, the Authority appointed Consultants to review the financial model prepared and submitted by DIAL. The scope of the assignment included review and assessment of the models' arithmetic accuracy, check for logical and calculation integrity of the models and assistance in undertaking certain sensitivity analyses. The Consultants were tasked with the



job of independent cell-by-cell inspection and sheet-by-sheet review of the arithmetic accuracy of formulae and calculations contained in the model including tracing items through the various interlinked sheets and calculations back to the input data and verifying the correct application of addition, subtraction, multiplication and division based on standard business and financial logic; verifying that the links within the model are working accurately; assessing that any macros that govern calculations in the model are running as intended; assessing that the model is logically constructed, internally consistent with respect to calculations and formulae and is fit for the purpose of undertaking analyses of relevant aspects for tariff determination by the Authority; assessing that assumptions in the Financial Model are at one place and that there are no hard coded numbers in calculations in the Financial Model that might influence calculation results in unexpected ways and checking whether the assumptions listed in the assumption sheet are getting correctly reflected in the various others sheets of the financial model.

1.21. Further, the Consultants were also required to ensure that the Financial Model accurately reflected the concession offered by the Central Government with respect to the key agreement(s), and financial documents as also the provisions in the Act. The tasks included consistency check for incorporation of provisions from key agreements related to various Building Blocks into the financial model.

1.22. The Consultants were further required to provide assistance to the Authority in identifying such elements that may need to be certified from auditors/ Chartered Accountants of DIAL of key aspects/ assumptions taken from the key/ concession agreement(s) and also assist the Authority in reviewing the implications/change in results through sensitivity analysis of various factors like growth rate in traffic, inflation etc., to be conducted with respect to specific changes to assumptions for a factor or even reviewing the drivers and projection bases for such factors.

1.23. During the course of the review and clean-up of the financial model, DIAL were also asked to furnish to the Authority, certifications from its Statutory Auditors in support of figures taken as the base for their projections/forecasts.

1.24. As brought out above, the Authority, after an extensive stakeholder consultation, had issued the DF Order [i.e. Order No.28/2011-12 dated

14.11.2011] vide which it had determined the allowable project cost as Rs.12,502.86 crore. Consequently, the figure of Rs.12,502.86 crore has been used as the base figure in the present consideration.

1.25. The analysis of the financial model (based on the model furnished with DIAL's submission dated 04.10.2011), was carried out by the Consultants based on the changes in the assumptions and the Authority's guidance.

1.26. The financial model developed by DIAL was analyzed by the Consultants. At the relevant time, DIAL had projected a 'X' factor of (-)775% considering a onetime increase in the aeronautical tariffs (DIAL's submission dated 04.10.2011, considering the revised tariff to come into effect from 01.02.2012 and higher cost of power owing to sharp increase in power tariff). The financial model was cleaned up based on the issues identified by the Consultants, based on the observations made by the Consultants and auditors certifications furnished by DIAL in respect of various elements in the proposal. Subsequent to the changes made in the financial model, the cumulative impact of changes resulted in the value of X factor being updated to (-)774.30%. This translated into an X factor of (-)137.94%, considering an equated yearly increase w.e.f.01.02.2012.

1.27. This cleaned up model was used for sensitivity analysis and all submissions made by DIAL post cleaning up or those made earlier but not mutually agreed, were considered as part of sensitivity analysis.

1.28. As mentioned above, DIAL indicated in their submissions that the tariffs for Delhi airport were fixed in 2001 and had not been revised thereafter except for a 10% increase made on 16.02.2009 by the MoCA *(in accordance with Clause 1 of Schedule 6 of the SSA, after completion of 2 years).* They submitted that the revenue streams do not support a capital investment of the scale and magnitude undertaken by them. DIAL indicated that they were losing very heavily on the airport project *(almost Rs. 2 crore per day);* and that they had incurred a net loss of Rs.450 crore for the year ended 31.03.2011; and that, therefore, tariff determination needed to be done very expeditiously.

1.29. It is also to be stated that Ministry of Civil Aviation [i.e. MoCA], vide its letter no.AV.20036/014/2009-AD dated 06.10.2009, had forwarded a request received from the DIAL (letter ref.no.DIAL/2009-10/COMM/0625 dated 10.07.2009), for a 10% increase in aeronautical charges at IGI Airport, New

Delhi with effect from 03.05.2009 for the Authority's consideration. Aforesaid request was made by DIAL on the grounds that as per Schedule 6 of the SSA, entered in to between the Central Government and DIAL, the regulatory authority/Government of India, will set the aeronautical charges from the commencement of the 4th year from the effective date, i.e., 03.05.2006 and for every year thereafter subject always to the condition that, at least, nominal increase of 10% of base airport charges will be available to DIAL.

1.30. DIAL interpreted the above provisions to mean that the Authority/GoI are bound to permit an increase of 10% of the Base Airport Charges on the commencement of the 4th year and every year thereafter and, accordingly, approval was solicited to increase the airport charges by 10% w.e.f 03.05.2009. DIAL was earlier permitted a 10% increase in airport charges w.e.f. 16.02.2009, by the Ministry of Civil Aviation (MoCA), in terms of Clause 1 of the Schedule 6 after completion of two years.

1.31. The request of DIAL was examined in detail by the Authority. It was noted that the 'Base Airport Charges' are the charges which were prevalent on 26.04.2006 (as set out in Schedule 8) and that a nominal increase of 10% had already been permitted by the MoCA over the Base Airport Charges (BAC) in terms of Clause 1 of Schedule 6. This increase could be termed as *"permitted nominal increase of 10%"* contemplated in Schedule 6 of the SSA. Further, it was observed that the second part of Clause (2) of Schedule 6 states that "*a permitted nominal increase of ten (10) percent of Base Airport Charges will be available to the JVC for the purposes of calculating Aeronautical Charges in any year after the commencement of the fourth year*". Thus, on a co-joint reading of Clauses 1 & 2, it was evident that as per Clause (1) a nominal increase of 10% was to be permitted on completion of first two years, subject to certain conditions, and as per Clause (2), this permitted nominal increase of 10% will, at the least, be available to the JVC for the purposes of calculating airport charges from fourth year onwards. Expressed differently, in terms of first part of Clause 2, the Authority/GOI are required to set aeronautical charges in accordance with Clause 3.1.1 read with the principles set out in Schedule 1 of SSA from 4th year onwards and by virtue of second part the nominal increase of 10% permitted (in terms of Clause 1) is saved. The Authority also noted that the request of DIAL, at least in some part of their communications, appeared to be

for an increase of 10% on the prevalent Airport Charges, whereas the second part of the Clause 2 of Schedule 6 mentions an increase of 10% on the BAC, which in the Authority's view had already been permitted by MoCA in terms of Clause 1 of Schedule 6.

1.32. The Authority had observed that, if it was accepted that Clause 2 contemplates an year on year increase of 10% from the commencement of 4th year onwards, it would mean that the GOI have agreed to doubling of BAC in about 7 years time irrespective of the actual determination in terms of principles set out in Schedule 1. Thus, on a co-joint reading and harmonious construction of the provisions of Schedule 6 of SSA, the Authority found that the following scheme was revealed:-

1.32.1. The airport charges, as existing on 26.04.2006 (which are set out in Schedule 8) will continue for first two years from the effective date.

1.32.2. In the event the JVC fully completes and commissions all the mandated facilities required to be completed during the first two years, it would be allowed a tariff increase of 10% in nominal terms from the beginning of 3rd year from the effective date, as an incentive.

1.32.3. From the commencement of 4th year onwards, tariff will be set by the Authority/GOI as per principles set out in Schedule 1 subject to the condition that, at the least, the nominal increase of 10% of the BAC permitted during the third year, as incentive, will continue to be available to the JVC.

1.33. In view of the above, the Authority felt that there was no warrant in Schedule 6 of SSA for an automatic year on year increase of 10% in airport charges from the commencement of fourth year onwards. Accordingly, the Authority rejected the request made by DIAL for a 10% increase in aeronautical charges at IGI Airport, New Delhi, with effect from 03.05.2009, vide Order No.03/2010-11 dated 21.05.2010.

1.34. DIAL appealed against the said Order of the Authority before the Honble AERA Appellate Tribunal vide Appeal No.03/2010. The Hon'ble Tribunal, disposed off the said Appeal vide its final Order dated 11.05.2011 and directed that:

> *"Therefore, without expressing any opinion on the merits of the case we set aside the impugned order and remit the matter to the Regulatory Authority to pass a reasoned order after grant of*

opportunity to the parties for hearing and to place further materials, if any. The exercise shall be undertaken within a period of ten weeks. If the Regulatory Authority requires any material to be produced it is but imperative that the same shall be supplied by the appellant. We note the stand of Mr. Nanda that a final determination has to be done in each case."

1.35. Pursuant to the decision of the Honble AERA Appellate Tribunal, the Authority filed IA indicating that it would be determining the final tariff in respect of aeronautical services and that the issue of 10% increase thereof would be taken up as part of this exercise. The Tribunal has permitted the Authority to do so in a time bound manner, in pursuance of which the Authority has under taken the present tariff determination exercise in respect of IGI Airport, New Delhi.

1.36. The Authority discussed the proposal submitted and further submissions made by DIAL on several occasions, including in the meetings held on 13.12.2011, 29.12.2011, 30.12.2011, 02.01.2012 and 03.01.2012.

1.37. The Authority's consideration and its tentative views in respect of all relevant issues were placed for stake holder consultation vide Consultation Paper No.32/2011-12 on 03.01.2012**(CP-32)**. The last date for receipt of comments was 24.01.2012.

1.38. The Authority held a stakeholder consultation meeting on 18.01.2012 in the Conference Room, first floor, AERA Building, Administrative Complex, Safdarjung Airport, New Delhi to elicit the views of the stakeholders. The Minutes of the stakeholder consultation were uploaded on the Authority's website.

1.39. The Federation of Indian Airlines (FIA), the International Air Transport Association (IATA) and the Inter Globe (Indigo) requested for extension of time for submission of comments in response to the CP-32. The same was also requested by various stakeholders during the consultation meeting held on 18.01.2012. The requests made by the stakeholders were considered by the Authority and the date for submission of comments was extended upto 15.02.2012 vide Public Notice No.02/2011-12 dated 23.01.2012.

1.40. Meanwhile FIA, vide their letter dated 08.02.2012 sought additional details/documents including copy of the financial model for furnishing their comments on the Consultation Paper.

1.41. Further, MoCA vide their letter dated 14.02.2012 informed the Authority that their comments will be furnished by the end of February,2012.

1.42. The Authority considered the requests made by FIA and observed that they had requested for certain documents which were already part of CP-32. FIA were accordingly, informed vide Authority's letter dated 14.02.2012. FIA were also informed that the financial model submitted by DIAL contained substantial confidential/commercially sensitive data, which had been redacted and that CP-32 gave alternative scenarios and their impact on the tariff determination for opinion by the stakeholders. FIA had also sought the minutes of the various meeting held by the Authority with DIAL. FIA were informed that convening of the meetings on tariff proposal was part of the process of considering and arriving at the tentative views in respect of the determination of tariff based on the information submitted by the airport operator. Further, they were also informed that the same did not contain any additional information that may be required for stakeholders to form their comments/ views contained in the CP-32, as the analysis workings etc had already been incorporated in the Consultation Paper.

1.43. As regards the correspondence regarding comments on CP-32 from MoCA, the Authority considered the same and extended the last date for submission of comments to 28.02.2012 vide Public Notice No.05/2011-12 dated 15.02.2012.

1.44. The comments received from the following stakeholders were uploaded on the Authority's website, vide Public Notice No.07/2011-12 dated 06.03.2012 and Public Notice No.08/2011-12 dated 14.03.2012 and Public Notice No. 1/2012-13 dated 12.04.2012 for the information of all concerned.

Central / State Government

1.44.1. Ministry of Civil Aviation (MoCA) #

Airport Operators & Associations

1.44.2. Association of Private Airport Operators(APAO)

1.44.3. Airports Council International (ACI)

1.44.4. Delhi International Airport Limited(DIAL)

1.44.5. Fraport

1.44.6. Mumbai International Airport Limited(MIAL)

Airlines & Associations

1.44.7. Air India #

1.44.8. Airlines Operators Committee (AOC)

1.44.9. Air France

1.44.10. Air Passenger Association of India (APAI)

1.44.11. Board of Airline Representatives in India (BAR(I))

1.44.12. British Airways(BA)

1.44.13. Cathay Pacific

1.44.14. Federation of Indian Airlines(FIA)

1.44.15. International Air Transport Association (IATA)

1.44.16. KLM Royal Dutch Airlines

1.44.17. Lufthansa

Cargo, Fuel Supply & Ground Handling Companies

1.44.18. Bharat Petroleum Corporation Limited (BPCL)

1.44.19. Hindustan Petroleum Corporation Limited (HPCL)

1.44.20. Indian Oil Corporation Limited(IOCL)

Apex Chambers of Commerce & Industry

1.44.21. Associated Chambers of Commerce and Industry of India (ASSOCHAM)

1.44.22. Federation of Indian Chambers of Commerce and Industry (FICCI)

1.44.23. Confederation of Indian Industry (CII)

Consumer Organisation

1.44.24. Consumer Unity & Trust Society (CUTS)

1.44.25. Voluntary Organization in Interest of Consumer Education (VOICE)

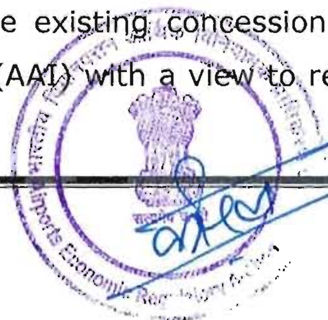
Uploaded vide Public Notice No.08/2011-12 dated 14.03.2012. Further, the report on the "Fair rate of Return on Equity for the Indian Airport Sector" prepared by the SBI Caps and forwarded by the MoCA has also been uploaded on the website vide Public Notice No.01/2012-13 dated 12.04.2012.

2. Summary of Stakeholder Comments on the Consultation Paper No.32/2011-12

2.1. In general the airlines and their associations have objected to the proposed tariff increase. In their view the proposed increase despite being a significant moderation (X=334%) from the higher increase proposed by DIAL (X=774%), would still have a severe impact on the viability of airline operations at IGI Airport, New Delhi. Air India have also opposed any increase in the Airport charges, DF etc proposed by DIAL or the reduced charges recommended by the Authority. Air India have also opposed the fee on arriving or transiting passengers. Air India have, in fact, recommended a reduction in the existing charges. IATA have stressed that the Authority must not allow such a quantum of increase in airport tariff to be loaded on the industry as it would make IGI Airport the most expensive airport in Asia, if not the world. Further, during the Stakeholder's Consultation meeting, representatives of most of the airlines submitted that the aeronautical tariff increase would hit the airlines directly, which would, in the event of such substantial increases, pass the burden on to passengers (by increasing airfares). The airlines stated that such massive tariff increases would force them to downsize operations at the IGIA therefore the dream of creating an international hub at IGIA would receive a setback and idle capacity may be envisaged.

2.2. IATA have submitted that while the proposed increase in tariffs (X=334%) is meant to produce a fair rate of return for the airport, the Authority must also ensure that the overall health of the industry is not adversely impacted as a result, which would necessitate the Authority to look beyond the financial computations and consider all possible measures to bring the tariff increase down to a level that can be readily absorbed by the industry. BAR(I) have endorsed the views of IATA that ICAO principle should be followed and there should not be any discrimination on the basis of distance for levy of Development Fee or Passenger Service Fee etc.

2.3. Cathay Pacific and IATA have also commented against the Hybrid Till model. IATA have in their submission stated that the Indian Government must seriously consider reviewing the existing concession agreement between DIAL and Airports Authority of India (AAI) with a view to reduce the quantum of tariff increase by:



2.3.1. Changing the regulatory approach to single till; and

2.3.2. Channelling the unjustifiably high 46% revenue share that AAI receives from DIAL towards offsetting the airport's aeronautical costs.

2.4. Air India in their submissions have stated that DIAL needs to follow the "Single Till approach" as the Authority in its regulatory approach has proposed. Further, they have also submitted that in the history of airport tariff increases, under AAI, there has never been such an exorbitant increase in tariffs; that the rates proposed by DIAL in the indicative rate card are prohibitively high that a holistic approach is required keeping in mind all the charges levied by DIAL; and that there is indeed a definite case for downward revision of all the charges proposed

2.5. FIA have also drawn attention to the proposed change in the rate of service tax from 10.3% to 12% - 16%.

2.6. APAI have agreed with the Authority on the way Aeronautical and non-aeronautical revenue have been arrived at. They have also stated that the funding gap does not have any meaning in a PPP project, as the Airport Developer has been given sufficient concessions and the consideration paid was not based on any market value of the land or the assets at the time of handing over. If one goes by the market value, the Airport operator would have paid 50 - 100 times more than what he paid in real terms and this point must be taken into account while determining any charges leviable on the users of the various facilities in the Airport.

2.7. ACI have requested and urged the Authority to consider the fact that the private airport operators entered into the concessions on the basis of the terms of the agreements signed by them. Any change in regulation contrary to the terms of the concession should be avoided as this would result in ambiguity for all the involved stakeholders. ACI have further submitted that

> *"Considering that India needs to attract private investment for the development of its airport infrastructure, we believe the right message should be sent in order to encourage private investments rather than raise concerns about the certainty of the regulatory environment."*

2.8. ASSOCHAM have stated that Airports are often perceived as more risky than other infrastructure sectors like power, ports, roads, etc. Aviation sector is cyclical in nature and the degree of severity or volatility in cash flows is higher. Therefore, return of airports should exceed the returns in other sectors like power, port, road etc. CII and FICCI have commented upon the CAPM methodology adopted by the Authority, the risk profile of the airport, the traffic growth projections assumed by the Authority, viability of the airport etc.

2.9. The MoCA, vide their letter No. No.AV.24032/4/2012-AD, dated 09.03.2012, received on 12.03.2012, on the subject Determination of aeronautical tariff in respect of IGIA, Delhi - Consultation Paper 32/2011-12, have observed as under:

> *"2. In this regard also refer to Section 13(1) (vi) of the AERA Act which provides that the Authority while determining the tariff for 'aeronautical service' shall, inter-alia, consider the concession offered by the Central Government in any agreement or memorandum of understanding or otherwise. The Authority has also reiterated that in the determination of tariff for individual airports, it will give due consideration to the extant concession agreements.*
>
> *3. In this connection, it is clarified that as per State Support Agreement entered with DIAL by Government of India, the agreement provides that the Base Airport Charges (i.e. Landing, Parking, Housing & X-Ray Baggage charges and Passenger Service Fee) have been stipulated as aeronautical charges. Cargo and Ground Handling Services have been stipulated as non-aeronautical services in Schedule 6 of Operation, Management and Development Agreement (OMDA) entered into with the JVCs by AAI.*
>
> *4. The AERA Act, 2008 provides that any service provided "for Ground Handling services relating to aircraft, passengers and cargo at an airport", "for the cargo facility at an airport"; are aeronautical services in terms of Section 2(a) and the tariff therefore has to be determined by the Authority in terms of Section 13(1) (a) of the Act. The nature of these services is clearly indicated as "aeronautical services".*

5. It is seen that Cargo and Ground Handling services are being treated as aeronautical services as per Section 2(a) of the AERA Act (Para 402 of the Consultation Paper). However, as per the Provision of OMDA and SSA, cargo and Ground Handling services are categorised as non- aeronautical and the revenues accruing from these services may be treated as non- aeronautical revenue.

6. AERA should adhere to the relevant provisions of the contractual agreements in the process of determination of tariff."

2.10. Further, vide their letter No. No.AV.24026/001/2009-AAI dated 09.03.2012, the MoCA have observed that the Authority has proposed a separate rebate mechanism as part of tariff to be prescribed as a penalty for not meeting the service standards in addition to those prescribed under the contractual Agreements in force. The MoCA have stated as under:

" 2. On perusal of the Paper, it is seen that vide Para 456 of the Paper, a separate rebate mechanism as part of tariff is proposed to be prescribed as a penalty for not meeting the service standards in addition to those prescribed under the contractual Agreements in force. Kind attention is also invited to sub-section (1) (d) of Section 13 of the AERA Act which stipulates that AERA is to monitor the set performance standards relating to quality, continuity and reliability of service, as may be specified by the Central Govt. or any Authority authorized by it in this behalf. Therefore, AERA can only monitor the set performance standards.

3. This Ministry has been asking AERA to indicate the proposed performance standards, and also forward the related draft Rules for notification. The response of AERA to the above is long awaited despite repeated reminders from this Ministry. It needs to be appreciated that in the absence of any Rules prescribing performance standards, it may not be justifiable to prescribe a separate rebate mechanism as part of tariff determination as has been proposed in the Consultation Paper. Under the statute, AERA clearly has not been mandated to impose additional quality parameters and penalties over and above those prescribed in the OMDA.

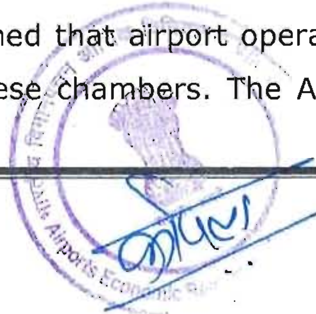
4. It is pertinent to mention that there is a provision under OMDA prescribing fixed objective and subjective service quality standards and also the mechanism of penalty and fines in the event of a failure by DIAL to meet such service quality standards. This Ministry had advised AERA vide its letters dated 04.01.2010 and 15.06.2011 to monitor the performance standards as prescribed in the Concession Agreement (for Hyderabad and Bangalore airports) and OMDA (for Delhi and Mumbai airports) entered into with respective JVCs.

5. In the light of above, AERA may re-consider its decision regarding separate rebate mechanism as part of tariff, as it is in non-conformity of the agreement entered into with the JVCs."

2.11. Further, MoCA, vide letter dated No.AV.24032/037/2011-AD dated 12.03.2012, on the subject of Regulatory Approach on Fair Rate of Return on Equity (RoE), forwarded a report of SBI Capital Markets Ltd. (SBI CAPS) about the return on equity, and have requested that *"the report may kindly be considered in taking decision in this regard"*. It is observed that AAI had got a study conducted through SBI CAPS which had opined that a return on equity in the range of 18.5% to 20.5% would be reasonable for airport sector in India. SBI Caps have in their report have also commented on the concept of Quasi Equity. On the issue of determination of the rate of return on Quasi Equity the report states that the rate of return would depend on the type and features of the instrument being used for such form of finance. The report further states:

"Quasi equity is also sometimes known as mezzanine finance. There are different instruments which are under the purview of mezzanine finance, though the common characteristics of all mezzanine finance instruments are that they offer, a risk/ return profile that lies above that of debt and below that of equity. It fills the gap between the senior debt and equity in the capital structure of the company."

2.12. As regards the detailed comments given by the FICCI, ASSOCHAM and CII, the Authority has noted that these Chambers have supported DIAL's proposal. The Authority is also informed that airport operators and some of the domestic airlines are members of these chambers. The Authority further notes



that the views of the FIA, the representative body of the Indian Domestic Airlines, are at variance with the views expressed by these Chambers.

2.13. The stakeholder responses were forwarded to DIAL for their comments/ views vide the Authority's letter dated 12.03.2012. DIAL vide their letter dated 27.03.2012, forwarded their comments on the observations made by the stake holders.

2.14. The Authority has carefully gone through the comments of the stakeholders. Its reasoned decisions on various issues are discussed in the following sections.

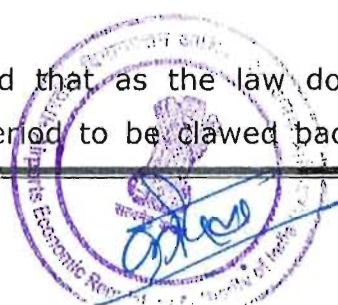
3. Regulatory period

3.1. In the Consultation Paper the Authority has proposed to agree with DIAL's proposal that the five year regulatory period may be considered from 01.04.2009 to 31.03.2014, i.e., in line with the normal Financial Year(s). However, the Authority had proposed that the quantum of increase would be different depending upon whether it is a onetime upfront increase (X=334.63%) or step wise/ staggered increase (X=148%). The Authority had also proposed that the recovery of the revised tariff may be contemplated with effect from 1st April, 2012 up to 31st March 2014, i.e., the end of the first regulatory period.

Stakeholder Comments

3.2. IATA have in their submissions stated that the power of the Authority to determine aeronautical tariffs was only granted from 01.09.2009 and as such, determining tariffs from 01.04.2009 would be exceeding the Authority's legal jurisdiction. IATA views that the Authority needs to observe this legal aspect and start the first regulatory cycle from 1 September 2009 and all related computations should be aligned to this legitimate commencement date. Additionally, IATA does not agree that the start of the regulatory period should be aligned to DIAL's normal financial year of 01.04.2009 for practical reasons alone and a deviation from the 03.05.2009 start date (indicated in the SSA) or the legitimate start date of 01.09.2009 as mentioned above would result in a higher clawback and hence a bigger quantum of tariff increase, which should be avoided.

3.3. IATA have also submitted that as the law does not disallow revenue shortfall from one regulatory period to be clawed back in the next regulatory



period, the Authority should consider spreading the clawback equally over a seven-year period.

3.4. BPCL have concurred with the proposal of the Authority that the 5 year regulatory period may be considered from 1st April 2009 to 31st March 2014 and the collection period should be w.e.f 01.04.2012.

3.5. DIAL have in their clarifications to the IATA's comments stated as under:

" The right to increase in the aeronautical charges had been granted to DIAL even prior to AERA Act, 2008 was enacted. The AERA Act has introduced a new procedure to determine the tariff, which DIAL was otherwise entitled to collect. The AERA Act is in the nature of providing new remedy for the enforcement of the existing right. Undoubtedly, the tariff determined by AERA will be recovered from the date after the AERA has assumed jurisdiction.

Under the SSA Schedule 6, the Regulator is empowered to set Aeronautical tariff starting from the <u>*fourth year*</u> *from the Effective Date (May 3rd 2006). This issue has already been addressed by the Authority in their Consultation Paper. The view expressed by the Authority is reproduced as under:*

"In view of the above, the Authority is of the opinion that it is more practicable to consider the regulatory period from 1st April 2009 to 31st March 2014, i.e., in line with the normal Financial Years(s) reckoned in the country."

If the regulatory period is made effective from May 3rd 2009, the same would entail significant additional exercise in respect of bifurcating revenues, cost, traffic nos. etc. between 1st April to May 2nd 2009 as one period and post May 3rd 2009 period as second period. This will lead to unnecessary complication in the overall tariff determination with no material and tangible benefit.

In light of the above facts, we do not concur with the IATA views in this regard and accept the stand taken by the Authority."

3.6. Further in respect of IATA's comments that the Authority should consider spreading the clawback equally over a seven-year period, DIAL have submitted as under:

" This issue has to be seen from two points of view:

(1) the legal position in this regard; and
(2) The ability of DIAL to operate in a viable manner.

The Authority has addressed the legal position in its consultation paper and hence we have no comment to offer on this aspect.

On the second point, Section 13(1) (4) of the AERA Act lays down as under:

(1) The Authority shall perform the following functions in respect of major airports, namely: —

(a) to determine the tariff for the aeronautical services taking into consideration..............

(iv) economic and viable operation of major airports;

As such the Authority has to ensure the economic viability of IGI Airport. Even at the proposed increase of 334%, DIAL will not be viable so the proposal of elongating the control period will not be feasible.

DIAL had earlier submitted a proposal for elongating the control period from 5 year to 7.5 years when the level of tariff increase was 775%. At that increase, the projected profitability and cash flow permitted (keeping our debt covenants in mind) an extension in the control period to 7.5 years.

However, at the current proposed increase of 334%, even on a one time increase, DIAL will not be able to meet its debt covenants under the financing agreements ***(Refer to the cash flow position in Appendix A to C)****. On a step up basis the position is expected to further worsen leading to DIAL being in a position of serious default and being unable to carry out operations in a viable and liquid manner. Therefore we disagree with the point made by IATA and earnestly and strongly urge the Authority not to accept this suggestion. We have already also requested the Authority to consider a one - time increase and not a step up increase owing to the aforesaid constrains."*

Authority's Examination

3.7. The Authority has noted that SSA had envisaged the creation of an independent economic regulator to determine tariffs from the commencement of

the fourth year (4th) after the Effective Date (03.05.2006). Further, the AERA Act 2008 envisages that the Authority shall determine the tariff once in 5 years, indicating a control period of 5 years. Therefore, the Authority has determined the tariff for the control period of five years and determined the 'X' factor for the same..

3.8. Even examining the issue raised by IATA (as they seem to stem from a narrow technical point of view), the Authority is unable to persuade itself to accept IATA's view point. The Authority is determining tariffs for IGI Airport in April 2012, i.e., much after the provisions of Section 13 of the Act have come into effect. While so determining the tariffs, the period prior to 01.09.2009 (i.e., 01.04.2009 to 31.08.2009) is being taken into consideration in accordance with the provisions of the SSA which is a requirement of Section 13 of the Act. The Authority had taken a similar view in its Order No.06/2010 dated 26.10.2010 regarding determination of UDF for RGI airport, Hyderabad. This Order of the Authority has not been challenged by any of the stakeholders, including IATA, even though IATA had raised a similar objection in that case as well.

3.9. The Authority had proposed that the first regulatory period may be reckoned from 01.04.2009 to 31.03.2014 and recovery of the revised tariff may be contemplated with effect from 01.04.2012 to 31.03.2014, after taking into consideration the provisions of Section 13 (2) of the Act which is also consistent with provisions of the SSA.

3.10. The Authority has after considering the provisions of the Act and the SSA and also the issues in data segregation and analyses, decided that in view of the requirement of audited figures it should consider the regulatory period from 01.04.2009 to 31.03.2014, i.e., in line with the normal Financial Years(s) reckoned in the country (instead of 03.05.2009 to 02.05.2014).

3.11. The Authority is aware of the fact that it was established on 12.5.2009 and the relevant provisions of the AERA Act came into effect only from 01.09.2009. However, as per the provisions of the SSA, the tariff was to be determined in respect of DIAL w.e.f. the commencement of 4th year from the effective date i.e., 03.05.2006. Hence, the Authority has decided to determine the tariffs from 01.04.2009 as the beginning of the control period.

Decision No. 1. Decision on Regulatory Period

> **1.a. The Authority decided to determine tariffs in respect of IGI Airport, New Delhi for the 5 year control period starting from 01.04.2009.**

4. Tariff Determination methodology

4.1. The Authority noted that some stakeholders have raised the issue regarding the Shared till Inflation-X Price Cap Model followed by the Authority to determine aeronautical tariffs in case of DIAL and have instead suggested that Single Till methodology - as adopted by the Authority in its Regulatory Philosophy and approach for major airports, be applied in case of DIAL also. However, it was observed that none of the stakeholders have stated any reason for adoption of Single till mechanism except for the fact that the proposed increase in tariffs is high and the airlines industry may not be in a position to absorb the same; that the condition of entire aviation industry be kept in view while fixing aeronautical tariffs for DIAL.

4.2. In this regard, as already explained in the CP-32, the Authority had considered all the relevant factors - including Section 13(1) (a) of the AERA Act as well as the concessions offered to DIAL by the Central Government and accordingly proposed adoption of the Shared till Inflation - X Price Cap Model for determination of aeronautical tariffs. In view of the provisions of the AERA Act and stated position in CP-32, the Authority is not persuaded accept the view regarding adoption of Single till methodology for determination of aeronautical tariffs in respect of IGI Airport, Delhi.

Decision No. 2. Decision on Tariff Determination Methodology

> **2.a. The Authority decided to determine aeronautical tariffs in respect of IGI Airport, Delhi on the basis of Shared Till Inflation - X Price Cap Model, in line with the SSA and as was proposed in the CP-32.**

5. Project Cost and Regulatory Asset Base

5.1. In the Consultation paper, the Authority had proposed that the allowable project cost of Rs.12502.86 crore (including costs not incurred as on

31.03.2010), be considered as base figure for the purpose of determining DIAL's RAB for the aeronautical tariff determination.

5.2. The Authority had also proposed that the New ATC Tower would not be used by DIAL for provision of any aeronautical service that need to be considered under the present multi-year tariff determination and though its cost of Rs.350 crore had been considered as part of the total project cost for the purposes of DF levy, the same was proposed to be excluded from the capital expenditure/RAB estimates for the purpose of determination of tariffs for aeronautical services provided by DIAL.(Para 81 to 84 of the Consultation Paper).

5.3. The Authority had finally proposed the RAB indicated at in para 167 of the CP-32 for analysis and determination of tariff for aeronautical services, which was arrived at after appropriate adjustments/ disallowances to the RAB as indicated in para 96 of the CP based on figures duly certified by DIAL's Auditors.

Stakeholder Comments

5.4. Cathay Pacific have referred to the cost of the project and stated the same had increased dramatically by 42% compared with the initial estimate of Rs 8,975 crore in December, 2007, reflecting poor control of costs. They have stated that all cost overruns cannot be passed onto the asset base for direct recovery from users; otherwise the incentive to control cost will be lost.

5.5. British Airways have stated that it is best practice for constructive consultation with the airlines on airport projects at their inception to ensure that they are seen as offering a value added opportunity for the airlines and that there is the ability to cover the costs. This has evidently not been the case and the necessity for these huge increases appears to have been caused by an initial inaccurate business case on project costs, an over optimistic forecast on passenger growth, and no constructive consultation with the airlines at the planning stage. The current proposal suggests that the airlines should pay for both the overrun of project costs, an infrastructure that is not in keeping with the passenger figures and indeed for some ground transport infrastructure outside the airport. This is against a background of no constructive engagements with the airlines before project implementation to ensure that there was a win-win situation for both airlines and the airport.

5.6. FIA, have stated that the Consultation Paper does not, at present, prudently examine or explain the reasons for accepting escalation of project cost from Rs.8,975 crore (projected by DIAL to the MoCA in October 2009) to Rs. 12,857 crore (submitted by DIAL on 31.03.2010) contrary to the explicit embargo in Clause 3.1.2 of the SSA.

5.7. CUTS have stated that it was not clear as to how the project cost increased substantially despite DIALs repeated claims of timely completion of the project. Such massive cost over-runs are invariably associated with time over-runs.

5.8. DIAL have submitted that the current Consultation Paper is in respect of tariffs at IGI Airport and not with respect to the project cost which has already been w.r.t to the Project Cost which has already been dealt with and approved by the Authority vide Order No. 28. Further DIAL have stated that "*However, for the sake of clarity, the current capex programe was carried out strictly in accordance with the requirement laid down in OMDA. The Mandatory Capital Projects executed by DIAL have been defined in Schedule 7 of OMDA. Therefore, DIAL has adhered to the requirements and timelines as set out under OMDA.*"

Authority's Examination

5.9. The Authority has carefully considered the stakeholder comments summarized in paras 5.4 to 5.8 above. It is observed that the Authority had considered the matter in great detail as a part of consideration of DIAL's proposal to levy DF which culminated in the Order No.28/2011-12 dated 14.11.2011. To recapitulate briefly, the project cost estimates submitted by DIAL were got audited through independent auditors namely, EIL & KPMG. The results of audit were examined in consultation with MoCA and AAI. The matter was thereafter placed for stakeholder consultation in April, 2011. The Authority notes that several stakeholders, including the present respondents, had commented extensively in the matter. The Authority had after careful consideration of all facts and submissions passed the aforesaid Order No. 28/2011-12. The Authority arrived at the allowable project cost, i.e., Rs. 11801.86 crore (at Stage I and Rs. 12502.86 crore at Stage 2) based on the reasons recorded in the DF order. The Authority also notes that some organizations, including DIAL and Consumer Online Foundation (COF), have gone in appeal against the DF order on various grounds in different appellate

and judicial fora, like the Hon'ble Appellate Tribunal (AERAAT) and the Hon'ble Delhi High Court. Thus, the matter being sub-judice, the Authority does not wish to comment on the different points raised by the stakeholders pertaining to and flowing from the DF order and wishes to emphasise that the points made by different stakeholders during the consultation process in the determination of DF were appropriately addressed by the Authority while passing the said Order. In this light, the Authority does not propose to revisit the project cost in the current exercise of tariff determination except what may become necessary as a result of the final outcome of the appeals.

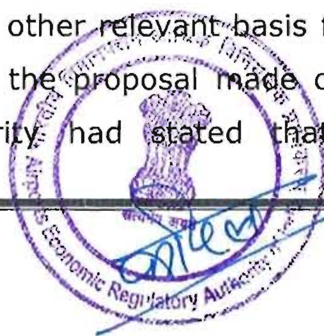
5.10. In view of the above, the Authority has decided that it will proceed with the project cost of 12,502.86 crore for the determination of aeronautical tariff at IGI Airport New Delhi and Development Fee of Rs. 3415.35 crore both at Stage 1 and 2.

Decision No. 3. Decision on RAB and Project Cost

3.a. The Authority decided that it will reckon the project cost of Rs.12502.86 crore as the basis for the determination of RAB. The amount of Rs.3415.35 crore (including both at stage 1 and stage 2, vide Order No.28/2011-12 dated 14.11.2011) collected or to be collected as Development Fee would not be included in RAB.

6. Allocation between Aeronautical and Non-Aeronautical Assets

6.1. In the Consultation Paper, the Authority has noted that allocation of the airport assets in to Aeronautical or Non-Aeronautical categories is important as in a shared till model, as is the case in determination of tariff for IGI Airport, the cost and assets are to be allocated for determining the target revenue over the regulatory period (para 116 of CP 32). Further, in the current determination, only 2 years of the regulatory period are left. Thus, a very short time was available with the Authority to commission an independent analysis of the allocation, and the resultant aeronautical and non-aeronautical assets. In view of these, in the absence of any other relevant basis for allocation, the Authority proposed, presently, to accept the proposal made on the basis of the Jacobs' Report. However, the Authority had stated that it may commission an



independent study in this regard and upon analysis/ examination pursuant to such study, if the Authority concludes that the allocation mix herein and costs needed to be changed, it will consider truing up the allocation mix and costs at the beginning of the next regulatory control period. Further, if any excess revenue had accrued to DIAL, in view of the present approach, the same shall be clawed back.

Stakeholder Comments

6.2. Cathay Pacific have submitted that while the Authority have acknowledged the need for an independent analysis of the allocation but chose to defer such a study due to limitation of time, they believe this is an important item that must be given the analysis that it warrants and deferring such an analysis is not appropriate.

6.3. FIA have stated that the Authority has not applied its mind but indiscriminately left it for future in the garb of truing up exercise during next control period. AOC have stated that the areas and costs falling under aeronautical and non aeronautical expenses have not been explicitly clarified.

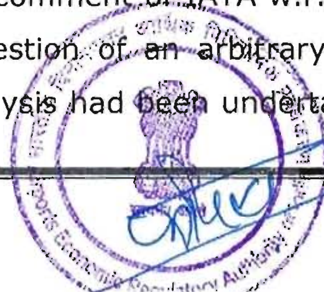
6.4. IATA have expressed concerns in relation to the results of the RAB allocation process carried out by DIAL. They have submitted that under a hybrid or dual till approach, a higher allocation of assets towards the regulated (aeronautical) category as opposed to the non-regulated category is more beneficial to the airport as it will increase the airport's level of profits. Therefore, an airport has the perverse incentive to allocate the highest possible amount of assets to the aeronautical category. They have further submitted that available data from European airports shows that the proportion of assets allocated to the aeronautical category averages around 70%. DIAL's allocation of 90% of its assets to the aeronautical category is arbitrary and significantly higher than the norm observed at these airports and the same is clearly biased and should not be accepted at face value. IATA is of the strong view that a passenger at an airport is equally a potential customer of the retail shops at the airport or the target of advertising signage installed at the airport premises. IATA have stated that modern airports are purposefully designed such that walkways are very much used to channel passengers by and through retail spaces and also by wall advertising billboards and signage that generate non-aeronautical revenue. In view of that and in the absence of an objective rationale to allocate assets or

opex, IATA have proposed that the allocation to aeronautical and non-aeronautical groups be based on a 50:50 split. IATA have submitted that there is clearly a need for an independent review of the airport's asset allocation practices (principles and the implementation of those principles) and have requested the Authority to carry out this exercise as soon as possible. Pending this, IATA have submitted that the Authority should use a 50:50 split to allocate assets and opex to the aeronautical and non-aeronautical groups.

6.5. DIAL have in their clarification to recapitulated the process adopted by their Consultant (M/s Jacobs Consultancy (Aviation consultants)) for carrying out an independent allocation exercise in line with the provisions of OMDA. In response to FIA's comments, DIAL have stated that the Authority has already critically analyzed all aspects of allocation and carried out a rigorous analysis of each and every building block aggregating to the Net Target Revenue. However, the Authority in its consultation paper has just kept right of review if found necessary.

6.6. DIAL have stated that the methodology adopted by them for allocation is the same as used in many European airports which are regulated on Dual/Hybrid till. Further, they have also stated that it is incorrect for IATA to compare allocation percentages on a broad brush basis without getting into details. Allocation exercise is an airport specific exercise, the outcome of which may differ from airport to airport due to various underlying factors like some airports may be investing more in non-aeronautical assets like retail, hotels etc. DIAL have submitted that in their case, a significant portion of the non-aeronautical activities have been outsourced and as such they are not part of the RAB and that they have not invested in creation of any Non-Aero capex like Multi Level Car Parking, Cargo terminal etc and that the retail area in DIAL is much lower than the other international airports where retail areas can be as high as 20-25%. Therefore comparing the allocation % of Delhi airport vis-vis European airports does not seem logical. Further, there is a variation in the percentage of Aeronautical assets across various airports as reported by IATA as well and the same is visible in the example quoted in IATA's response.

6.7. DIAL have refuted the comment of IATA w.r.t allocation methodology and have also rejected the suggestion of an arbitrary allocation mix, it has been reiterated that a detailed analysis had been undertaken through an independent



consultant for working out the allocation. In light of the aforesaid explanation on the allocation and the methodology followed, DIAL have requested the Authority not to consider IATA's suggestion of 50:50 split which has been made out of context and was arbitrary without any knowledge of facts.

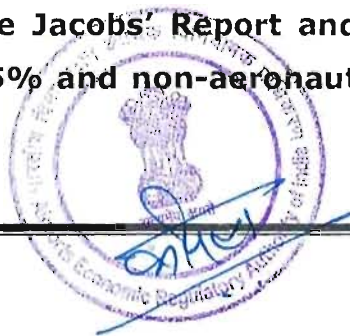
Authority's Examination

6.8. The Authority notes that IATA have at least implicitly appreciated the constraints indicated in para 6.4 above but have suggested a allocation mix of 50:50 in the interim. It is observed that IATA have not supported the proposed mix of 50:50 on any precedent or independent study. Further, IATA have stated a mix of 70:30 in case of European airports but have not justified as to how the mix in case of DIAL should be lower at 50:50.

6.9. The Authority has already noted and highlighted in the CP No. 32/2011-12 that allocation of assets is an important step for determination of RAB in a shared till situation. However, keeping in view the paucity of time it had then proposed, for the present, to accept the allocation suggested by DIAL on the basis of study conducted by Jacobs. Further, the Authority has now decided to commission an independent study regarding allocation of assets. If upon analysis/examination pursuant to such study it was concluded that the allocation and costs mix considered herein needed to be changed, it has decided to consider truing up the allocation mix and costs at the beginning of the next regulatory control period. While taking this view, the Authority is also conscious of the fact that any delay in the tariff determination would not be in the best interest of the stakeholders as it would only increase the gap between revenue requirement and actual revenue earned thereby pushing the hike required to bridge that gap further upwards. It therefore does not agree to defer the tariff determination till such study is completed.

Decision No. 4. Decision on Allocation of Assets

4.a. The Authority decided to, for the present in the absence of any other relevant basis for allocation, accept the proposal made by DIAL on the basis of the Jacobs' Report and take the aeronautical asset allocation as 89.25% and non-aeronautical asset allocation as 10.75%.



4.b. The Authority also decided that it will commission an independent study in this behalf and would take corrective action, as may be necessary, at the commencement of the next control period from 01.04.2014.

Truing Up: 1. Correction / Truing up for Decision No. 4

1.a. Upon analysis/examination pursuant to such a study, the Authority may conclude that the allocation of assets considered needs to be changed. In such a case the Authority would consider truing up the allocation mix at the commencement of the next control period.

7. Correcting the Asset Allocation Mix (on account of DF Disallowances)

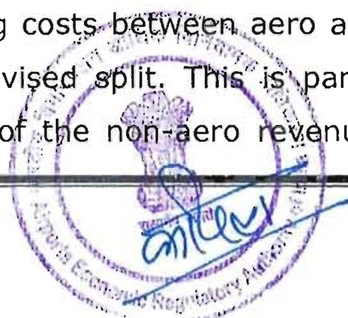
7.1. The Authority had, at the consultation stage, proposed that the disallowance in Gross Floor Area (GFA) of Terminal-3 (T3) may not necessarily result in a change in the allocation percentage towards aeronautical and non-aeronautical assets and proposed to go by the initial allocation of 89.25% for aeronautical assets and accepted the revised year-wise monetization of DF and update the RAB accordingly. In line with the exclusions from RAB amounting to a total of Rs.204.14 crore, the sources of finance corresponding to such assets were also proposed to be reduced for the purpose of determination of WACC.

Stakeholder Comments

7.2. IATA, ACI, ASSOCHAM and DIAL in their responses have not agreed to the treatment proposed by the Authority.

7.3. IATA have agreed to the Authority's proposal for considering the revenue from area disallowed.

7.4. ASSOCHAM have submitted that the disallowance should ideally have resulted in a change in the asset mix (aero vs. non-aero) which is used to allocate the operating expenses and as this capex was on non-aero assets, any disallowance would increase the asset mix in favour of aero assets. It logically follows that the split of operating costs between aero and non-aero should also be done on the basis of this revised split. This is particularly significant in a hybrid-till regime where a part of the non-aero revenues is used to subsidize



aero operations. ASSOCHAM have recommended taking the revised asset mix for operating cost allocation purposes as well.

7.5. ACI have stated that certain capex was disallowed bringing down the approved project cost and this disallowance should ideally have resulted in a change in the asset mix (aero vs. non-aero) which is used to allocate the operating expenses. Further, as this capex was on non-aero assets, any disallowance would increase the asset mix in favour of aero assets. Hence the split of operating costs between aero and non-aero should also be done on the basis of this revised split, which is particularly significant in a hybrid-till regime where a part of the non-aero revenues is used to subsidize aero operations.

7.6. DIAL have stated that the position taken by the Authority, of not considering the excluded area, has resulted in a change in the area allocation for Terminal 3 by 1.75%. The sequential impact on the mixed asset pertaining to Terminal 3 would also undergo change and therefore change to the overall RAB. DIAL have submitted that the Authority has not acknowledged the resultant impact on area allocation with respect of Excluded Area in Terminal 3 and have requested the Authority to reconsider its proposed position, in light of the aforementioned facts and adopt the revised asset mix.

7.7. In support of their stand DIAL have also submitted a copy of the Opinion of Prof.Martin Cave, Deputy Chairman of the UK Competition Commission and visiting professor at Imperial College Business School which is reproduced hereunder:

> *"The RAB should reflect the actual capital expenditure incurred by DIAL during the redevelopment of the airport. As such, AERA should not apply the same disallowances as adopted in the DF Determination, which relied on benchmarking and estimates from EIL, and should instead give weight to the actual cost figures provided by DIAL.*
>
> *AERA should exempt the Excluded Area, from which DIAL is already prevented from recovering its proper economic costs, from the pool of revenue share assets considered for the purpose of setting the cross-subsidy from non-aeronautical revenues.*

Should AERA apply the same disallowances as adopted in the DF Determination to the determination of the RAB, then it must update the division of aeronautical and non-aeronautical assets consistently and in a manner which reflects the final allocation of assets."

Authority's Examination

7.8. The Authority has observed that the asset allocation is based on the use of dual-use or mixed-use assets between aeronautical and non-aeronautical categories.

7.9. The Authority has taken into account the aeronautical and non-aeronautical Asset Allocation Mix Ratio at 89.25%:10.75%, as indicated by DIAL in its submissions. This asset allocation ratio is on the assets actually built by DIAL in the total project cost of Rs.12,857 crore. The Authority after certain disallowances, has allowed an amount of Rs.12,502.86 crore for the purposes of determination of DF.

7.10. It is observed that the disallowance in project cost, considered and ordered in the DF order, were based on the facts that those assets – for which the costs were disallowed – were not required to be built. In other words, these were constructions/assets which were over and above the requirement in respect of the airport project. The Authority has, therefore, disallowed the costs incurred in creation/construction of such assets from the allowable project cost. However, the fact remains that these assets have been created and are being used by the airport operator. The allocation percentage is based on the use (i.e., dual use or mixed use) that the underlying asset is put to by the airport operator – irrespective of the fact whether it was required to be built or is in excess of what was required to be built. Further, the Authority has neither prohibited the airport operator from utilising such assets nor was the airport operator asked to decommission such assets. Thus, the final asset allocation mix for the airport has to be calculated based on the actual assets on ground – as even those assets, where cost was disallowed for the purpose of calculating allowable project cost, are being used/exploited by the airport operator for aeronautical/non-aeronautical purposes.

7.11. Hence, the mere fact of disallowance does not impact the real asset allocation on ground. Accordingly, the Authority has determined the RAB for the completed project as a whole. For different years of the control period,

however, this value was different depending on the allowable assets actually commissioned. Thus, it would not be correct to change the asset allocation. Authority has used this percentage to calculate the aeronautical part of RAB.

Decision No. 5. Decision on the Asset Allocation Mix (on account of DF Disallowances)

5.a. The Authority decided not to alter the asset allocation from what was proposed in the Consultation Paper on account of DF Disallowances and to consider the asset allocation as was proposed in the Consultation Paper i.e., 89.25% for aeronautical assets.

8. Deposit for Metro Rail

8.1. In the Consultation Paper, the Authority had observed that the project cost of DIAL includes an amount of Rs.350 crore towards the funding for metro connectivity to IGI Airport (para 127 of CP-32). This deposit was made by DIAL in terms of an explicit decision of the GoI, i.e., the then regulator, classifying it as an "Aeronautical Asset". Hence, the Authority had proposed to include the grant of Rs.350 crore, made by DIAL to DMRC, towards aeronautical assets for the purpose of tariff determination.

Stakeholder Comments

8.2. AOC, Cathay Pacific, FIA, IATA, APA and CUTS are not in agreement with the proposal to include the cost of Rs.350 crore paid by DIAL to DMRC towards aeronautical assets for the purpose of tariff determination. FIA have stated that the MoCA's letter dated 01.11.2007 cannot be construed as a direction under Section 42 of the Act. CUTS have stated that allowing Rs350 crore on account of cost of Delhi Metro as a part of aeronautical asset on the basis of MoCA's letter (prior to AERA coming into existence) should be reconsidered under section 42 of the AERA Act. APAI have commented on the same lines.

8.3. IATA have stated that the deposit for Metro Rail is unrelated to the creation of an aeronautical asset and should not be accepted towards aeronautical assets and have strongly opposed the Authority's tentative view to accept the deposit for Metro Rail towards aeronautical assets on the basis that it did not want to differ from an earlier decision by the Indian government. Further IATA have stated that the consequences of doing this are serious –

8.3.1. Airport users and consumers would be unfairly required to pay for costs that are unrelated to aeronautical services that they consume at the airport; and

8.3.2. This sets a very damaging precedent which would blur the classification of aeronautical assets and open the floodgates for inclusion of other dubious capital spending that is unrelated to aeronautical assets.

8.4. DIAL have in their clarifications to the stakeholder comments submitted that the contribution of Rs.350 Crore is not a refundable deposit and that the investment into airport metro express has greatly benefitted the passenger and the staff of the airport. Approx. 25,000 persons per day are currently commuting by Airport Metro express which has brought significant convenience and saving in commuting charges to the users of the airport. This mode of transport is also environment friendly and as such good for the overall airport eco-system. Metro connectivity was also envisaged in the Master Plan. They have further stated that :

> " *DIAL has paid the an amount of Rs. 350 Crore for its contribution for the Airport Metro Express* *in compliance of the decision taken by Empowered Group of Ministers, Government of India* *in their meeting held on April 17th 2007 and communicated to us by MoCA vide letter dated May 25th 2007.*
>
> *MoCA vide their letter dated November 1st 2007 while clarifying other issues also stated that the payment of Rs. 350 Crore shall be classified as "Aero Asset".*
>
> *Further, Schedule 5 related to Aeronautical Services of OMDA* *also categories investments in such assets as Aeronautical. The relevant extract is reproduced hereunder:*
>
> *"the movement of staff and passengers and their inter change between all modes of transport at the Airport."*
>
> *Internationally* *also, passenger connectivity initiatives are treated as aero and there are examples where investment in rail link to the airport have been considered as part of RAB. In UK, the Heathrow Express which is the Metro rail for Heathrow Airport is part of RAB of Heathrow Airport, London for tariff purposes.*
>
> *Based on the above facts, the inclusion of metro cost as part of RAB is well justified and in line with Government directive and the provisions of OMDA. As such the suggestion made by AOC is without the correct understanding of the subject and needs to be rejected."*

Authority's Examination

8.5. Authority has carefully examined the comments of the stakeholders.

8.6. It is observed that MoCA, vide aforementioned letter dated 01.11.2007, had allowed DIAL to grant Rs.350 crore towards funding the project executed by Delhi Metro Rail Corporation (DMRC). It is nobody's contention that the decision communicated therein is a direction under Section 42 of the AERA Act. However, cost has been incurred entirely in accordance with the directions given by the Government to DIAL. It is also not in doubt that the Metro Rail has improved connectively to the airport, which is in the interests of passengers and other stakeholders. At the same time, DIAL's contention that Metro rail has to be treated as an aero asset of IGI airport is weak in as much as the Metro rail is not for "the movement of staff and their inter change between all modes of transport at the airport" but it is for movement to and from the airport. Thus, on the balance, the Authority considers this to be a cost relevant to the airport project and does not consider it appropriate to reopen an issue which was concluded at the directions of the Central Government much before the commencement of the subject regulatory period.

Decision No. 6. Decision on Deposit for Metro Rail

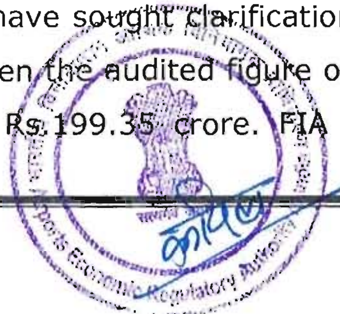
6.a. The Authority decided to include the grant of Rs.350 crore by DIAL to DMRC in the RAB for the purpose of tariff determination.

9. Voluntary Retirement Scheme (VRS) - Treatment of payments made to AAI

9.1. In the Consultation Paper, the Authority had proposed to expense out the actual amount paid to AAI as on 30.09.2011 as well as the amount that will be payable till 31.03.2014, i.e., the end of the control period. This amount came to Rs.199.35 crore. The Authority had proposed in the Consultation Paper that it will not capitalise this amount.

Stakeholder Comments

9.2. AOC, Cathay Pacific, FIA have sought clarification on the treatment of the VRS and for reconciliation between the audited figure of Rs.288.80 crore and the paid/payable figure of DIAL of Rs.199.35 crore. FIA have submitted that the



approach in VRS treatment is far from clear and AAI's invoices for future period has not been questioned.

9.3. IATA agrees with the Authority's proposal to treat the VRS liability as operating expenditure.

9.4. APAO have in their submissions stated that as per Accounting Standard 10, cost related to bringing an asset to its working condition can be treated as part of capital expenditure and in the current scenario, DIAL could not have obtained the concession rights for IGIA without accepting the obligation of VRS. Hence such payments may be treated as cost related to bringing an asset to its working condition. In response to the Authority's argument that VRS payments are staggered and hence amortizing such expenses would not be prudent, APAO have referred to the Interest during Construction (IDC), which is also generally paid to lenders every quarter (or similar periodicity), but is capitalized and depreciated and have requested the Authority to consider capitalizing VRS as a part of the RAB.

9.5. DIAL have in their submissions accepted the Authority's proposal of treating VRS payments as operating cost in lieu of amortization as proposed by them and have also clarified that VRS monetization referred by the Authority over the concession period is for period of 60 years (and not 30 as mentioned in CP-32)

9.6. Further, in their clarifications to AOC, FIA and Cathay Pacific's comments, DIAL have submitted as under:

> *"VRS liability of Rs. 288.80 Crore has been certified by our statutory auditors. The figure of Rs. 151.10 Crore is the amount paid by DIAL to AAI upto September 30th 2011 duly certified by the auditors. The balance amount is being paid to AAI as per the agreed schedule with AAI. These amounts have already been reconciled by the Authority.*
>
> *As regards to balance amount, the same has not been included as part of RAB since the Authority is treating this as revenue expenditure (as and when paid)."*

Authority's examination

9.7. In the Consultation Paper the Authority had proposed that an amount of Rs.199.35 crore may be expensed out as opex, as this payment was HR related,

after allocating it to aero costs on overall weighted ratio and accordingly, the proposal of DIAL to include the amount of Rs.213.68 crore, may not be agreed to.

9.8. The Authority noted the comments of the stakeholders and observed that:

9.8.1. total liability of DIAL - Rs. 288.80 crore.

9.8.2. liability during current control period (2009-10 to 2013-14) - Rs.199.35 crore

9.8.3. Amount paid by DIAL upto 30.09.2011 Rs.151.10 crore

9.8.4. Balance payable by DIAL in the current control period - Rs. 49.25 crore

9.9. Further, it observed that these costs are related to human resources and are being paid by DIAL to AAI in a staggered manner. The payments to AAI are to provide for retirement compensation of those personnel who opted not to join DIAL and reverted to AAI. Hence, these payments are more in the nature of costs associated with staff matters under the concession agreements. Further, these costs do not build any additional assets. Hence, this is an expenditure which cannot be capitalised. The mechanism cannot alter the nature of the payment, i.e., an expenditure that needs to be expensed out based the actual payments made by DIAL, as certified by the Auditors.

Decision No. 7. Decision on VRS Payments made to AAI

7.a. The Authority decided to expense out the actual amount that is paid or will be paid by DIAL during the control period (i.e., Rs.199.35 crore, as may be verified by the Authority) instead of capitalising the same.

10. Future Capital Expenditure and Future Maintenance Capital Expenditure

10.1. In the Consultation Paper, the Authority had proposed that, at present, there is no basis for it to consider DIAL's projected future Capex of Rs.230 Crore from FY 2011-12 to FY 2013-14. As regards the maintenance capex, on the basis of justification submitted by DIAL, the Authority had proposed to consider only the maintenance capex of Rs.127.78 crore during 2011-12 and 2012-13

(Rs.48.86 and Rs.78.92 crore respectively). In respect of 2013-14 figures, the Authority proposed not to consider the maintenance capex in the absence of any justification. However, the Authority had noted that it is conscious of the fact that for a project of this size it would not be realistic to assume a zero maintenance capex in any year and in case DIAL, during the stakeholder consultation, is able to substantiate/ justify the proposed capex, the Authority may be inclined to consider the same favourably.

Stakeholder Comments

10.2. AOC have agreed with the Authority that in absence of justification, Capex should not be considered as part of RAB for tariff determination. Further, on zero maintenance Capex in any year, AOC is also of the view that it does not stand to logic and is not realistic to maintain zero maintenance in any year.

10.3. Cathay Pacific have stated that the details of these expenses proposed by DIAL and allowed by the Authority should be clearly explained to the airlines.

10.4. IATA have supported the Authority's decision and stated that no capital expenditure should be allowed if it has not been duly consulted with airport users. Further, IATA has proposed that if during the regulatory period, there is agreement between the airport and users for such capital expenditure, then the same be amended through a RAB adjustment in the following regulatory period. In respect of the maintenance expenditure proposed in the Consultation paper IATA have supported the Authority's proposal to disallow maintenance capital expenditure for 2013-14 (until there is proper justification and consultation with users) and to disallow any capital expenditure related to non-aeronautical assets.

10.5. In their response to the Consultation Paper, DIAL have stated that they had submitted to the Authority details of Maintenance Capex of Rs. 64.79 Crore and Rs. 78.92 Crore for the years 2011-12 and 2012-13 respectively. However Authority has considered Rs.48.86 Crore and Rs.78.92 Crore for the respective years.

10.6. In response to the Consultation Paper, DIAL have submitted the details of Maintenance Capex for the FY 2013-14 and Future Capex for years FY 2011-12, FY 2012-13 and FY 2013-14 as under:

Table 2: DIAL's Future and Maintenance Capex

Future and Maintenance Capex (Rs in Crore)	2011-12	2012-13	2013-14
Submitted by DIAL	93.08	180.83	200.26
Considered by the Authority in the CP	48.86	78.92	-
Difference	44.22	101.91	200.26
Capex details now submitted by DIAL in response to CP-32	65.77	97.88	366.63

Table 3: DIAL's Summary of Future Capital Expenditure and Maintenance Capital Expenditure

Summary of Capex FY 2011-12			
S.No	Description	Total Amount in Crs.	Remarks
1	Major Projects	39.46	Improve operational efficiency by providing more apron stands; Link taxiway from above aprons to main taxiway; Creating a vocational training centre for providing training to various workers to improve skill sets required for smooth operation/ maintenance of airport
2	Modification of TID for enabling international operation	9.3	Modification works to enable conversion of TID into an international terminal for low cost carriers. Work involved segregation required for both domestic and international operations
3	Strategic Capex	2.65	Various works required for improvement of efficiency / comfort to passengers as well as energy conservation etc of airport. Details against individual projects provided
4	Finishes	14.35	Improvement works to signage's, finishing works based on comments from various stake holders to enable passenger convenience, safety etc.
	Grand Total	65.76	

Summary of Capex for FY 2012-13			
S.No.	Department /Cost Centre	Total Amount in Crs	Remarks
(A)			
1	Airside- Civil	32.04	Works proposed by individual departments for improvement of efficiency of operations, up keep of service quality standards, passenger convenience etc. All are aero related works.
2	AOCC	0.03	
3	ARFF	2.56	
4	Aviation SVC	0.19	
5	COO Office	0.66	
6	Corp Comm	0.08	
7	Environment Total	0.38	

Summary of Capex for FY 2012-13			
S.No.	Department /Cost Centre	Total Amount in Crs	Remarks
8	IT	22.57	
9	Safety	0.02	
10	Security	2.40	
11	SPG	1.38	
12	Terminal 1 OPS	0.01	
13	Terminal 3 OPS	0.99	
	Sub Total	63.30	
1	Strategic initiatives	14.58	Works to improve operational efficiency energy conservation so as to reduce overall operational costs.
2	Zero Tolerance	20.01	Implementation of redundancies in the electrical system to prevent power failures at airport.
	Grand Total (A+B+C)	97.88	

Summary of Capex FY 2013-14		
S.No	Total Amount in Crs.	Remarks
1	366.63	Works in respect of - 7th Check in Island work related to BHS/additional screening etc and Construction of Pier E, Additional Security check stations, Additional Immigration concourses - required to be installed to take care of capacity enhancement as per master plan to meet service quality requirements; VDGS stands to increase reliability; Link Taxi way from Taxiway T to CE2 including T extension for isolation bay- for facilitating operational efficiency and also enable future link taxiway to R/W 10/28 without affecting operations; Construction of parallel taxiway to N connecting CW1 & R/W 10 - One taxiway between Runway 10 & T3. Parallel taxiway will improve operation efficiency, being planned as per AAI /ATC requirement. RET Works following lowering of Shiv Murthy- based on directives once the Shivmurthy is lowered, additional RET will be required to be constructed.

Authority's examination

10.7. It is noted that amongst the principles of Tariff fixation, Schedule 1 of the SSA, the 9th principle is on the consultation to be followed by the JVC i.e., DIAL. The principle states that "*The Joint Venture Company will be required to consult and have reasonable regard to the views of relevant major airport users with respect to planned major airport development*".

10.8. It is observed that in addition to their submissions made prior to the Consultation Paper stage, DIAL have now furnished some details of Future Capex and maintenance capex. However, it is observed that DIAL have furnished a combined list of future capex and maintenance capex figures without any bifurcation thereof. Further, these capital expenditures have not been supported by evidence of any form of user consultation as stipulated in Schedule 1 of the SSA, nor have DIAL submitted any documents to indicate that major works now projected by them form part of the approved project plan going forward. This issue is all the more relevant as it is also observed that the details now provided indicate expenditure towards "Modification of T1D for enabling international operations". The authority understands that the expenditure on aforesaid modification of T1D has proven to be redundant as requisite approvals have not been forthcoming.

10.9. Hence, the Authority is not in a position to review the future capex and maintenance capex furnished by DIAL, except what was already proposed to be so included in the Consultation stage.

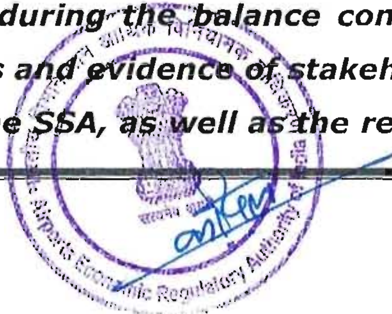
Decision No. 8. Decision on Future Capital Expenditure and Future Maintenance Capital Expenditure

8.a. The Authority decided not to consider, for the present, any future capital expenditure (from 2011-12 onwards) during the current control period.

8.b. As regards the Future Maintenance capital expenditure, the Authority decided not to consider any capex in excess of Rs.48.86 crore (for FY 2011-12) and Rs.78.92 crore (for FY 2012-13) for the present. Further the Authority also decided to reckon these figures for the determination of X factor.

Truing Up: 2. Correction/ Truing up for Decision No. 8

2.a. The Authority decided that it may consider the future capital expenditure and future maintenance capital expenditure incurred by DIAL during the balance control period based on the audited figures and evidence of stakeholder consultation as contemplated in the SSA, as well as the review thereof that the



Authority may undertake in this behalf. This review will also include the amount of Rs.48.86 crore (for FY 2011-12) and Rs.78.92 crore (for FY 2012-13) which the Authority has, for the present, reckoned for determination of X factor.

11. Methodology for Calculating Average RAB and Depreciation of RAB

11.1. In the consultation paper, Authority proposed to accept the methodology adopted by DIAL in calculating the RAB for each year as the average of the opening and the closing RAB and calculate the return on the average RAB, which is in accordance with the Guidelines issued by the Authority in respect of other airports.

11.2. Further, the Authority had proposed to accept the depreciation amount certified by the DIAL's Auditors. It was also proposed that in line with the decision taken in the Airport Operators Order and Guidelines [Order No.13/2010-11 dated 12.01.2011 and Direction No.05/2010-11 dated 28.02.2011], the depreciation of assets of DIAL, to be commissioned or disposed off during a Regulatory Period, should be calculated pro-rata considering that such assets have been commissioned or disposed of half way through the Tariff Year.

Stakeholder comments

11.3. IATA have supported the Authority's proposal on the use of an "average" RAB for return calculation purposes.

11.4. AOC have objected to the computation of average RAB stating that the same should be done on actual and not on an estimated or average basis as on the actual basis average would be much lower and would bring down tariff drastically.

11.5. In response to AOC's comments, DIAL have stated it is a worldwide practice that while forecasting RAB, the returns are calculated based on either average RAB or closing RAB. This is based on the logic that the investor should be remunerated based on the RAB available to the users which is fairly represented by either of the methodologies as discussed above. DIAL have submitted that the SSA refers to using the closing RAB while the tariff guidelines of the Authority talks of an average RAB. Further, the Authority has followed the

averaging method which has been accepted by them and if the Authority wants to use the methodology as given in concession agreement (RAB as per closing balance), DIAL will support the same. As regard the calculation being as per actual figures, DIAL have stated that the calculation has been done based on actual figures wherever audited numbers are available.

11.6. On the issue of Depreciation, Cathay Pacific have submitted that the depreciation should be computed on actual and not on the average of the year based on half way through the tariff year. VOICE have submitted that the accounting systems applied for depreciation, amortization must be checked and made as relaxed as permitted under rules so that DIAL does not present an alarming picture on finances.

11.7. IATA have agreed to the Authority's proposal to calculate depreciation on average RAB values rather than closing RAB values as the same is a fair and simple approach and is in line with the treatment of the RAB.

11.8. FIA have stated that for the purpose of computing depreciation, DIAL have considered average useful life of airport assets as around 20 years which is the normal useful life considered in Schedule XIV of the Companies act for capital assets and that such an approach will have an unjust inflationary impact on consumers/airlines by a front-loading of tariff, especially, when as per Consultation Paper, DIAL would also be incurring capex of Rs.48.86 crore and Rs.78.92 crore for maintaining the assets for FY 2011-12 and FY 2012-13 respectively. Infrastructure assets of airports are preserved for a significantly greater number of years and taking a more realistic useful life of asset will have significant impact on yield per passenger. Further, FIA have stated that depreciation should be calculated based on the term of the OMDA and SSA (60 years). The passengers should not be unduly burdened with the levy of a significant increase in DF, when the same can be spread over a period of time.

11.9. ASSOCHAM have in their comments stated that

> *"It should be appreciated that the investors and lenders seek a return from the day the capital is deployed. However, we understand that it is the Regulators philosophy not to provide for any return in the construction period. Given this stance, we urge the Regulator should consider compensating the operator for the no-return period in the tariff revision for the return period."*

11.10. DIAL, in their clarifications to the aforesaid comments, have submitted that the depreciation forecast is always calculated based on average capitalization during the particular year. The useful life of assets as envisaged in tariff filing by DIAL is as per the provisions of Concession agreement (OMDA and SSA). It clearly lays down that depreciation is to be taken as per the rates prescribed in the Companies Act, 1956 and this is a reasonable assessment of useful life of the assets.

Authority's Examination

11.11. The Authority has carefully considered the various submissions made by the stakeholders. It had proposed that the RAB for a tariff year may be calculated as an average of the opening and closing RAB. Accordingly, depreciation had been factored in based on the provisions of the Company Act – which is also as indicated in OMDA and SSA.

11.12. In respect of stakeholder comments on calculating depreciation on actual date and not on the average of the year based on half way through the tariff year, the Authority has further considered the matter and found that change in the basis of computation of depreciation leads to difference in Target Revenue for the Control Period. In view of this, the Authority has decided that difference in the amount of depreciation computed based on actual date of commissioning/ disposal of assets and depreciation computed considering that such asset had been commissioned/ disposed half way through the tariff year will need to be adjusted at the end of the Control Period considering future value of the differences for each year in the Control Period.

11.13. On further analyzing the computation of depreciation based on actual date, the Authority found that change in the basis of computation of depreciation also has an impact on the value of RAB and associated Return on RAB. In view of this, the Authority has decided that difference in the value of Return on RAB calculated based on actual date of commissioning/ disposal of assets and that computed considering that such asset had been commissioned/ disposed half way through the particular tariff year will also be adjusted at the end of the Control Period considering future value of the differences for each year in the Control Period.

11.14. The Authority has also decided that to maintain consistency in computations for the future Control Period, the regulatory accounts for the asset will be adjusted considering the actual date of commissioning/disposal.

Decision No. 9. Decision on Methodology for Calculating Average RAB and Depreciation of RAB:

9.a. The Authority decided to calculate the RAB for each year as the average of the opening and the closing RAB and calculate the return for each year on the average RAB.

9.b. In respect of Depreciation, the Authority decided that difference between the amount of depreciation calculated based on actual date of commissioning/ disposal of assets and the amount of depreciation calculated considering such asset has been commissioned/ disposed half way through the Tariff Year will be adjusted at the end of the Control Period considering Future Value of the differences for each year in the Control Period.

9.c. Furthermore, the Authority decided that the difference between the value of Return on RAB calculated based on actual date of commissioning/ disposal of assets and that calculated considering such asset has been commissioned/ disposed half way through the Tariff Year will also be adjusted at the end of the Control Period considering Future Value of the differences for each year in the Control Period.

Truing Up: 3. Correction /Truing up for Decision No. 9

3.a. The Authority decided to true up the difference between the depreciation calculated based on actual date of commissioning/ disposal of assets and the amount of depreciation calculated considering that such asset has been commissioned/ disposed off half way through the Tariff Year by adjusting at the end of the Control Period the Future Value of such difference.

3.b. The Authority decided to true up the difference between the return on RAB calculated based on actual date of commissioning/ disposal of assets and the return on RAB calculated considering that such asset has been commissioned/ disposed off half way through the Tariff Year by adjusting at the end of the Control Period Considering Future Value of the differences for each year in the Control Period.

12. Hypothetical Regulatory Asset Base and Depreciation

12.1. In the Consultation Paper the Authority had noted that the Hypothetical Asset Base is to be determined solely in line with the SSA provisions as there is no provision in this regard in the Act. The Authority had worked out the hypothetical asset base considering then prevailing tariff and the revenue; operation and maintenance cost; corporate tax pertaining to Aeronautical Services at the Airport, during the financial year preceding the date of such computation and capitalising the balance by the WACC tentatively proposed to be considered by the Authority.

12.2. Further, the Authority had proposed to accept depreciation of hypothetical RAB at the tariff year wise average depreciation rate for aeronautical assets.

Stakeholder Comments

12.3. APAO have stated that DIAL has incurred additional manpower expenses during the Operation Support Period (OSP), where both AAI and DIAL staff were employed to support the transition. The manpower expenses were the highest in FY 2009 which was the last full financial year in the OSP, and also the reference point for determination of the Hypothetical RAB. The duplication of manpower expenses only pertains to the OSP and is not a recurring expense during the control period. In their view therefore, only the sustainable manpower cost, i.e. the manpower cost related to AAI staff may be considered by the Authority for determination. Additionally, APAO have also requested the Authority to adopt a consistent approach for treatment of cargo revenue both for the purpose of calculating HRAB and determination of tariffs.

12.4. ACI have submitted that it is an international common practice to value the assets taken over during privatization at market value or replacement value

or depreciated value adjusted to inflation (followed at airports at Brussels, Sydney, New Zealand, etc.) ACI have also stated that:

> *"However, we understand that, for the purpose of calculation of Hypothetical RAB, the value proposed by AERA seems to be significantly out of line with the fair value of these assets. Therefore, we suggest to AERA to revisit the basis of this valuation of Hypothetical RAB. Moreover, we believe this should be done on efficient cost basis and any duplication of manpower cost, arising due to concession requirements, should be eliminated."*

12.5. AOC have stated that they are of the opinion that revenue should include Pax, Cargo, Technical handling and Ground handling and all other related revenues, pertaining to AERO for determination of revenue for computation of hypothetical regulatory asset base. Further, they have stated that corporate tax pertaining to AERO service at Airport should not be included in the cost for the purpose of determination of tariff as it is the liability to be borne by DIAL and not shared by Airlines as part of tariff.

12.6. IATA considers the steps taken by the Authority in the calculation of the Hypothetical RAB and the WACC of 10.33% for the reverse calculation of the hypothetical RAB to be correct as the SSA is quite clear on what elements should be included in the calculation of hypothetical RAB. However, they have stated that further downward adjustment is needed to account for assets currently included in the RAB that are no longer in use (for instance, Terminal 1A and Terminal 2 which have been out of commission since the opening of Terminal 3) as it is a basic ICAO principle that users should only pay for the cost of the infrastructure that they use and exclusion of de-commissioned assets from RAB is consistent with this principle.

12.7. CII have submitted that:

> *"The Regulator has treated the cargo revenues as Aero-revenues in some places and Non-Aero in others. CII would like to urge the regulator to be consistent in its approach while treatment of all the components. As OMDA and SSA specify that Cargo revenues are Non-Aero, they should be treated as Non-aero in all aspects of the tariff determination process."*

12.8. ASSOCHAM have stated that:

"As stated by DIAL, the tariff filing is done as per the guidelines laid down in the State Support Agreement (SSA) signed with the Government of India and Operations, Maintenance and Development Agreement (OMDA) signed with the airport owner, Airport Authority of India.

Given that both concessions were entered into before formation of AERA we suggest AERA takes the concession agreement as supreme. This should be applicable even in cases where the interpretation of concession agreements differs from overall philosophy that AERA has adopted with respect to regulating airports in the country."

12.9. DIAL have not agreed to the approach adopted by the Authority in determining the hypothetical RAB. They have stated that the Schedule 1 of SSA requires that in computing the initial asset base, the values of the Aeronautical Assets in the books and the value of Hypothetical Regulatory Asset Base (HRAB) is to be aggregated. The HRAB is to be computed using the then prevailing tariff and the revenue, operation and maintenance cost, corporate tax pertaining to Aeronautical Services at the Airport during the financial year preceding the date of such computation. From the 4th year after the Effective Date, the Aeronautical Charges are to be determined in accordance with the formula set forth in Schedule 1 of the SSA. The Schedule 1 lays down a comprehensive mechanism and formulae for determination of the Target Revenue. One of the components in the determination of the Target Revenue is the Regulatory Asset Base (RAB) pertaining to the Aeronautical Assets. The mechanism set forth in the SSA for the computation of the Regulatory Base of Aeronautical Assets in any given year is based on the following formula:

$$\mathbf{RB_i = RB_{i-1} - D_i + I_i}$$

12.10. The RAB of the Aeronautical Assets in any year (RB_i) is the Regulatory Base for the immediately preceding year (RB_{i-1}), subject to negative adjustment on account of depreciation (D_i) and positive adjustment on account of investments in the relevant year (I_i).

12.11. Schedule 1 of the SSA specifies 'RB_0' as follows:

(i) the Book Value of the Aeronautical Assets in the books of the JVC; and

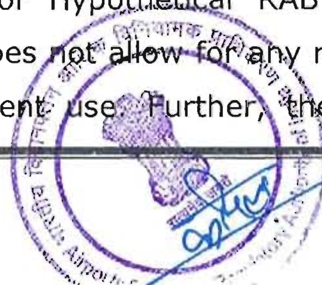
(ii) the 'hypothetical regulatory base' computed using the then prevailing tariff and the revenues, operation and maintenance cost, corporate tax pertaining to Aeronautical Services at the Airport, during the financial year preceding the date of such computation

RB_0 is the Regulatory Asset Base at the start of the regulatory period. DIAL was mandated under the Schedule 6 of the SSA to levy the existing AAI charges defined as Base Airport Charges 'BAC' in Schedule 8 of the SSA for the initial period of two years from the effective date (May 3rd 2006). BAC was AAI charges for Aeronautical Services and was continued at the same level by AAI when handling IGI Airport operation directly. DIAL have submitted that there are three issues related to determination of HRAB:

" 1. Efficient Cost: The Authority, based on the principle of efficiency, should consider only efficient costs in calculation of HRAB.
2. Cargo Classification: While we are of the view that based on the Concession agreement Cargo must be treated as Non Aeronautical even during the period it was being operated by DIAL, in case the Authority is constrained to treat Cargo as Aero for the year of determination of HRAB, it should adopt a consistent approach on its treatment of Cargo for computation of HRAB.
3. Cute Counter Charges: Cute Counter Charges are Non Aeronautical as these are rental charges. However in case Authority is constrained to treat it as Aero, the effect of the same needs to be reflected in valuation of HRAB."

12.12. DIAL have accordingly, reiterated their earlier submission stating that in the year 2008-09 there was an overlap of manpower costs of AAI staff as well as DIAL staff. From a valuation point of view the manpower cost of only AAI staff for the relevant period is considered (Operational Support Cost) to result in a fair valuation. The manpower cost of DIAL staff has been excluded as the AAI staff was mandated to support the working of existing terminals for that period while the DIAL staff was getting oriented and trained.

12.13. In their clarification to IATA's comments, DIAL have stated that the methodology for valuation of Hypothetical RAB is in accordance with the provision of the SSA and it does not allow for any reduction in value of HRAB for any asset not being in current use. Further, they have also stated that T2



terminal is being used for Haj pilgrimage services and was also used for emergency evacuation from Libya. Terminal assets like T2/T1A are akin to additional capacity to ensure that there are no capacity constraints at IGIA.

12.14. In support of their submission, DIAL have obtained an opinion from M/s.Amarchand Mangaldas Suresh & Shroff & Sons (AMSS) on the treatment of operating cost by the Authority in the calculation of Hypothetical Asset Base, the relevant extracts of which are reproduced hereunder:

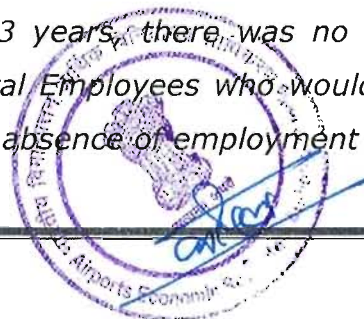
"In terms of Articles 6.1.1, 6.1.2 and 6.1.4 of the OMDA, AAI is required to provide, and DIAL is required to avail of operations support from AAI for a period of 3 years from the Effective Date under the OMDA. Further, during this three year period, all General Employees of AAI, were required to continue working at the Airport. On or prior to the end of the said 3 years period, DIAL was required to make an offer to at least 60% of such General Employees to become employees of DIAL, and such General Employees would be entitled to accept or reject the said offer, at the their sole discretion. The relevant provisions are set out below:

6.1.1 For a period of 3 (three) years from the Effective Date (herein referred to as the "Operation Support Period"), AAI shall provide operational support to the JVC through the General Employees in the manner and subject to the terms provided herein (such support is hereinafter referred to as "Operation Support"). The estimated annual Operation Support Cost .... as per the break-up in Schedule23.

6.1.2 (i) General Employees shall be retained at the Airport for the duration of the Operation Support Period by the AAI and shall be dealt with in the manner provided herein. In order to provide Operation Support, AAI shall procure that the General Employees perform such functions and undertake such duties, and in such capacities, as may be required by JVC, subject to compliance with Applicable Law and the existing terms of employment of such employees. For the limited purposes of provision of Operation Support, the AAI shall act for and on behalf of the JVC and shall direct the General Employees to undertake such functions and duties as may be reasonably directed by JVC.

6.1.4 At any time during the Operation Support Period but not later than three (3) months prior to the expiry of the Operation Support Period, the JVC shall make offers (on terms that are no less attractive in terms of salary, position, etc, than the current employment terms of such employees) of employment to the General Employees that it wants to employ. Provided however that JVC shall be required to make offers to a minimum of 60% of the General Employees (as reduced for retirements, transfers, death and any fractions to be rounded off to the nearest whole number). Any offers already made and accepted during the Operation Support Period will be counted for the purposes of such minimum number of offers. The General Employees shall have the option of accepting or declining the offers within one month. The General Employees accepting the employment offers of the JVC, upon resigning from AAI, shall cease to be AAI employees from the date of acceptance of the offer or completion of the Operation Support Period, as applicable. The JVC shall be the new employer for these employees on terms and conditions mutually agreed between the JVC and such employees. Provided however that if less than 60% of the General Employees (as reduced for retirements, transfers, resignations and death and any fractions to be rounded off to the nearest whole number) accept the offers of employment made by the JVC, then the JVC shall pay to AAI Retirement Compensation for such number of General Employees as represent the difference between 60% of the General Employees (as reduced for retirements, transfers, death and any fractions to be rounded off to the nearest whole number) and the number of General Employees accepting offers of employment made by JVC, including cumulatively the offers made and accepted during the Operational Support Period.

1.1. It is therefore clear from the foregoing that the General Employees of AAI were mandatorily required to continue to work at the Airport for a maximum period of 3 years from the Effective Date. However, at the end of 3 years, there was no guarantee as to the number of the AAI General Employees who would become employees of DIAL. Therefore, in the absence of employment of a separate staff,



there may have been a possibility that upon the expiry of 3 years, DIAL may not have had adequate staff to run the Airport, let alone meet the subjective and objective quality standards as prescribed under the OMDA.

1.2. Therefore, effectively ***in order for DIAL to ensure continuity in the availability and the operations of the Airport, after the expiry of the 3 year period (that is, after the year 2008-09) It was imperative for DIAL to employ its own staff in addition to the AAI staff. However, these additional DIAL staff could not be said to be necessary for the Airport, since the existing AAI General Employees were already providing all Aeronautical Services at the Airport [Emphasis Original].***

1.3. Further, since the ***existing AAI General Employees was the entire set of employees at the Airport at the time of the takeover of the Airport by DIAL, it is clear that it was only that extent of staff that was necessary or pertained to the actual provision of Aeronautical Services at the Airport [Emphasis Original].*** *This being the case, given that the computation of Hypothetical RAB is based on the operations and maintenance costs pertaining to the Aeronautical Services, it would not be appropriate to include the cost of DIAL's staff in calculating the same, since such staff were not necessary to provide the Aeronautical Service, but were only necessary to ensure continued operations.*

On account of the foregoing proposition and positions, it would not be appropriate to include the cost of both AAI staff and DIAL staff as part of the operations and maintenance expense in computing Hypothetical RAB, and only those staff, (that is the AAI Staff) should be treated as part of the costs that actually pertained to the provision of Aeronautical Service." [Emphasis Original]

12.15. As regards the issue of Cargo Classification, DIAL have submitted that they had computed an amount of Rs. 1,119 crore as the value of HRAB assuming Cargo as Non Aeronautical as per the classification mandated by concession agreement. However, since the Authority is treating the revenue

from direct cargo handing prior to the same being concessioned out as Aeronautical revenue, the value of HRAB needs to be suitably adjusted as, for the year 2008-09, DIAL was directly operating cargo activity.

12.16. As per DIAL's reworking the aero revenue, revised aero expenses and revised HRAB calculation is as under:

Table 4 DIAL's Revised Aero Revenue details for HRAB determination

Income FY 2008-09	As per filing	Revised Amount
Landing & Parking	257 Crs	257 Crs
Passenger Service Fee- Facilitation	85 Crs	85 Crs
Baggage X-ray & In-line X-Ray income	19 Crs	19 Crs
Fuel Throughput Income	72 Crs	72 Crs
Cargo Handling Income	-	212 Crs
Total Aeronautical Revenue	434 Crs	645 Crs

Table 5 DIAL's Revised Aero Expenses Calculation

Total Expenses FY 2008-09		As Per Filing	Revised Amount
Total Expenses	A	445.31 Crs.	445.31 Crs.
Less Aero Expenses (Cargo expenses treated as aero)	B		15.35 Crs.
Balance Expenses to be allocated	C=A-B	445.31 Crs.	429.96 Crs.
Aeronautical Cost Allocation Mix %	D	86.5%	86.5%
Allocated Aero Expenses	E = C x D	385.23 Crs	371.95 Crs.
Add Pure Aero expenses (Cargo expenses treated as aero)	B	-	15.35 Crs.
Aeronautical Costs	F= E+B	385.23Crs	387.30 Crs.
Less: Excluded Costs (DIAL Manpower & R/w 29/11 o&m cost)	G	81.56 Crs	81.56 Crs
Balance	H= F-G	303.68 Crs.	305.75 Crs.
		304 Crs.	306 Crs.

Table 6 DIAL's Revised Calculation of Hypothetical RAB

Details	Tariff Filing	Revised
Aero Revenue	434 Crs.	645 Crs.
Aero efficient costs	304 Crs.	306 Crs.
Aero EBIDTA	130 Crs.	339 Crs.
WACC	11.60%	11.60%
HRAB	1,119 Crs.	2,928 Crs.

12.17. With reference to the stand taken by the Authority in the treatment of the cargo handling and cargo terminals as Non-Aeronautical in line with Schedule 6 of the OMDA provisions for the purpose of determination of the Hypothetical RAB, DIAL have requested the Authority to reconsider the treatment and adopt a consistent approach.

12.18. DIAL have supported their stand with the opinion of Prof. Martin Cave which have been reproduced hereunder:

> *"................. HRAB calculation suggests an intention to ensure a fair and reasonable commercial valuation of the aeronautical assets at the time of concession. The certainty afforded by a relatively fixed formula, coupled with a calculation based on actual revenues and costs (a basis for determining commercial value) provides an objective basis for the determination of the HRAB by limiting the influence of arbitrary factors after the concession has been granted, and promoting consistent treatment."*
>
> *Treatment of cargo revenue*
>
> *AERA has taken the view that revenues from cargo handling ought not to be included in the calculation of aeronautical revenue for the purposes of the HRAB. AERA has reached this view based on the fact that DIAL is not directly providing cargo handling services directly in the current financial year. Cargo handling services are currently provided by Celebi Delhi Cargo Terminal Management India Pvt. Ltd by way of concession.*
>
> *In my view, this approach is appropriate, but only if cargo revenue is consistently treated as non-aeronautical revenue throughout the tariff calculation. If, however, revenue from cargo handling is treated as part of the aeronautical asset base, then that decision must be reflected in a consistent treatment of cargo revenue in the HRAB.*
>
> *This approach is also consistent with the fair value approach implied by the HRAB calculation. The HRAB ought to be defined consistently with the ongoing treatment of such revenues, as this reflects the actual commercial value of the relevant assets. Excluding from the HRAB the revenues (and costs) generated by services treated as*

aeronautical skews the valuation of the aeronautical assets away from a fair commercial valuation. This result ought to be avoided.

It is concerning to note, therefore, that despite its approach to the HRAB, AERA's approach in respect of determining aeronautical revenues for the current regulatory period is to treat cargo handling services as integral to the management of aeronautical assets (see draft Tariff Determination, paragraph 403 (vii)). AERA notes that it is usual practice to treat revenue arising from any aeronautical services as aeronautical revenue, presumably because it cannot be provided without the use of aeronautical assets.

Further the draft Tariff Determination states that:

- *the revenue received by DIAL from the cargo services during the part period of 2009-10 (when DIAL themselves were providing the services) may be treated as aeronautical revenue; and*
- *the revenue and costs relating to cargo screening, which is still carried out by DIAL, ought to be treated as aeronautical.*

This reasoning potentially compromises the consistent treatment of assets that the HRAB ought to promote. While I understand that DIAL's preference is for cargo revenues to be treated as non aeronautical revenues on a consistent basis, my principal concern is that a consistent approach be adopted. [Emphasis Original]

Treatment of staff employment costs

The HRAB raises a question in respect of the treatment of staff employment costs. There is an argument that some costs associated with the "double up" of staff (the result of the terms of the concession agreement entered into with the Government) might be legitimately excluded from the calculation of aeronautical operation and maintenance costs in the HRAB. I understand that there was some considerable overlap of AAI staff and DIAL staff during the 2008/09 financial year due to the need to the requirements of the concession agreement to retain a significant proportion of existing

staff (in the order of 60%) for an initial period following concession. However, AERA has rejected this argument and declined to exclude these additional staff costs from aeronautical operation and maintenance costs in the HRAB.

AERA's reasoning is that the HRAB refers to "prevailing" (meaning actual) costs rather than "efficient" costs. In AERA's view, therefore, it appears that the only grounds on which a reduction on operating costs might be justified is to apply an efficient operator standard, but such an approach is excluded by the definition of the HRAB.

In my view, such costs ought to be excluded. Again, it is useful to bear in mind the aim of achieving a fair commercial valuation of aeronautical assets through the HRAB. A fair valuation will only be achieved if the actual costs genuinely associated with the operation of aeronautical activities are included in the HRAB calculation. These costs must be understood as the commercial costs of operating those assets. The exogenous staff costs associated with the concession and are not an integral part of the operation of the aeronautical assets. They cannot realistically be considered a commercial cost associated with the operation of those assets [Emphasis Original]. *This is evident in the fact that such costs are a one-off resulting from the timing of the concession award to DIAL, and is not a cost that will be incurred in future. These costs are therefore better understood as resulting from contractual arrangements that are conceptually separate from the commercial operation of aeronautical assets. Their inclusion can therefore be expected to artificially inflate the costs of operating aeronautical assets, and prevent a fair commercial valuation.*

Accordingly, it is, in my view, mistaken to conceive of the exclusion of such costs as a question of efficiency. The incurring of such costs is not related at all to the extent to which commercial activities are undertaken in a cost-efficient manner. The relevant question is whether such costs may be properly considered costs of operating the aeronautical

assets. Where the goal is to arrive at a fair commercial value, such costs must be excluded as they do not relate to the operation of the assets on an on-going commercial basis. [Emphasis Original]

12.19. DIAL have also furnished an opinion from KPMG on the issue of considering duplicate manpower cost while making valuation of HRAB. Extract of KPMG remarks are as under:

> "***Conclusion**: Duplication of manpower is maximum in FY 2009 because it is the last full financial year in the OSP. Also, duplication of manpower cost is not a recurring cost. For the purpose of calculation of HRAB, only the sustainable manpower cost, i.e. the manpower cost related to AAI staff may be considered. Additionally, a consistent approach may be adopted for treating of cargo revenue."*

12.20. On the issue of Cute Counter Charges DIAL have stated that the same are Non-Aeronautical in nature as they are akin to rentals. DIAL have submitted that " *However if Authority is constrained to treat them as Aero, the relevant revenues for 2008-09 need to be included to compute HRAB."* DIAL have furnished the revised calculation based on their filing, after considering the aforementioned issues. The reworked HRAB as per DIAL considering CUTE charges as AERO is as under:

Table 7 DIAL's Reworked Hypothetical RAB (considering CUTE charges as Aero)

Hypothetical RAB (considering CUTE Charges as Aero)	2008 -09(Rs in crore)
Aero Revenue [A]	436
Landing Charges	244
Parking & Housing Charges	13
Passenger Service Fees	85
Baggage X- Ray Revenue	4
In-Line X-Ray Revenue	15
Cute Counter Charges	3
Fuel Throughput Revenue	72
Aero Expenses [B]	385
Less: Expenses Not Considered [C]	82
DIAL Manpower Cost	81
Runway 11/29 Operations & Maintenance cost	1
Eligible Expenses [D =B-C]	304
Aero EBIDTA [A-D]	133

Hypothetical RAB (considering CUTE Charges as Aero)	2008 -09(Rs in crore)
WACC *	11.60%
Hypothetical Asset Base	1,142

Authority's Examination

12.21. Issue of Hypothetical RAB has been commented upon by a large number of stakeholders, namely, CII, ASSOCHAM, Prof. Martin Cave, M/s. Amarchand Mangaldas Suresh & Shroff & Sons (AMSS), APAO, ACI, IATA, DIAL. Broadly, the stakeholders have stated that the nature of the cargo revenue as may be determined by the Authority should be consistent with the calculation of Hypothetical RAB, invoking the argument of consistency. Apart from this, there are some other observations and comments like inclusion or otherwise of assets not in use, etc. The issue of estimating efficient cost and not the total cost in calculation of Hypothetical RAB has also been commented upon. Prof. Martin Cave has, in addition, given an interpretation of Hypothetical RAB which according to him represents a fair value for regulated assets at the beginning of the control period.

12.22. The Authority has examined these comments in detail. It has noted that the concept of Hypothetical RAB is entirely within the framework of the State Support Agreement (SSA) and is defined only in relation to the calculation of Regulatory Base RB_0 for the first regulatory period. To appreciate the full context, the relevant portion of the Schedule 1 of the SSA is reproduced below:

Revenue Share Assets shall mean (a) Non Aeronautical Assets; (b) Assets required for provision of aeronautical related services arising at the Airport and not considered in revenues from Non-Aeronautical Assets (e.g. Public admission fee etc.)

$$i = time\ period\ (year) i$$

$$RB_i = RB_{i-1} - D_i + I_i$$

Where $RB_0$for the first regulatory period would be the sum total of

The Book Value of the Aeronautical Assets in the books of the JVC (i.e. DIAL) and

The hypothetical regulatory base computed using the then prevailing tariff and the revenues, operation and maintenance cost, corporate tax pertaining to Aeronautical Service at the Airport, during the financial year preceding the date of such computation.

I = investment undertaken during the period.

12.23. The concept of Hypothetical RAB does not figure in the AERA Act. The Authority, therefore, feels that the determination of Hypothetical RAB would have to be entirely within the framework of SSA. The SSA framework (along with OMDA) treats the Cargo as a non-aeronautical service. This categorization, however, is at variance with the definition of Cargo Service as an aeronautical service as per section 2(a) of the AERA Act.

12.24. The Authority has also noted that the calculation of Hypothetical RAB is to be made for the financial year preceding the date of such computation. Hence, this determination would need to be made on the basis of the situation prevalent in the year 2008-09, which is the year preceding the first year of the first control period (1st April 2009 to 31st March 2014). Therefore the computation will need to be made on the basis of the numbers obtaining in the year 2008-09.

12.25. Further, the Authority has noted that the SSA indicates the components of the Hypothetical RAB but it does not give the method of capitalizing the resultant revenue stream. The Authority had, therefore, requested the MoCA to indicate the objective and mechanism for computation of Hypothetical RAB. However, the MoCA have not intimated the Authority in the matter.

12.26. Prof. Martin Cave in his comments, as mentioned above, has suggested that the Hypothetical RAB represents a fair value for regulated assets at the beginning of the control period. The Authority notes that SSA and OMDA do not require DIAL to pay any fair market value of the assets transferred to it by the Government/AAI. The Balance Sheet of DIAL also does not have any entry that corresponds to the fair market value of these assets. The MoCA have also not given this interpretation.

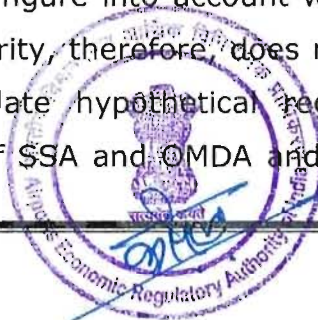
12.27. The calculation of Hypothetical RAB is to be made, therefore, on the prevailing circumstances, as mentioned in the SSA and having done so, would

not be amenable to any subsequent change, this being a component of the initial RAB. If the calculations were to be made in accordance with the SSA and OMDA formulations, the revenue from Cargo service (as well as costs thereof) would not have entered into these calculations, because Cargo Handling is categorized as non-aero service as per OMDA.

12.28. The Authority, while determining Hypothetical RAB, therefore, has taken into account the contractual as well as legal position as it obtained for the year 2008-09 and thus has excluded Cargo revenue (as well as costs) from the computation of Hypothetical RAB.

12.29. When the Authority is called upon to determine aeronautical tariffs for Delhi Airport, it has to do so with respect to the legal provisions under AERA Act as well as taking into consideration the provisions of SSA as well as OMDA as it was required to, under Section 13(1)(a)(vi) and 13(1)(a)(vii) of the AERA Act. Admittedly, Cargo Service is an aeronautical service under AERA Act and, therefore, would be regulated accordingly. Hence, the Authority had taken a position that this service would need to be regulated and tariffs fixed accordingly (regardless of its classification in SSA or OMDA). As long as the airport operator was providing such service, namely, that of cargo handling, the Authority took the revenue from this service in the hands of the airport operator as aeronautical revenue and also allowed the costs associated with this service for the purposes of determination of aeronautical tariffs. When, however, the service of Cargo Handling was concessioned out to a third party (including a JV in case of DIAL), the service provider was no longer DIAL but the particular third party (including JV). The service provider was regulated under the Act and the revenue coming into the hands of DIAL on account of the revenue share from the third Party (including JV) as well as the rentals or dividends, if paid, were treated as non-aeronautical revenue, of which 30% was reckoned towards the determination of aeronautical tariffs.

12.30. As mentioned hereinafter, if the then regulator, namely, the Government had determined Hypothetical RAB and arrived at a figure, the Authority would have taken that figure into account while arriving at the initial regulatory asset base. The Authority, therefore, does not find any inconsistency between its approach to calculate hypothetical regulatory base strictly in accordance with the provisions of SSA and OMDA and its treatment of revenue



arising from aeronautical services of Cargo in accordance with the provisions of the Act as well as the SSA. The seeming inconsistency commented upon by various stakeholders arises, in the Authority's view, on account of two factors:

12.30.1. The Authority is seen to be determining Hypothetical RAB and aeronautical tariff at a single point of time. In normal course, Government would have determined Hypothetical RAB in accordance with SSA and OMDA. The Authority would have thereafter determined aeronautical tariffs under AERA Act, taking the number of the Hypothetical RAB as determined by the government. It must, however, be recognized that the Authority is now doing so under two different provisions, one, under SSA/OMDA for Hypothetical RAB and the other under AERA Act for tariffs for aeronautical services and service providers of these services.

12.30.2. Different categorization of the service of Cargo Handling in AERA Act (which treats it as aeronautical service) and SSA/OMDA (which treat it as a non-aeronautical service).

12.31. The Authority has given ordinary meaning and interpretation to words describing the various components of Hypothetical RAB (like "operation and maintenance cost"). It has, therefore, taken the actually incurred operation and maintenance costs during the financial year preceding the date of such computation. Some commentators (Amarchand Mangaldas) have stated that the Authority should give proper weight to the word **"pertains"** appearing in the mechanism of computation of Hypothetical RAB. Some other commentators have stated that the Authority should go into the aspect of efficient cost of operations and not costs on the actual basis. Some have argued that there was an overlap in the staff cost, because staff of the AAI continued on the rolls of DIAL during 2008-09. DIAL have also stated that this means double counting the staff cost and that the personnel of AAI were required in this period to train and orient the recruits of DIAL. Apart from interpreting the words as they appear in the computation of Hypothetical RAB, as are commonly understood, the Authority believes that training is an integral part of efficient operation and hence costs incurred in this activity cannot be ignored only on account of alleged overlap. These costs admittedly also pertain to aeronautical services. The Authority is, thus, unable to accept the interpretation that it should somehow separate the operation and maintenance costs into "efficient costs" and "non-efficient costs"

and take into account only efficient costs while calculating Hypothetical RAB, especially when the SSA makes no such distinction in so far as computation of Hypothetical RAB is concerned.

12.32. As far as Common User Terminal Equipment (CUTE) charges are concerned, the term CUTE is not as such defined either in the AERA Act or in SSA/OMDA. However, according to the definition {Section 2(a)(iv)} of the AERA Act, **"Aeronautical Service"** means any service provided for ground handling services relating to aircraft, passengers and cargo at airport. Common User Terminal Equipment is an integral part of service related to passengers. Hence the Authority has taken CUTE service as an aeronautical service which is required to be regulated. The airport operator (DIAL) has proposed CUTE charges for the approval of the Authority (for domestic passengers as a new charge, CUTE charges for international passengers already being levied), and these charges form part of the tariff card.

12.33. Coming to the provisions of OMDA, however, the Ground Handling Services fall under Schedule-VI and, therefore, is categorized as non-aeronautical service.

12.34. As indicated above, approval of CUTE charge has been made by the airport operator, namely, DIAL, and that these charges would form part of the tariff card of DIAL as CUTE charges (forming part of the Ground Handling services under AERA Act) are regulated under AERA Act. However, at the beginning of the control period (i.e. 1st April, 2009) when Hypothetical RAB was to be determined, CUTE as a part of Ground Handling was included in Schedule-VI of the OMDA i.e., non-aeronautical services. Hence, the revenue as well as costs ascribed to CUTE charges would not be included in the computation of Hypothetical RAB. This treatment is thus consistent with the treatment given to the revenue and costs from Cargo Handling service as mentioned hereinabove.

12.35. The Authority, accordingly, decided that the approach and method of computing the Hypothetical RAB is consistent with the provisions of the SSA and proceeded to compute the same as is shown in the following table:

Table 8 Authority's Computation of Hypothetical RAB

Hypothetical RAB as decided by the Authority	Amount (Rs. in crore)
Revenues at prevailing tariffs in the year 2008-09 [A]	**433.51**

Hypothetical RAB as decided by the Authority	Amount (Rs. in crore)
Landing Charges	243.51
Parking & Housing Charges	13.40
Passenger Service Fees	85.16
Baggage X- Ray Revenue	3.63
In-Line X-Ray Revenue	15.34
Fuel Throughput Revenue	72.47
Aeronautical Expenses [B]	**385.23**
Operation and Maintenance Cost	385.23
Corporate Tax pertaining to aeronautical services at the airport	0.00
Eligible Target Revenue C = (A-B)	48.28
Capitalisation Factor (@ WACC) [D]	**10.33%**
Hypothetical Asset Base = C /D	**467**

Decision No. 10. Decision on Hypothetical Regulatory Asset Base and Depreciation

10.a. The Authority decided that the Hypothetical RAB be taken as Rs.467 crore.

10.b. Further the Authority decided to depreciate the Hypothetical RAB at the tariff year wise average depreciation rate for aeronautical assets.

13. Inclusion of Financing Allowance in the RAB

13.1. In the Consultation paper the Authority had proposed that the financing allowance claimed by DIAL as part of the regulatory base for aeronautical assets should not be considered for the purpose of tariff determination.

Stakeholder Comments

13.2. No specific comments have been offered by the stakeholders including DIAL in this regard.

Authority's Examination

13.3. The Authority's approach is in conformity with the provisions of the SSA and it finds no reason to deviate from the same.

Decision No. 11. Decision on Financing Allowance:

11.a. As the SSA does not contemplate provision of financing allowance the Authority decided not to consider the financing allowance claimed by DIAL as part of the regulatory base for aeronautical assets for the purpose of tariff determination.

14. Cost of Debt

14.1. The Authority had in the Consultation Paper proposed the following:

14.1.1. not to consider the upward revision of 0.5% p.a. in the interest rates on the basis of continued increase in RBI repo and reverse repo rates since March, 2010 and a similar increase in SBI PLR, as proposed by DIAL in respect of the rupee component of the debt for the balance period:

14.1.2. to consider the figure of Rs.1591.79 crore in rupee terms in respect of the ECB component based upon the actual conversion rates applicable on dates of drawal.

14.1.3. not to consider any adjustments related to foreign exchange variations and disallow foreign exchange adjustments from ECB Loan.

Stakeholder Comments

14.2. IATA have supported the Authority's proposal for considering 12.17% p.a. for actual and future debt and have further stated that the past rate increases by RBI cannot be used as the basis to forecast interest rates. A more reasonable approach (given the lack of other means for forecasting future rates) would be to use the actual cost of debt. IATA have also supported the Authority's proposal that variations in foreign exchange should not be considered for tariff determination. IATA have stated that the cost base cannot contain a component that may or may not materialize. Besides, the airport should be able to hedge its foreign currency debt in order to match it with the allowable revenue in local currency.

14.3. DIAL have requested the Authority to reconsider its position w.r.t interest cost of debt and provide a reasonable increase. Further, in reply to IATA's observation DIAL have submitted as under:

"We reiterate our stated position that there is no visible reduction in interest cost and as such the stand of the Authority that interest rates have reached their peak is not substantiated."

14.4. The Authority is unable to accept DIAL's contention that there is no visible reduction in the interest cost. In fact, the RBI has very recently (17.04.2012) revised downwards the Repo Rates leading to several bankers reducing the interest rates.

Authority's Examination

14.5. The Authority reiterates its position put up for stakeholder consultation.

Decision No. 12. Decision on Cost of Debt (for years 2011-12, 2012-13 and 2013-14)

12.a. The Authority decided to consider the actual cost of Rupee Term Loan, paid by DIAL for the years 2009-10 and 2010-11 for the period 2011-12 to 2013-14. The cost of debt is taken at 12.17% pa. The Authority decided not to agree to the upward revision of 0.5%p.a. claimed by DIAL in the interest rates;

12.b. The Authority also decided to consider the Rupee value of the ECB loan at Rs.1591.79 crore based on the Rupee - US Dollar exchange rate prevalent on the date of drawal.

12.c. The Authority decided not to consider any adjustments related to currency fluctuations on capital or interest payments or any other charges in respect of the ECB Loan, the rupee value of which, is reckoned at Rs. 1591.79 crore.

15. Treatment of the Interest free Refundable Security Deposits

15.1. The Authority had in the consultation paper proposed that the cost of RSD may be taken as zero for the purposes of calculating the WACC (Refer para 255 to 266 of CP 32) as the cost of this amount to DIAL is zero as the security deposits are interest free.

Stakeholder comments

15.2. Comments have been received from IATA, APAO, ACI, Fraport, ASSOCHAM, CII, MoCA and DIAL

15.3. IATA have supported the Authority's conclusions on disallowing any return on the interest free deposit as DIAL is not paying any interest expenses on the deposit (and therefore, there is no cost involved), and it is unreasonable to ask users to pay any amount above that of the related depreciation of the assets being financed by this interest-free deposit.

15.4. APAO have stated that while the Authority has not provided returns on capitalized airport asset funded through RSD by considering it as zero cost funds, it is evident that there is an opportunity cost associated with RSD in terms of the foregone lease rentals. Professor Ashwath Damodaran defines cost of capital as "opportunity cost of all the capital invested in an enterprise". Lenders have treated the RSD funding as part of promoter's contribution (quasi-equity). RSD utilised to fund the capex is expected to have risk inherent to that associated with equity. There are examples from other infrastructure sectors where regulators provide a pre-specified return on the capital employed by the concessionaire and do not consider the sources and associated costs of capital while calculating tariff. In view of the same, APAO have requested that the Authority should consider providing returns on RSD commensurate with the return on equity.

15.5. ACI have submitted that it should be appreciated that the airport operator was under no compulsion to invest the money received from deposits in building the airport infrastructure and these funds, having been applied for the purposes of project financing, are akin to equity infusion by the JVC, and hence should attract similar rates of return as equity. ACI have suggested the Authority to consider providing appropriate equity related returns to RSDs.

15.6. Fraport have stated that the SSA entered into by DIAL provides for a reasonable return on any investment made in the project. They have stated that-

> *"We would like to mention that Refundable Security Deposits (RSD) were introduced as a part of the project cost funding right from when*

the first estimates of sources of funding were made. The JVC had to resort to this means of funding due to constraints in raising further equity or debt.

In March 2008, we were made to sign an undertaking from the lenders that any shortfall in the deposits will be made up by infusing additional equity. There cannot be stronger proof of the fact that these deposits are akin to equity.

It is important to mention here that the equity partners are nowhere obliged to reinvest the returns/funds accrued from non-transfer assets into the airport project itself. The JVC could have utilized the same funds in other ventures or to pay-out dividends to the consortium members, who in turn could have used it for different investment opportunities.

It is only fair that the opportunity cost of the productive deployment of these funds elsewhere should be provided and hence, in our view, should be treated as Quasi Equity eligible for a Return on Equity (RoE).

Giving zero returns in fact is sending signals that in future RSDs should not be used for funding future Capex and rather rely upon debt or equity. This itself will be counterproductive."

15.7. ASSOCHAM have stated that the long term security deposits taken by DIAL are of 30 years + duration and in their view, deposits with such long terms should be treated as equity. Taking upfront deposits also have a significant bearing on the rental charged, which have been pegged lower due to the deposit monies received. Further they have added that

"From an opportunity cost perspective, it should be noted that DIAL was not obliged to reinvest the deposit monies back in the business as a means of project funding. Having done so, this source of finance should be treated as equity and a return equal to the return on equity determined should be allowed."

15.8. CII in their submission have stated as under:

The SSA provides the Regulator to observe the principle:

"Commercial: In setting up the price cap, AERA will have regard to the need for the JVC to generate sufficient revenue to cover efficient operating costs, obtain the return of capital over its economic life and achieve a reasonable return on investment commensurate with the risk involved.

The SSA mandates the Regulator to provide a reasonable return on any investment made in the project by the concessionaire. The refundable security deposits are treated in the books of the concessionaire and are in its custody. The utilization of the same would also be dependent on the decision taken by the concessionaire. If the concessionaire has chosen to invest the same in this project, such amount should earn a reasonable return on investment.

Considering the above argument, the Regulator should provide at least the cost of debt in rupee terms for this investment made by the Concessionaire.

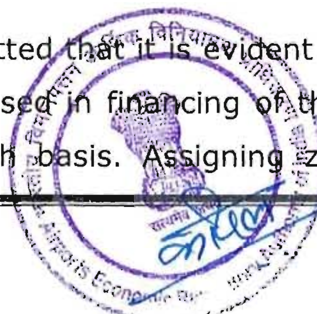
Providing any return less than the cost of debt in rupee terms would be against the spirit and principles laid down by the SSA."

15.9. The MoCA have in their letter dated 12.03.2012, forwarded a study conducted by AAI through SBI CAPS. MoCA in this letter state that:

"On the Quasi Equity for the airport sector, the study has concluded that the rate of return would depend on the type and features of the instrument being used for such form of finance. The report further states that in case of Quasi Equity, the risk/return profile lies above that of debt and below that of Equity."

15.10. DIAL have stated that the Authority has accepted the approach as outlined in the OMDA and SSA, in respect to the revenue (currently lease rentals) from Non Transfer Assets (NTA) to be kept outside the regulatory purview of tariff determination. However, the upfront deposits generated from the same lease agreements, used for part financing the project cost, have not been allowed any return whatsoever.

15.11. They have submitted that it is evident from the above arrangement that cash flows from NTA's, used in financing of the Aeronautical RAB, have to be considered on arms-length basis. Assigning zero return to such deposits



disregard their economic significance and their intrinsic cost and in effect tantamounts to providing a 100% cross subsidy in the tariff determination when zero cross subsidy is envisaged on the concession documents from NTA. They have stated that had DIAL on its part invested this money in any other venture, it would have earned a return and was not under any compulsion to structure the land monetization to receive large security deposits which it did in the larger interests of ensuring requisite funds to ensure timely completion of the expansion and modernization project. The submissions of DIAL are extracted as under:

"We have provided our detailed response to the observations of the Authority as under:

a) Authority's Argument

As regards DIAL's argument that this amount was available to DIAL to be used as it wished, and without the requirement of using it for the airport project, this appears to be a matter of interpretation of the covenants of SSA and OMDA, which is in the domain of GoI and AAI. However, it is observed from the records that the DIAL have been consistently projecting RSD as a distinct head in the means of finance and separate from equity.

DIAL Response

The OMDA and SSA do not discuss Refundable Security Deposits (RSD) as a source of financing. However it is clear that the revenues from NTA should not be used for cross subsidizing the aeronautical charges. It is also clear that RSDs have been used for funding the modernization and up gradation project of Delhi Airport. Providing a zero return on these funds, thus in spirit tantamount to cross subsidizing the aeronautical charges which is not the intent of the OMDA and SSA. The depiction by DIAL of RSD as a distinct head separate from equity is a presentation issue and this does not change the nature of deposits as being quasi-equity or funds having the underlying element of equity. It is also important to note that lenders, majority of who are public sector banks, have treated RSD as quasi-equity for the purpose of Debt-Equity covenant of lenders.

b) Authority's Argument

Further, DIAL has been permitted to levy DF after exhausting all other means of finance including RSD. The Authority has separately stated that it will permit DF only as a measure of last resort. Therefore, DF would not have been permitted to DIAL in case it would have applied a ready source of finance like RSD for any other purpose. In this light, the argument that RSD amount was available to DIAL to be used as it wished can at best be termed as hypothetical.

DIAL Response

No doubt DIAL has used the RSDs for funding the Delhi Airport project and sought and obtained DF for the shortfall that could not be met from any other sources. However this does not imply that DIAL should not be permitted any return on these funds.

- *We had taken equity to maximum extent possible and are allowed a return on them.*
- *We had taken debt to maximum extent possible and are allowed a return on the same.*
- *We had taken deposits to maximum extent possible; however we are not being allowed any return on the same.*

This treatment is not appropriate.

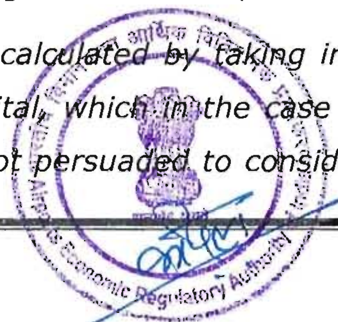
c) Authority's Argument

261. The cost of this amount to DIAL is zero as the security deposits are interest free.

Further, SSA contemplates a return on RAB on WACC basis, which has been defined therein as under:

"WACC = nominal post-tax weighted average cost of capital, calculated using the marginal rate of corporate tax"

Thus, WACC has to be calculated by taking into account the cost of each component of capital, which in the case of RSD is zero. In this light, the Authority is not persuaded to consider RSD as quasi-equity



and proposes to consider its actual cost, i.e., zero for computation of WACC.

DIAL Response

The argument that a zero interest deposit has no inherent cost is incorrect and fallacious. By this argument we will be building the fallacious logic that equity should also not be allowed any return since it has no designated or promised return. Further, DIAL could had invested the RSD into alternate avenues which would have enhanced the bottom line and reserves, which could have been used for distribution of dividends and/or capitalization of reserves i.e for creation of further equity capital. Therefore, RSDs are akin to equity and should get equity-benchmarked returns"

15.12. DIAL have also furnished the extracts from the report of KPMG on the Return on Deposits in other infrastructure sectors and also furnished an opinion from Opinion of CARE (Credit Analysis and Research Limited) in support of their claim which are extracted as under:

KPMG has assessed other sectors where a return on the investment is allowed, even if they are funded from deposits. The relevant extract from the report is as under;

a) Compressed Natural Gas & Natural Gas:

"PNGRB, in its guidelines, has clearly acknowledged that security deposits would form part of the company's liability and it should not be reduced from the total capital employed while determining the network tariff.

Further the guidelines allow the entity to earn a reasonable rate of return on entire Capital Employed. Relevant extract from the regulation are stated below:

• Entity may collect refundable interest free security deposit as specified under the Petroleum and Natural Gas Regulatory Board (Authorizing Entities for Laying, Building, Operating or Expanding City or Local Natural Gas Distribution Networks) Regulations, 2008. Such deposit is towards the safe-keeping of the meter and is to be

refunded in full to the domestic PNG customer in case of a dis-connection. Further, since the amount collected as interest-free refundable security deposit shall exist as a liability in the books of accounts of the entity, the same shall not be reduced from the total capital employed while determining the network tariff."

• The reasonable rate of return shall be the rate of return on capital employed equal to fourteen percent post-tax considering the rate of return on long term risk-free Government securities and the need to incentivize investments in creation of CGD infrastructure

b) Ports: TAMP Guidelines

- *"Return will be allowed on Capital Employed (ROCE), both for Major Port Trusts and Private Terminal Operators, at the same pre-tax rate, fixed in accordance with the Capital Asset Pricing Model (CAPM)."*

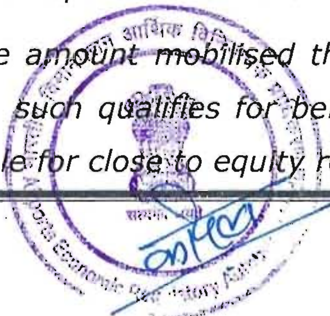
*"**Conclusion**: The Authority has proposed to provide zero returns on capitalized airport asset funded through RSD. However, it is evident that there is an opportunity cost associated with RSD in terms of the forgone lease rentals. Also, lenders have treated the RSD funding as part of promoters contribution (quasi-equity), therefore, RSD utilised to fund the capex is expected to have risk inherent to that associated with equity. Additionally, there are examples from other infrastructure sectors where regulator provides return on the capital employed by the Concessionaire and does not consider the cost of funds while calculating tariff."*

Opinion of CARE (Credit Analysis and Research Limited)

We had appointed CARE to give us an opinion on the treatment of the RSD. CARE through their advisory subsidiary Kalypto Risk Technologies (P) Ltd gave us an independent opinion on the treatment of return to be allowed on RSD. They have opined as under:

The relevant extract from their report is as follows:

"In light of these facts, the amount mobilised through RSD exhibits equity like features and as such qualifies for being treated as quasi equity and thus being eligible for close to equity returns."



Authority's Examination

15.13. It is observed that the Airlines and their associations have supported the Authority's proposal to not allow any return on the interest free RSD as DIAL is not paying any interest expenses on the deposit (and therefore, there is no cost involved). APAO, ACI, ASSOCHAM, Fraport have, on the other hand, requested that the Authority should consider providing returns on RSD commensurate with the return on equity. CII have requested that the Authority should provide at least the cost of debt in rupee terms for this investment.

15.14. The Authority notes that SBI CAPS have in their report, inter alia, commented on Quasi Equity as it is normally understood and treated in the financial literature. The MoCA, while forwarding the report have stated *"On the Quasi Equity for the airport sector, the study has concluded that the rate of return would depend on the type and features of the instrument being used for such form of finance."* The Authority, however, noted that SBI CAPS report does not state that refundable security deposits raised by DIAL be treated as Quasi Equity.

15.15. Briefly stated the Authority had proposed to consider RSD as zero cost means of finance for the following reasons:

15.15.1. OMDA defines equity as under:

> " ***'Equity'*** *shall mean the paid-up share (equity and preference) capital of the JVC and shall include any Sub-ordinate Debt advanced by shareholders of the JVC to the JVC, provided that the Lenders' or their agent classifies such Sub-ordinate Debt as equity and conveys the same by a written notice to the AAI; provided however that notwithstanding the foregoing, any amounts that have been infused in the JVC as paid-up share capital or Subordinate Debt would not be classified as 'Equity' to the extent that such amount do not related to Transfer Assets."*

Therefore, only the items specifically stated therein can be considered as "equity" and it may not be permissible to include any other items therein.

15.16. Further, the cost of this amount to DIAL is zero as the security deposits are interest free. The SSA contemplates a return on RAB on WACC basis which has been defined as under:

" *<u>WACC</u> = nominal post-tax weighted average cost of capital, calculated using the marginal rate of corporate tax"*

Thus WACC has to be calculated by taking in to account the cost of each component of capital, which in the case of RSD is zero.

15.17. The matter has been further considered by the Authority in light of the stakeholders responses. The Authority finds that there are two limbs of the case made against the treatment proposed by it, namely:

(i) The RSD having been raised from Non Transfer Assets, it was open to DIAL to use the same at its "will";

(ii) The money raised from the RSD having been invested in the project DIAL needs to be compensated at least to the extent of opportunity cost.

These issues are addressed as under:

<u>Amount was available to DIAL to use at its "will":</u>

15.17.1. Of the total land of about 5000 acres, which was leased out to DIAL by AAI around 245 acres of land is permitted for commercial exploitation by DIAL. The Authority is of a considered view that grant of valuable land to DIAL (at no cost) can be treated as **subsidy in kind** by AAI / Government. The Authority has also found no warrant in SSA or OMDA to indicate that this land was given to DIAL to be used in a manner that it deems fit without using the proceeds for public purpose, namely, expansion and modernisation of Delhi Airport.

15.17.2. DIAL have indicated a scenario where it could have invested proceeds of Rs.1471.51 crore into alternative avenues for purposes other than putting into the airport project. Apart from going into the question of the provisions of SSA and OMDA, governing use of funds available with DIAL, this argument is premised upon the underlying assumption that the land which has been leased out has no inherent purpose attached thereto. In the Authority's view, there is a need to make distinction between the corporate entity of DIAL (Special Purpose Vehicle) and its individual shareholders. The issue in question is that the amount has been received not by the shareholders but by the corporate entity, namely, DIAL. DIAL's argument does not seem to take into account this legal distinction.

15.17.3. As per Article 1 of the lease deed agreement the project is defined as "design, development, construction, finance, management, operations, maintenance of the airport" as provided for under the OMDA. Article 2 on grant of lease in clause 2.1.1 stipulates that the demised premises are to be held by the SPV for the sole purpose of the project. The Authority believes that the use of land is to be made for the project of DIAL and alternative avenues merely to enhance the bottom line and reserves without at the same time keeping in sharp focus the purpose, namely, the airport, is not contemplated in these agreements.

15.17.4. DIAL is a Public Private Partnership (PPP) Venture. It is apparent from records that the RSD amount was always factored as a means of finance for the capital cost of the project. The DF is a pre-financing measure and according to the ICAO's guidelines is to be invoked as a measure of last resort, that is to say, after exhausting all possible means of finance. Hence, the Authority finds that the argument of DIAL that the RSD amount could have been used elsewhere, is difficult to accept. At the same time, the Authority is unable to go into hypothetical alternative scenarios of varied treatments that could or could not have been given to the RSD. It has to examine the cost as it is. Since, the cost of this means of finance was zero, the Authority could not have considered any other cost "along with opportunity cost" for these deposits.

15.17.5. It would also be relevant to highlight here that several stakeholders, at the time of determination of DF, had stated that the Authority should not determine any DF as it was not contemplated under the provisions of SSA/OMDA. The Authority had, in its order on DF, clearly brought out that it was acting under the provisions of the AERA Act in determining the DF and determined the same at Rs.3415.35 crore. The Authority, therefore, believes that keeping the overall context of PPP, the public purpose of modernization and expansion of airport, grant of valuable public land to DIAL for this purpose, and the capital receipts which the company has been able to raise, it did not have any option other than investing the RSD amount in the airport project and the arguments and submissions to the contrary are untenable.

15.17.6. It will also be relevant to highlight here that at every stage DIAL treated RSD as a separate means of finance for the project. The Authority

finds that DIAL vide letter Ref. No. DIAL/2008-09/FIN/0392 dated 09.05.2008, addressed to MoCA had stated as under:

> *"Refundable Security Deposits was always envisaged as a means of finance at various stages i.e. (a) at the time of bidding (b) at the time of submission of revised A6 post award of the bid (c) at the stage of master planning and (d) lenders due diligence of DIAL's business plan.*
>
> *DIAL has submitted several legal opinions from various eminent legal practitioners stating that the collection of Refundable Security Deposits by DIAL does not amount to any contravention of the provisions of the Operation, Management and Development Agreement ("OMDA") executed between DIAL and the Airports Authority of India ("AAI"). We understand that the learned Attorney General of India has also given an opinion in similar line in this matter."*

Therefore, it is apparent that DIAL's present argument that RSD could have been used by them at 'will' for purposes other than for airport project is an afterthought. It is also apparent from the above that DIAL was at various forums pressing for raising RSD from land monetization for the purposes of the project. Therefore, it is difficult to agree with their present submission that they should now be compensated for the "opportunity cost associated with RSD in terms of lease rental foregone".

Opportunity Cost

15.17.7. The concept of opportunity cost comes as "a return foregone by investing in a project rather than investing in securities" (Principles of Corporate Finance, 8th Edi. By Brealey, Myers, Allen and Mohanty, Page 16). SBI Caps' report mentions that "in order to determine cost of a particular quasi-equity instrument, it would be necessary to analyse the details of transactions and underlying agreements". It does not therefore appear that the concept of opportunity cost is explicitly linked to the issue of cost of quasi-equity as opined by SBI Caps.

15.17.8. At any rate, assuming the argument of opportunity cost and its meaning flowing from the submission of DIAL, it would be reasonable to

presume that there is some fixed number or at least a reasonably narrow range of values for that number that DIAL may have in mind as a reference. For "opportunity cost" there are a large number of alternative instruments for investments; e.g., government securities, corporate debt (with different term structure of interest rates), bank deposits, equities etc., having a fairly large range of values. Further, by that logic, the equity brought in by promoters should also be referenced to that number or narrow range of numbers, and that return on such equity should also be referenced to that number, an argument which in view of the Authority would be incorrect. Furthermore, should DIAL be able to obtain certain debt component at a cost below this reference number, by the logic of opportunity cost, it would appear that this low cost debt should also be given not the actual cost thereof but (higher) cost referenced to that opportunity cost number, an argument which also in the opinion of the Authority is untenable. In short, the project is financed through different component of means of finance and each component would have to be reckoned on its own as far as cost thereof is concerned, the only exception being the **ordinary equity** (as opposed to preference share) the cost of which itself becomes a subject matter of determination (in this case through CAPM methodology). Since the RSD, as a means of finance, had been obtained at zero cost, the Authority is unable to consider any "opportunity cost" reference point to include in the cost for RSD.

15.17.9. The AAI, a Public Sector Undertaking with full Government ownership has leased about 5,000 acres of land for the purposes of airport development to DIAL. AAI has not charged any amount for this land. A part of this land, namely, 245 acres is also permitted by AAI to DIAL to be commercially exploited. Monetisation of 45 acres of this land has resulted in the following two streams:

i) Capital Receipts of Rs. 1471.51 crore which are interest free security deposit to be refunded after a period of 57 years.
ii) A revenue stream of around Rs. 2 crore per acre per year escalating, as Authority is informed, by 5% per annum.

15.17.10. An argument which could be raised is that if the Authority were to give some reasonable return (on RSD), DIAL would in any case have to share 46% thereof with AAI. Hence denying any return on the RSD would be

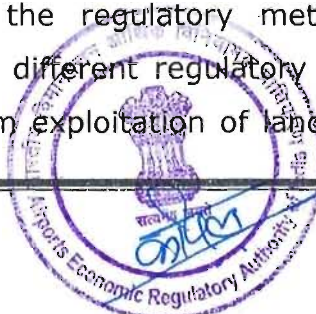
injurious to AAI (a Public Sector Undertaking). The Authority is unable to agree with this argument for the reason that if the Authority were to give some return on the RSD, 54% thereof would be available to DIAL. This would imply that by making grant of this land to DIAL, AAI has deprived itself of 54% of the proceeds of RSD.

Other Arguments

15.17.11. DIAL have stated that the revenues from non transfer assets should not be used for cross subsidising the aeronautical charges. The Authority notes that the receipts from exploitation of 45 acres of land and resulting into Rs.1471.51 crore are in the nature of capital receipts and cannot be treated as revenue. The Authority is also informed that in addition to capital receipts (which have been used as a means of finance in the capital project cost), DIAL is also in receipt of annual rental of around Rs.1.8 crore to Rs.2 crore per acre from the sub-leases of this land. The Authority has not taken into account this revenue (totalling around Rs.90 crore p.a) towards calculation of aeronautical tariff. The Authority, therefore, believes that its treatment of capital receipts i.e., RSD, is in accordance with the provisions of SSA and OMDA. Since the deposits are interest free, the Authority has also given no interest on these deposits.

15.17.12. DIAL have argued that the treatment proposed by the Authority amounts to saying that the zero interest deposit has no inherent cost, which is incorrect and fallacious because according to it, on that analogy, equity should also not be allowed any return since it has no designated or promised return. Comparing equity to RSD, in view of the Authority, is incorrect. The equity is put by the promoter of a venture into a project in expectation of certain return consistent with the risk profile of the project. If DIAL's argument is to be accepted, the return on equity would be equated with, say, the cost of debt and the equity holder would be entitled to a return merely as a lender, which would be unfair.

15.17.13. Some of the comments compare RSD with deposits collected by the regulated entities in other regulatory regimes like PNGRB or TAMP. The Authority is informed that the regulatory methodology for determining relevant tariffs is different in different regulatory regimes. The RSDs in the case of DIAL have arisen from exploitation of land given free of cost by AAI



for the express purpose of airport expansion and modernisation. Hence the Authority believes that the nature of RSD and the deposits collected by the regulated entities in other regulatory regimes is qualitatively different. To compare them therefore would be incorrect.

15.17.14. The Authority would also like to reiterate that the treatment of RSD for the purpose of tariff determination under the AERA Act and keeping in view the provisions of SSA and OMDA is to be made entirely within the confines of the Act and the SSA and OMDA. Other entities like lenders or the bankers may, as per the normal procedures in their operations, give different treatment to this RSD.

Decision No. 13. Decision on RSD:

13.a. The Authority decided to consider RSD as a means of finance at zero cost.

16. Operating Expenses, allocation mechanism and Efficiency Factor

16.1. In the Consultation Paper, the Authority had proposed to accept the forecasts made by DIAL in respect of opex and its allocation mechanism. The Authority had also proposed that it may commission an independent study to benchmark the operating costs of IGI Airport, New Delhi and if the opex (actual and forecast) proposed by DIAL is at variance with the independent assessment, the Authority will consider appropriately truing up the figures (Refer para 282 to 284).

Stakeholder Responses

16.2. Cathay Pacific have stated that DIAL have proposed Rs.3088.34 crore from 2009-2014 and the Authority has accepted the proposal as limited time is available, but may review it later. They have stated that it is difficult to comment as details are not available.

16.3. IATA have requested the Authority to carry out an independent assessment (via a bottom up as well as a top-down analysis) of the operating cost efficiency of DIAL. Further, IATA have also stated that, as highlighted in the section regarding RAB, an airport working on a dual or hybrid till will have a

significant incentive to allocate costs to aeronautical activities and it is entirely plausible that the portion of operating costs allocated to aeronautical activities is too high and have in support attached the European experience on allocation of opex bears out this observation. Given that cost allocation of operating expenditure has a significant impact in the calculation of charges, IATA have requested the Authority to carry out a thorough analysis of DIAL's allocation practices and to make any necessary adjustments of the allowable revenue through clawback.

16.4. IATA have also expressed their concerns with regards to DIAL operating expenditure calculations, due to the following:

16.4.1. Operating costs almost tripled between 2009-10 and 2013-14. Although the operating costs of a new terminal are activated, the increase appears too high.

16.4.2. The Delhi cost benchmark (carried out by Leigh fisher) does not make comparisons on a Purchase Power Parity (PPP) basis. Without such an adjustment, comparisons on airport costs are meaningless. Given the significant difference between Delhi costs (in USD) at market rates and PPP rates, the conclusions of the Leigh-Fisher analysis could be significantly different if the latter approach was used. Moreover, Delhi airport has the incentive to overestimate its forecast 2011-12 figures as these are being used as the base for forecasting 2012-13 and 2013-14 figures. As such, there is a need to scrutinize the significant cost increases being forecasted. For better accuracy, more up-to-date interim financial figures for 2011-12 should be used as the base for forecasting future expenditure.

16.5. DIAL have in their response to the Consultation paper stated that the Authority should consider the effect of change to the cost allocation mix based on disallowance of the DF Order. The revised cost allocation mix submitted by DIAL is as under:

Table 9 DIAL's Revised cost allocation mix

Cost Heads	Allocation % submitted by DIAL	Revised Allocation % submitted by DIAL
Staff Cost	89.79%	91.44%
Administrative & General Expenses	70.28%	71.11%
Electricity & Water Charges	100.00%	100%
Operating Expenses	91.89%	93.31%
Airport Operator Fee	87.54%	88.78%
Property Tax	87.54%	91.69%

16.6. DIAL have however, accepted the Authority's proposal of treating VRS payments as operating cost in lieu of amortization as proposed by them. Further, they have also clarified that the VRS monetization referred by the Authority over the concession period is for period of 60 years (and not 30 as mentioned in Consultation Paper)

16.7. DIAL have also requested the Authority that the manpower cost of Inline Baggage screeners should either be allowed as an operating cost in the tariff determination or a clear direction be given in this regard so as to allow the same operating cost while determining the PSF Security charge.

16.8. In response to the comments of Cathay Pacific, DIAL have submitted that the Authority has clarified the items of cost that are subject to true up and these include the statutory taxes and cost relating to rate of unit of electricity and water.

16.9. Further, in their clarifications to IATA's comments, DIAL have submitted that the cost projection for FY 12-13 are fully backed up with the fund-centre level details for each and every function of DIAL and the same have been subject to review by the Authority. As regards increase in operating costs, due consideration has to be given to increase in scale of airport infrastructure as follows:

16.9.1. The terminal area post T3 has increased from a total of 1,25,160 sqm. to 6,79,047 sqm. which is a 442% increase.

16.9.2. The escalators in terminals have increased from 6 to 40 which is 566% increase.

16.9.3. Elevators have increased from 19 to 82 which is 331% increase.

16.9.4. Passenger Boarding Bridges have increased from earlier number of 12 to 90 which is 650% increase.

16.9.5. Similar area increases have also been there in the airside and city side facilities.

However, the proportion of the increase in the operating cost is much lower than compared to the increase in the infrastructure and has been proved by various analysis submitted to the Authority.

16.10. As regards the IATA submission in respect of cost benchmarking on PPP basis, DIAL have submitted that the PPPs are based on the comparative

purchasing power of different currencies for a basket of basic consumer goods, such as food and clothes, equipment and construction services. PPP as a basis for comparing operating costs at airports is inappropriate because:

16.10.1. It is certain that the basket of goods will not include items which are included in operating costs of an airport. In fact it seems unlikely that a significant proportion by value of the goods included in the basket would be bought by an airport on a regular basis.

16.10.2. There are two different types of PPP (world price and superlative) and there is much academic debate as to their relative merits.

16.10.3. The original concept of PPPs was that they were intended to enable comparisons of prices to be made between two countries only. Multi-country comparisons using PPPs, therefore, become extremely complex;

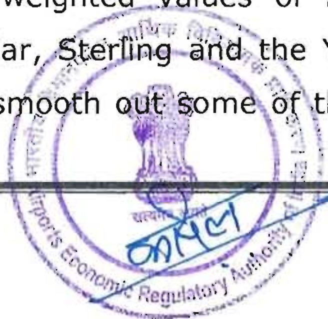
16.10.4. The basket of costs applies to the whole economy including, for example, the agricultural sector: it is unlikely to be appropriate for the costs associated with advanced technology industries such as aviation;

16.10.5. PPPs lack the recognisable quality of the Dollar, are not readily accessible (they are not quoted in foreign exchange listings) and are not widely understood outside of academic circles;

16.10.6. PPPs do not reflect the underlying position for airports' airline customers, who pay in cash at prevailing exchange rates, not in PPPs.

16.11. For these reasons, DIAL have stated that comparisons must be limited to Dollar-based amounts; and that the use of PPPs is potentially misleading; and that it is also significant that PPPs have never, as far as they are aware, been used in comparisons made by IATA when looking at airports in developed countries. DIAL have further highlighted that the they had carried out the analysis and benchmarking of the operating costs in INR, Dollars and SDR's to ensure a balanced analysis.

16.12. DIAL have submitted that SDR's are also one of the most widely accepted yardsticks of benchmarking amongst various countries. SDR is an IMF-based basket of leading currencies as used in benchmarking publications, which is calculated from the trade-weighted values of four G8 nation currencies, namely, the Euro, the US Dollar, Sterling and the Yen. The use of the SDR is most beneficial as it helps to smooth out some of the larger fluctuations which



appear over time when comparisons of this sort are made against a single currency, such as the US Dollar. Therefore, DIAL have submitted that the total operating cost forecasted for FY 2012-13 had been independently benchmarked and admitted as one of the lowest amongst comparable airports.

Authority's Examination

16.13. The Authority has noted that the IATA have raised important issues and have suggested a thorough analysis based on which necessary adjustments of the allowable revenue could be made by way of/ through clawback. The Authority has decided to commission an independent study to benchmark the operating costs of IGI Airport, New Delhi and subject to the above opex being the ceiling, it would review the efficient costs and appropriately true up the figures, at the beginning of the next control period, if the same are at variance with the outcome of the independent exercise undertaken. The stakeholders comments, in this regard, would be shared with the agency carrying out the independent assessment on behalf of the Authority.

16.14. In respect of the costs related to electricity and water charges, the Authority had noted that these are determined by respective regulatory agencies and, it was proposed that the Authority will consider the change in per unit rate of cost related to electricity and water charges for the purpose of corrections to tariffs. In this regard, it is observed that since the operating costs being considered for the tariff determination exercise are taken as efficient costs, hence in respect of electricity and water charges the unit rate of water and electricity only should be trued up as part of operational expenses at the beginning of the next control period. However, the underlying quantity/volume of water and electricity will not be trued up for the purpose of corrections to the tariffs. For example, if the utilised quantity of water forecasted for tariff year 't' is 100 KL at per unit rate of Rs.100 per KL, then the operational expenditure in respect of this water consumption will be forecasted at Rs.10,000. However, if the concerned regulator revises the per KL rate for water to, say Rs. 200 per KL, and the consumption is reported by DIAL as 150 KL for tariff year 't', then for the purpose of truing up, the Authority will consider per unit rate of Rs. 200 but will retain the quantity of consumption at 100 KL, for tariff year 't' during true up.

16.15. The Authority has after the consultation stage received the provisional opex figures for the FY 2011-12, as indicated in Table 10 below, and has considered the same in its present calculation of the X factor.

Table 10 Details of opex considered for the FY 2011-12

Details of Aeronautical Expenses - (2011-12 provisional)	Rs in crore
Staff Cost	135.26
Administrative and General Expenses	87.77
Electricity and Water charges	98.15
Operating Expenses	331.62
Airport Operator Fee	36.00
Property Tax	13.13
Total	701.94

It is to be noted that the this provisional figure of Rs.701.94 crore is lower than the forecasted figure of Rs.860.50 crore which was used at the Consultation stage.

Decision No. 14. Decision on Operating Expenses and Allocation Mechanism & Efficiency Factor

14.a. The Authority decided to accept the forecasts for 2012-13 and 2013-14 made by DIAL for the present. It decided to commission an independent study to assess the efficient operating costs of IGI Airport New Delhi for the entire control period.

Truing Up: 4. Correction / Truing up for Decision No. 14

4.a. The Authority decided that, if the costs of efficient operation and maintenance, assessed in the independent study are lower than the values used by the Authority, then it will claw back this difference in the next control period commencing from 01.04.2014.

4.b. The Authority decided that the following factors be reviewed for the purpose of corrections (adjustments) to tariffs on a Tariff year basis

i) Mandated costs incurred due to directions issued by regulatory agencies like DGCA;

ii) Change in per unit rate of costs related to electricity and water charges as determined by the respective regulatory agencies;

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 for by DIAL on final product/ service provided by DIAL, may be reviewed by the Authority for the purpose of corrections (adjustments) to tariffs on a Tariff year basis. Furthermore, any additional payment by way of interest payments, penalty, fines and other such penal levies associated with such statutory levies, which DIAL has to pay for either any delay or non-compliance, the same would not be trued up. On the input side if DIAL has to pay higher input costs even on account of change in levies/ taxes on any procurement of goods and services, the same would not be trued up.

17. Manpower

17.1. In the consultation paper, the Authority had proposed to adopt initial manpower projections in lieu with the principles of efficiency. (DIAL had projected 1471 as the manpower requirement till 2013-14. Subsequently, the actual manpower has been certified as 1494 (Refer para 285 to 287 of CP-32))

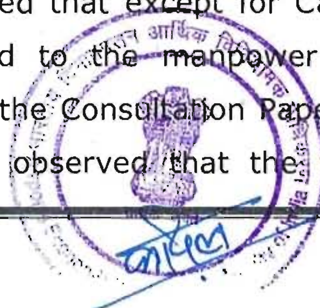
Stakeholder Comments

17.2. IATA have supported the aforesaid view of the Authority.

17.3. Cathay Pacific have submitted that it is difficult to comment as details are not available and have no idea for instance whether the figure of 1401 manpower in 2011-12 is appropriate, given that DIAL have outsourced many of the activities.

Authority's Examination

17.4. The Authority has observed that except for Cathay Pacific, all the other stakeholders have not objected to the manpower number proposed to be considered by it as indicated in the Consultation Paper. In respect of the issues raised by Cathay Pacific, it is observed that the figures considered by the



Authority have been duly verified/ certified by auditors. Hence it is found appropriate to rely on the same for the purposes of the current tariff determination exercise.

Decision No. 15. Decision on Manpower:

15.a. The Authority decided to adopt 1471 (w.e.f 01.04.2011) as the manpower requirement till the end of the Control Period.

18. Expensing the Interest on DF Loan

18.1. In the Consultation paper, the Authority had proposed to expense out the interest paid/payable by DIAL on the loan taken against securitisation of DF receipts, for the entire period of 01.03.2009 to 30.11.2011 as the most appropriate option as adopting any other option would require the Authority to reconsider the net collections during the periods upto 26.04.2011 to 01.06.2011, which stand concluded by the judgements of the Hon'ble Supreme Court and Hon'ble Delhi High Court. The Authority also noted that technically the one month period of March'2009 is outside the present regulatory period and proposed to treat the interest paid for this period, i.e., March 2009 as a carrying cost.

Stakeholder Responses

18.2. IATA have supported the Authority's proposal on the subject.

18.3. APAO have, while appreciating the pragmatic approach adopted by the Authority, requested the Authority to treat the interest on DF Loan as part of DF, thus reducing the X Factor and thereby reducing the increase in tariffs.

Authority's Examination

18.4. The Authority has noted that the Central Government had approved the levy of DF by DIAL w.e.f. 01.03.2009, purely on an adhoc basis, to bridge a funding gap of Rs.1827 crore (NPV as on 01.03.2009). DIAL had securitized this to raise a loan of equivalent amount (i.e., Rs.1827 crore).

18.5. This loan was serviced by DIAL from the DF receipts. Pursuant to the judgment and Order of the Hon'ble Supreme Court dated 26.04.2011, and subsequent injunction of the Hon'ble High Court of Delhi, DIAL discontinued levy of the DF w.e.f 01.06.2011. Subsequently, DIAL claims to have been

servicing the loan through other resources till the re-imposition of the levy w.e.f 01.12.2011 as per the Authority's Order No.28/2011-12 dated 14.11.2011. While passing the said Order the Authority had taken in to account the DF collection of Rs.1484.08 crore (w.e.f 01.03.2009 to 01.06.2011) on total basis without providing for interest paid there from. DIAL's Auditors have certified the interest liability as indicated in Table 11 below.

Table 11 Auditor certified amounts of interest paid for relevant periods

Period	Interest paid (Rs. In crore)
01.03.2009 - 30.11.2011	350.50
01.04.2009 - 30.11.2011	349.69
27.04.2011 - 30.11.2011	56.90
01.06.2011 – 30.11.2011	47.99

18.6. The Authority has noted that the assets funded out through DF have not been included in the RAB and the debt raised by DIAL on securitization of DF has not been considered as an element in the means of finance. Therefore, the cost of this debt is not being allowed to be recovered through WACC. In this light and after considering the responses of the stakeholders the Authority reiterates the position taken in the Consultation Paper and has decided to expense out the interest for the entire period of 01.03.2009 to 30.11.2011 as the most appropriate option. Further, the Authority has also decided that the interest paid for the period, i.e., March 2009 (outside the present regulatory period) should also be expensed out as operating expenditure.

Decision No. 16. Decision on the expensing out the Interest on DF Loan

16.a. The Authority decided to expense out the interest on DF Loan for the entire period of 01.03.2009 to 30.11.2011 as operating expenditure.

19. Rupee-US Dollar Exchange Rate for conversion of forex earnings

19.1. In the Consultation Paper, the Authority had proposed to have reference to RBI reference rate USD for latest 6 months, available till 25.11.2011 (which works out to Rs.46.824) for the tariff determination. The Authority had noted that in view of recent trend of sharp movements in the exchange rate, it would

review this aspect further and would use the latest rates (trends) as may be available to it at the stage of final determination.

Stakeholder Responses

19.2. IATA have supported the Authority's proposal on the subject.

19.3. Cathay Pacific have observed that the calculation should be done at fixed Dollar rate and an appropriate hedging should be undertaken by DIAL against the foreign exchange and the fluctuations should not affect the tariff price adversely.

Authority's Examination

19.4. The Authority has noted that the RBI reference rate USD for latest 6 months, available till 31.03.2012 has moved up to Rs.50.66 as compared to Rs.46.824 which was used at the consultation stage. The Authority has decided to use the latest reference rates i.e., Rs.50.66.

Decision No. 17. Rupee - US Dollar Exchange Rate for conversion of earnings in forex of DIAL

> **17.a. The Authority decided to use the RBI Reference rate for USD for latest 6 month period available till 31.03.2012 at Rs.50.66 for conversion of earnings in forex of DIAL.**

20. Taxation

20.1. In the consultation paper, DIAL had submitted that the SSA requires corporate tax pertaining to aeronautical earnings be separately calculated and added as a building block to compute the final target revenue. DIAL computed the income tax, on aeronautical income, with the following assumptions:

20.1.1. Treating the Aeronautical Segment as a standalone entity with its own tax computations, (which may not necessarily reflect the overall tax computation of DIAL as a whole);

20.1.2. Items excluded from the calculations of the regulatory building blocks have been excluded from the regulatory tax computation, which include:

- Non-aeronautical operating costs or depreciation;

- Revenue share costs as they are mandated to be excluded as per concession documents;
- Tax Computation has also considered MAT provisions.

20.2. The Authority had in the consultation proposed to consider actual/forecast tax liability of DIAL in respect of Aeronautical Income, based on DIAL's regulatory accounts, computed as under:

Table 12 Actual/forecast tax liability of DIAL for Aeronautical Income, based on DIAL's regulatory accounts

Financial Year (Corresponding to the Tariff Year)	DIAL's forecast/Actual (Rs in crore)	Forecast based on the Authority's assessment (Rs in crore)
2009-10	-	-
2010-11	-	-
2011-12	-	-
2012-13	645	205*
2013-14	686	305*

** On account of carry forward losses for the past years it has been estimated that DIAL will be required to pay only the Minimum Alternate Tax for FY 2012-13 and FY 013-14.*

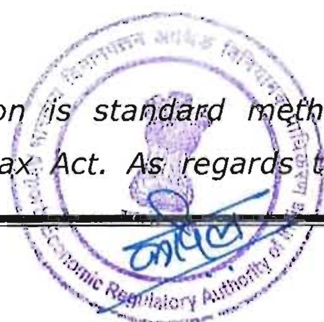
Stakeholder Responses

20.3. Cathay Pacific have opposed the inclusion of corporate tax pertaining to AERO service at Airport be included in the cost for the purpose of determination of tariff. They have stated that the corporate tax liability is below the line adjustment and cannot be passed on as a cost to the airlines for the purposes of determination of tariff. It is a liability to be borne by DIAL and not shared by airlines as part of tariff. AOC have also made a similar observation. They have stated that corporate tax pertaining to AERO service at Airport should not be included in the cost for the purpose of determination of tariff as it is the liability to be borne by DIAL and not shared by Airlines as part of tariff.

20.4. IATA have submitted that, while not much information is provided to allow an informed assessment, they support the tax calculations on the basis of actual tax paid and not on theoretical calculations.

20.5. DIAL have in their clarifications to the stakeholder's comments submitted as under:

"The calculation of taxation is standard methodology as per the provision of the Income Tax Act. As regards to Tax being part of



building block, this methodology of computing target revenue with tax cost in the building block is in-line with the methodology prescribed in the SSA. It is also a

1. *Worldwide practice*
2. *Practice across all regulatory regimes in all industries*

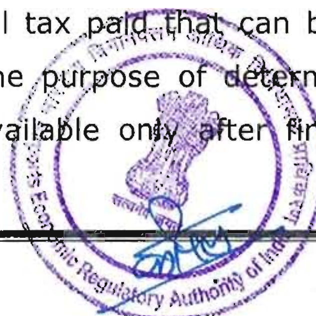
to include tax as a part of building block for tariff determination."

Authority's Examination

20.6. The matter has been further examined by the Authority in the light of stakeholder submissions. The Authority had proposed in the Consultation paper to consider actual/forecast tax liability of DIAL in respect of Aeronautical Income, based on DIAL's regulatory accounts. Schedule 1 of the SSA defines the term "T" as "*corporate taxes on earnings pertaining to Aeronautical Services*".

20.7. At the time of issue of the Consultation Paper, the taxes for the first two years (FY 2009-10 and FY 2010-11) were reckoned on actual. The taxes for these two years were reckoned as zero as no corporate taxes were paid. For the FY 2011-12 the forecast of taxes that DIAL will be required to pay was also Nil. For the two remaining years of the control period (FY 2012-13 and 2013-14) the Authority was able to forecast only on the basis of regulatory accounts, since it is not required to go in to the details of the non-aeronautical operating costs or depreciation; revenue share costs mandated to be excluded as per concession documents; or the revenue streams from Non Transfer Assets. The Authority has thus considered only the actual/forecast tax liability of DIAL in respect of Aeronautical services based on DIAL's regulatory accounts.

20.8. The Authority also notes that this is a statutory payment due to the Government. Further, the tax is being expensed out as a cost in the target revenue computations. Therefore, if the actual tax paid in any of the years (in the control period) is lower than the tax forecast to have been paid (and accordingly included in the target revenue calculation), it would lead to a situation wherein DIAL would be unjustly enriched. In view of this, the Authority has decided that only the actual tax paid that can be ascribed to aeronautical services will be reckoned for the purpose of determining the target revenue. Since this number would be available only after finalisation of DIAL's annual



accounts the difference between forecast and taxes actually paid would be trued up after review at the end of the control period.

Decision No. 18. Decision on Corporate Tax

18.a. The Authority decided to take in to account the actual corporate tax paid by DIAL (apportioned on operations from aeronautical services) for the year 2009-10, 2010-11 and 2011-12. For the balance period i.e., 2012-13 and 2013-14 the forecast of Corporate tax payable on aeronautical services has been used for tariff determination.

Truing Up: 5. Correction/Truing up for Decision No. 18

5.a. The Authority decided to review the actual corporate taxes on aeronautical services paid by DIAL, based on the audited figures as may be available and true up the difference between the actual corporate tax paid and that used by the Authority in the forecast. This truing up will be done in the next control period commencing 01.04.2014.

21. Non Aeronautical Revenue

21.1. In the Consultation Paper, the Authority had broadly sought the comments of the stakeholders on the following proposals:

21.1.1. The approach for projecting the Non Aeronautical revenue streams (para 372 of CP-32);

21.1.2. to consider the non-aeronautical revenue arising from the area admeasuring 8652 sq.mts (disallowed as per DF Order) for cross subsidy purpose (para 360 of CP-32);

21.1.3. to introduce a cute counter charge @ Rs. 500 per departing domestic flight over and above the Rs. 1500 per international flight already being charged and treat the revenue received from the Cute Counter charges as aeronautical revenue (para 411 of CP 32);

21.1.4. to consider the concession revenue received by DIAL from the ITP service provider(s) as non-aeronautical revenue in the hands of DIAL (para 401 of CP 32).

21.2. Forecast of Non Aeronautical Revenue

21.2.1. The Authority had in the CP-32 proposed to adopt the following approach to make a comparative analysis:

(i) the non-aeronautical revenue for various revenue heads for 2008-09 be considered as the base figure for forecasting the non-aeronautical revenue for FY 2009-10 and 2010-11, escalated by the historical passenger/ cargo growth rates plus a certain percentage increase due to higher penetration as may be applicable (as proposed by DIAL) for those years;

(ii) For 2011-12 to 2013-14, the base value of revenue arrived for 2010-11 to be projected based on the traffic growth plus a certain percentage year on year increase due to penetration as per DIAL's estimate.

Stakeholder comments on Forecast of Non Aeronautical Revenue

21.2.2. IATA have supported the approach proposed by the Authority to use the long-term assumptions for traffic growth (10yr CAGR). Air France have stated that they agree with the Authority that traffic forecast of Delhi Airport seems too pessimistic. The market for growth in aviation is clearly present. However growth figures could be strongly mitigated if costs of operations to/from India become too high. APAI have agreed with the Authority's approach in arriving at the non-aeronautical revenue.

21.2.3. Fraport, have stated that they expect the traffic growth at IGI Airport in the next years continue albeit at a much lower level than the CAGR of the last decade and have requested AERA to reconsider the traffic forecast.

21.2.4. APAO have submitted that the Authority has used higher of estimated and actual non aeronautical revenue while determining tariffs instead of the actual audited non aeronautical revenue figures available for IGI Airport for the period for FY 2010 and FY 2011. It has been stated that the SSA for IGI Airport does not explicitly state that the forecasted data should be used when actual data is available. The Authority has, however, considered actual figures while considering aeronautical revenue, operational cost etc. APAO have requested the Authority to consider actual audited numbers for non aeronautical revenue also, while determining tariff.

21.2.5. ACI have in their submissions stated that:

"We have noted that AERA has estimated the non-aero revenues for the control period 2009-2014 taking the year 2008-09 as the base. We also understand that the projections have been made using the passenger traffic growth rates plus an assumed increase in penetration of non-aero spends.

The accuracy of these projections is a concern as the airport already has noticed a significant difference in the actual non aero revenues for FY10 and FY11 as compared to the estimates made for these years. This also leads us to conjecture that the estimates for the next 2 years could also be significantly off the mark.

We believe that it is advisable to take actual data for the years for which it is available and then project it from that year onwards based on realistic assumptions.

This, in our view, would lead to the actual figures for the coming years to be more in line with what has been projected thus arriving at a more realistic scenario with respect to subsidization of aero activities."

21.2.6. MIAL have agreed with Authority's proposal to consider the non-aeronautical revenues in respect of DIAL as the non-aeronautical revenues that DIAL has actually received from the JVs and not the total revenues of JVs. They have stated that they are in agreement with the approach of the Authority which is in consonance with the clarification provided by AAI during the bidding process of Delhi and Mumbai Airports privatization and that any position contrary to the above will not be in line with the basis of bidding for Delhi and Mumbai Airports. The question and the clarification provided by AAI during the bidding process of Delhi and Mumbai Airports privatization is extracted as under:

" Q.No.998 –" Please let us know whether in Inflation - x model the 30% share of Revenue from Revenue Share Assets links to JVC's share of revenue from those . assets?

Suppose JVC gives a contract to third party for Duty Free Shop. In such a case, would JVC need to consider 30% of revenue from duty free shop or 30% of revenue occurring to JVC from duty free shops to be deemed as the revenue to be generated from Aeronautical Services.

Clarification: The revenue shared in the regulated till from the Revenue Share Assets will be 30% of the revenue accruing to the JVC from such assets. Thus, in case of a contract given to a third party concessionaire for a duty free shop, 30% of the revenue accruing to the JVC on account of such concession shall be shared in the regulated till and not 30% of the revenue from the duty free shop"

21.2.7. CUTS have stated that the issue of revenue from non-aeronautical services remains a grey area. While it has been proposed that the Authority would true up the allocation mix at the beginning of the next regulatory control period and in case of excess revenue having accrued to DIAL, the same small be clawed back, the Authority does not yet have an independent basis for allocation, and the tariff would be determined now itself that might be higher.

21.2.8. FICCI have stated a single growth factor has been used for all revenue streams. However, it is likely that the individual non-aero revenue streams vary from each other and hence may not have the same growth factor and the same penetration adjustment. In view of this, the Authority may like to revisit computation of growth in each Non-Aero revenue stream separately.

21.2.9. CII have questioned the accuracy of the Non Aeronautical Revenue projections and have stated that

".....we already have witnessed a significant difference in the actual non aero revenues for FY10 and FY11 as compared to the estimates made for these years. This also leads us to conjecture that the estimates for the next 2 years could also be significantly off the mark.

We believe that it is advisable to take actual data for the years for which it is available and then project it from that year onwards based on the decided assumptions.

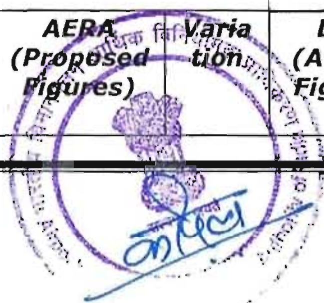
This, in our view, would lead to the actual figures for the coming years to be more in line with what has been projected thus arriving at a more realistic scenario with respect to subsidization of aero activities."

21.2.10. DIAL have made the following observations in respect of the non Aeronautical revenue forecast proposed by the Authority:

Forecasting for historical year when audited numbers available*- The financials of the year FY 2009-10 and FY 2010-11 are already audited and the non-aeronautical revenues are part of these audited financials. To take hypothetical numbers for the historical years when the actual audited numbers are available is erroneous. It is akin to setting aside actual numbers and using hypothetical numbers for tariff determination which not only puts DIAL in a disadvantageous position as it cannot recover these hypothetical revenues. Given that the Authority has taken the actual audited costs of the year FY 2009-10 and FY 2010-11 for the purpose of tariff determination, it should also take the audited revenue for the historical audited years. If higher revenue numbers are taken compared to the actual audited revenue it implies that 30% of the difference (which shall never be realised) is used to cross - subsidize aeronautical revenues when in reality that revenue will never accrue to DIAL. The following shows the extent of "Hypothetical" revenue that the Authority has used for higher cross subsidization:*

Table 13 DIAL's table indicating variation in Non Aeronautical revenue

Revenues	***2009-10***			***2010-11***		
	DIAL (Audited Figures)	***AERA (Proposed Figures)***	***Variation***	***DIAL (Audited Figures)***	***AERA (Proposed Figures)***	***Variation***



Revenues	*2009-10*			*2010-11*		
	DIAL (Audited Figures)	***AERA (Proposed Figures)***	***Variation***	***DIAL (Audited Figures)***	***AERA (Proposed Figures)***	***Variation***
Duty Free	*120.03*	*120.03*	*0.00*	*81.08*	*133.92*	*52.84*
Advertisement	*27.99*	*54.45*	*26.46*	*42.55*	*61.84*	*19.29*
Retail/Duty Paid	*9.55*	*9.55*	*0.00*	*27.99*	*27.99*	*0.00*
Car Parking	*26.07*	*26.37*	*0.30*	*10.09*	*29.95*	*19.86*
Forex			*0.00*	*29.94*	*29.94*	*0.00*
F&B and Lounge	*31.19*	*31.19*	*0.00*	*41.16*	*41.16*	*0.00*
Telecom	*18.96*	*18.96*	*0.00*	*11.06*	*21.53*	*10.47*
Radio Taxi	*3.06*	*3.36*	*0.30*	*7.04*	*7.04*	*0.00*
Other Commercial Income	*4.72*	*12.15*	*7.43*	*7.13*	*13.79*	*6.66*
ASC			*0.00*			*0.00*
Transit Hotel			*0.00*			*0.00*
Flight Kitchen royalty	*13.00*	*14.43*	*1.43*	*28.87*	*28.87*	*0.00*
Land Space and Hangar	*132.14*	*132.14*	*0.00*	*123.27*	*123.27*	*0.00*
Ground Handling	*37.74*	*37.74*	*0.00*	*42.87*	*42.87*	*0.00*
Bridge Mount Equipment			*0.00*	*1.60*	*1.60*	*0.00*
Into Plane			*0.00*	*0.80*	*0.80*	*0.00*
Total	*424.45*	*460.37*	*35.92*	*455.45*	*564.57*	*109.12*

It is clearly evident that, in case of past historical years, additional revenue of almost Rs.150 Crore has been considered by Authority, which will never be recouped by DIAL.

(i) ***Variation in historical year revenues:*** *Based on the Authority's request, we had submitted detailed reasoning of the variations in the individual revenues achieved in the past period. It was brought to the notice of the Authority that there have been changes on account of change in business models of certain individual revenue streams, change in the level of revenue shares from the previous contracted level considering the current market scenario, etc.*

However the methodology proposed by the Authority ignores the business realities and dynamics, which were the basis of our submissions. Therefore, we again request the Authority to consider such submissions and be guided by the actual audited revenues of historical financial years

and consider the changes in contracting terms and actual business dynamics which are very pertinent in a tariff determination exercise.

(ii) *Apparent inconsistencies: Considering the cross-subsidization (30%) of non-aeronautical revenue as proposed in scenario 3, the value so arrived does not reconcile with the value considered as cross-subsidy in computing the target revenue as presented in the following table:*

Table 14 DIAL's comparison of cross-subsidization of Non Aeronautical Revenues

Non-Aeronautical Revenues	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Scenario 3	494.65	686.89	835.25	985.50	1145.65
Cross Subsidization (as per scenario 3)	148.39	206.07	250.58	295.65	343.70
Cross Subsidization (taken for calculation)	148	206	264	328	404

We understand that, as the numbers for the FY 2009-10 and FY 2010-11 are same in the both cases and the difference is only from the FY 2011-12 onwards, this might be due to escalating non-aeronautical of scenario 3 by inflation. There are revenue streams with long-term contracts where escalation on account of inflation is factored in the concession term. Therefore taking inflation again will be equivalent to escalating twice for same reason. The Authority is requested to please look into this aberration and rectify such errors

(iii) ***Forecasting for future year:*** *A forecast of numbers for future years should invariably consider the latest base numbers as they represent the current trends and will result in forecast numbers being closer to the actual realized numbers for future years. The Authority is requested to give credence to the fact that the Airport Infrastructure from FY 2008-09 to FY 2010-11 has undergone significant change. Therefore projecting revenues based on growth drivers without considering actual realities will not provide credible revenue forecast.*

(iv) ***Inconsistency in base year:*** *Normally, while forecasting the base on which forecast are carried out is fixed. However in Scenario 3, against individual revenue streams there is continuous shifting of the base year. The base of FY 2008-09, as stated in the consultation paper, is not fixed. The same is illustrated for individual revenue streams as under:*

Table 15 DIAL's Table on inconsistency in base year

Revenue	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Duty Free	*2009-10*	*2009-10*	*2009-10*	*2009-10*	*2009-10*
Advertisement	*2008-09*	*2008-09*	*2008-09*	*2008-09*	*2008-09*
Retail/Duty Paid	*2009-10*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Car Parking	*2008-09*	*2008-09*	*2008-09*	*2008-09*	*2008-09*
Forex		*2010-11*	*2010-11*	*2010-11*	*2010-11*
F&B and Lounge	*2009-10*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Telecom	*2009-10*	*2009-10*	*2009-10*	*2009-10*	*2009-10*
Radio Taxi	*2008-09*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Other Commercial Income	*2008-09*	*2008-09*	*2008-09*	*2008-09*	*2008-09*
ASC			*2010-11*	*2010-11*	*2010-11*
Transit Hotel			*2010-11*	*2010-11*	*2010-11*
Flight Kitchen royalty	*2008-09*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Land Space and Hangar	*2009-10*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Ground Handling	*2009-10*	*2010-11*	*2010-11*	*2010-11*	*2010-11*
Bridge Mount Equipment		*2010-11*	*2010-11*	*2010-11*	*2010-11*
Into Plane		*2010-11*	*2010-11*	*2010-11*	*2010-11*

(v) In some revenue streams (like land, space and hangar, airport service charges etc.) revenue are escalated additionally by traffic growth apart from contracted escalation. Linking growth in these revenues by traffic forecast is not correct, as these revenues are not linked with the traffic growth.

(vi) Based on the scenario 3 proposed by the Authority, there is a variation of 40% (amounting to Rs. 1,103 Crore) in Non-Aeronautical revenues, except Cargo, for the entire control period. Such high variations are almost impossible to achieve.

Table 16 – DIAL's Table showing variation in Non-Aeronautical revenues for the control period

Non-Aero Revenue	Scenario I of CP	Scenario 3 (with CPI) proposed by Authority	Absolute Variation	% Variance
Duty Free	607.18	885.3	278.12	46
Advertisement	234.83	436.11	201.28	86

Non-Aero Revenue	Scenario I of CP	Scenario 3 (with CPI) proposed by Authority	Absolute Variation	% Variance
Retail/Duty Paid	175.44	182.27	6.83	4
Car Parking	59.37	211.21	151.84	256
Forex	194.26	171.09	-23.17	-12
F&B and Lounge	257.76	285.19	27.43	11
Telecom	73.92	151.85	77.93	105
Radio Taxi	35.16	46.8	11.64	33
Other Commercial Income	33.24	81.57	48.33	145
ASC	37.09	43.53	6.44	17
Transit Hotel	5.84	7.8	1.96	34
Flight Kitchen royalty	145.44	159.73	14.29	10
Land Space and Hangar	687.87	927.81	239.94	35
Ground Handling	213.38	283.92	70.54	33
Bridge Mount Equipment	19.46	8.69	-10.77	-55
Into Plane	4.68	4.73	0.05	1
Total	**2784.92**	**3887.6**	**1102.68**	**40**

There is a huge variation of 40% in the non-aeronautical revenue as can be seen from the above table. More than 75% of the variation of Rs. 1102 Crore is arising out of the Authority's aggressive forecast in respect of Duty Free, Land Space and Hanger, Advertisement and Car Parking.

- *High 'year-on-year' growth proposed by the Authority on three accounts (increase in revenue due to traffic growth, increase in revenue due to increased penetration and increase by CPI i.e. considered @ 7%) is difficult to sustain. Existing revenue of FY 2010-11 is targeted to more than double in span of three years i.e. by FY 2013-14. Growth of this magnitude is highly aggressive and impractical and needs to be moderated."*

21.2.11. In respect of the treatment of Cargo handling revenues, DIAL have submitted that in line with recent trends, Cargo tonnage has seen sharp decline, which has also impacted revenues and have requested to moderate the Cargo tonnage growth. DIAL have further stated that the Authority has also not considered the fact that there are different revenue shares for different operators. Going forward, the cargo throughput will be shared by

both operators and because of lower revenue share of the green field operator, the concession revenues to DIAL will reduce even if the revenue of the respective cargo operator are increasing. DIAL have further stated that there is significantly high variation of 34% in the revenue forecast for future year as compared to Scenario 1 of the Consultation Paper, the extract of which is as under:

Table 17 – DIAL's Table high variation in the revenue forecast for future year as compared to Scenario 1

Cargo Revenue (fig. in Rs. Crore)	Scenario 1 of CP	Scenario 3 (with CPI) proposed by Authority	% Variation
2011-12	130.37	154.67	19%
2012-13	128.47	172.87	35%
2013-14	130.83	193.48	48%
Total	389.67	521.02	34%
* This includes cargo screening revenue of Rs. 18.13 crore, Rs. 20.30 crore and Rs. 22.72 crore for year 2011-12, 2012-13 and 2013-14 respectively which is considered as aeronautical revenue by the Authority			

21.2.12. DIAL have also submitted that the Authority has not considered the change in business environment in respect of Advertisement and Multi Level Car Parking (MLCP). In respect of Advertisement revenue, the revenue share has undergone significant change from earlier 70% to 55% currently, due to competitive bidding process. In respect of MLCP, DIAL have submitted that they had apprised the Authority (in initial filing dated 20.06.2011) regarding change in the concession model in case of Car Park. DIAL have reiterated that before Terminal 3 commissioning, both the terminals were served by surface car parks and that the management of the car park was outsourced and the same was on revenue share model. However, post commissioning of Terminal 3, a new MLCP was constructed by the concessionaire. The MLCP involved heavy capex and considering the same the revenue share was accordingly lower. DIAL have stated that of late with more and more passengers and airport/airlines staff using Airport metro, the negative impact on the revenues of car parking is clearly visible and have requested the Authority to consider the ground realities and business consideration before finalizing the revenue forecasts.

21.2.13. DIAL have also extracted the opinion of Prof. Martin Cave, which is reproduced as under:

"The Draft Determination proposes a different approach to forecasting non-aeronautical revenue. It treats the 2008-09 figures as a baseline for forecasting FY 2009-10 to 2013-14, as adjusted by historical growth rates and an increase to reflect higher penetration.

As with traffic forecasts, AERA has considered a range of approaches to forecast non-aeronautical revenues and is proposing to select the approach which is significantly different. The graph at paragraph 375 of the draft Tariff Determination illustrates this disparity: by 2013-14, AERA's forecast is Rs 314 and Rs 242 crore more than the other two scenarios considered.

The size of this variance should, at a minimum, raise questions over two aspects of AERA's proposed approach to forecasting of non-aeronautical revenue:

the use of a 2008-09 base, as discussed below; and

the use of its proposed traffic forecasts as an escalation factor over time.

The draft Tariff Determination's justification for its proposed decision to select the highest of the three approaches is that airports should strive to generate higher non-aeronautical revenue, and its proposed approach is the highest of all forecasts. However, this neglects the important reality that ***while airports do strive for higher revenues, forecasts should reflect the most likely actual outcome: not merely an overly-optimistic target. The draft Tariff Determination has simply presumed that the highest of the possible forecasts is the correct one****.*

Actual figures should be used where possible

The draft Tariff Determination proposes to "forecast" non-aeronautical revenue for 2009-10 and 2010-11. However, actual figures are readily available for these years. The use

of forecasting when actual results are available would seem somewhat counter-intuitive, and this proposed approach is not justified in the draft Tariff Determination.

This leads to the unorthodox outcome of AERA retrospectively "forecasting" non-aeronautical revenues of Rs 495 crore for 2009-10 when the actual figure was Rs 605 crore. There is an equally implausible variation between the forecast and actual figures for 2010-11, which sees 2010-11 figures being "forecast" as Rs 687 crore when the actual figure was Rs 599 crore. Effectively, even though non-aeronautical revenue actually decreased slightly between 2009-10 and 2010-11, the proposed forecasts include a massive 38.8% increase over the same period.

As a result, the forecasts for 2011-12 to 2013-14 are subject to excessive inflation, as they build on from the overstated 2010-11 "forecasts".

These excesses will be further exacerbated by the application of the CPI from the start date (2008-09). Given that the CPI is approximately 7%, this will have a material impact on the 2009-10 and 2010-11 "forecasts". The likely result is that the variance between these "forecasts" and the actual figures will become even greater.

Another disadvantage of AERA's proposed approach is that it does not recognize significant changes that occurred in the 2009-10 and 2010-11 years. As one example, car parking revenues in 2010-11 dropped significantly as a result of the concessionaire incurring the entire capex for a multi-level car park: car parking revenues dropped from Rs 26.1 crore in 2009-10 to Rs 10.1 Crore in 2010-11. However, the proposed "forecast" for car parking in 2010-11 increases up to Rs 28.95 crore. This is plainly contrary to actual events.

Vide DIAL's 20 June 2011 submission, I understand non-aeronautical revenue from T3 is expected to stabilise after the 2011-12 period, and the revenue forecasts should reflect this.

Recommendations

In light of the above issues with the proposed Scenario 3 – particularly the use of retrospective forecasting for years 2009-10 and 2010-11 and the use of passenger growth forecasts based on historical trends – I recommend that AERA adopt Scenario 1 for the purpose of tariff determination. This should be read in conjunction with my recommendations in relation to traffic forecasting.

Alternatively, should AERA decide to use passenger growth trends based on historical trends, I recommend that AERA adopt Scenario 2 for the purpose of tariff determination. While I continue to harbour strong concerns at the use of historical trends to forecast passenger growth, Scenario 2 at least has the advantage of using actual figures where these are available (i.e., for 2009-10 and 2010-11). It therefore represents a more accurate base for subsequent forecasts."

Authority's Examination

21.2.14. The Authority has carefully considered the stake holder comments. IATA have supported the approach adopted by the Authority. MIAL have agreed with Authority's proposal to consider the non-aeronautical revenues in respect of DIAL as the non-aeronautical revenues that DIAL has actually received from the JVs and not the total revenues of JVs.

21.2.15. However, DIAL, APAO, ACI, FICCI, CII have requested the Authority to revisit the forecast of growth in each Non-Aero revenue stream separately.

21.2.16. The Authority had adopted the following approach to project the Non-Aeronautical Revenue of DIAL:

(i) For FY 2009-10 and FY 2010-11, the non-aeronautical revenues for various revenue heads for FY 2008-09 was

considered as the base figure, escalated by the historical Passenger/ATM/Cargo growth rates of the Authority.

(ii) The forecasted revenue thus arrived at was compared with the actual revenue received during these two years (i.e., FY 2009-10 and FY 2010-11). In case the forecasted revenue was higher than the actual revenue, then forecasted revenue was considered by the Authority for that year. In case the forecasted revenue was less than the actual revenue, then actual revenue was considered by the Authority for that year. This was done so that contribution from Non-Aero revenue for calculating Aeronautical Revenue is correctly done for benefit of passengers.

(iii) For FY 2011-12 to FY 2013-14, the base value of revenue arrived for FY 2010-11 (as per the methodology indicated in (ii) above) was escalated based on the traffic growth (based on the growth rate adopted by the Authority) plus a certain percentage year on year increase due to higher penetration (as per DIAL's estimate).

21.2.17. Further, DIAL have in their comments stated that some of the revenue streams with long term contracts where escalation on account of inflation is factored in the concession term and hence should not have been inflated again. The Authority has noted that DIAL in their submission dated 20th June 2011, had stated:

> *"Inflation has not been factored in our forecasts for future years. It is assumed that AERA will provide a CPI based increase over and above X factor, based on actual CPI data."*

In view of the above mentioned submission, the Authority inferred that Inflation has not been factored in the forecast of Non-Aeronautical Revenue. The Authority has assessed the Non Aeronautical revenues on the approach mentioned in para 21.2.16 above and inflation has been accounted for only once. Hence, the observation made by DIAL that some of the revenue streams with long term contracts where escalation on account of inflation has been factored twice is incorrect. The figures of Non Aeronautical Revenues

appearing in Scenario 3 of Table 14 on page 101 do not contain any element of inflation. The last line in the table has inflation built in for the years 2011-12, 2012-13 and 2013-14 since the first two years had already passed.

21.2.18. It is to be stated that DIAL forecasted its non aeronautical revenues under two broad heads (1) Aeronautical related incomes and (2) Non Aeronautical Income.

(i) The Aeronautical related revenues consisted of Fuel throughput revenues and Into-Plane Concession Fee, Concession Fee from Cargo, Concession Fee from In-flight kitchen, Concession Fee from Bridge-mounted equipment and Concession Fee from Ground handling. In respect of these aeronautical related incomes, DIAL had relied on the independent traffic forecast study prepared by Madras School of Economics. The Authority has already clarified that FTC is an aeronautical service and revenue from the same is aeronautical revenue.

(ii) In respect of the Non Aeronautical revenues, (viz., Car parking, Entry ticket and Left Luggage facility revenue, Advertisement Revenues, Duty Free and Duty Paid Revenues, F&B and Lounge revenue, Radio Taxi, Foreign exchange concessionaires and Telecom) DIAL had forecasted the revenues as under:

   a. The Total turnover in respect of the above mentioned streams of revenue for the year 2011-12 was forecasted based on annualized turnover of 4 months (Dec, 2010 to Mar, 2011) of previous year. This was based on DIAL's rationale that this is true reflection of the future revenues as in this period all the 3 terminals including T3 was operational. This turnover was further increased by traffic growth and an additional increase of a certain percentage on account of higher penetration.

(iii) The Authority has noted that while DIAL estimated the revenues from above concessionaires, most of them were

being carried out by JVC set up with equity participation of DIAL.

(iv) It also noted that certain streams of non aeronautical revenue commenced only after the FY 2008-09 (viz., concession from BME and ITP service providers were from 2010-11 while Transit Hotel revenues, Airport Service charges, were from the FY 2011-12). In respect of these streams of revenues, the base could not have been 2008-09, but only later.

21.2.19. Hence, in line with the universally accepted principle that airports should strive to generate higher non-aeronautical revenue and DIAL's own objective of obtaining higher revenues through "concession under Joint Venture with the airport operator", the Authority had proposed to consider the higher of the figures in the three scenarios that were put forth for stakeholder consultation and proposed to use the figures that have been indicated at Scenario 3.

21.2.20. Briefly stated, the Authority has based its projections keeping in view the following:

(i) Base Year (as indicated in para 21.2.16 above)
(ii) Growth drivers
(iii) Figures for growth drivers.

21.2.21. The Authority has used the same growth drivers, i.e., traffic and increased penetration as proposed by DIAL. However, the Authority has used its own estimates of traffic/ATM/Cargo growth rates for this purpose. As is subsequently discussed, the Authority is of the opinion that the traffic/ATM/cargo growth rate forecasts proposed by DIAL are unduly pessimistic. Therefore, the Authority finds no reason to deviate from its already stated position in this regard.

21.2.22. DIAL and some other stakeholders have opposed the projection of non-aero revenue for 2009-10 and 2010-11 by treating 2008-09 as base year and thereafter for 2011-12, 2012-13 and 2013-14 by treating 2010-11 as base year. Their contention appears to be that the figures for 2009-10 and 2010-11 may be taken on actual basis whereas the forecast for subsequent years of the Control Period may be made with actuals of 2010-11 as base.

This contention appears to be attractive in first blush. But it does not take into account the following:

(i) The non-aero activities were concessioned to third parties even before 2008-09. However, from 2008-09 onwards DIAL adopted a different business model and most of these activities were concessioned to JV companies where DIAL held equity stake.

(ii) In the presentation made to the Authority, DIAL strongly supported this new business model on the grounds that the concession through JV route would achieve higher revenues.

(iii) Therefore, now, it cannot fairly be the case of DIAL that revenue received by it from these activities during 2009-10 and 2010-11 should be in any way less than the 2008-09 revenue figures duly adjusted by the growth drivers. In case a different view is to be taken, it would undermine the objective of change in business model followed by DIAL.

(iv) DIAL commissioned the new terminal T3 in 2010-11, which was operationalised for international flights from 28th July 2010 and for domestic flights from 11th November 2010. As highlighted by DIAL in its response regarding opex estimates, the terminal area post T3 has increased from a total of 1,25,160 sq.mts to 6,79,047 sq.mts (an increase of 442%). Due to this massive increase in terminal area and other related developments, DIAL have themselves proposed that revenue for last 4 months of 2010-11 may be used to forecast revenue for the balance tariff years of the Control Period. In other words, DIAL have proposed 2010-11 figures to be the basis for forecast for the remaining years of the control period. The actual non-aeronautical revenues of DIAL for 2010-11 is Rs.594 crore and the annualised Non Aeronautical revenues for 2011-12 as per DIAL's submission is Rs.703 crore. The projected Non Aeronautical revenues for 2010-11 and 2011-12 as per

Authority's methodology is Rs.686.89 crore and Rs 835.25 crore. As can be seen the numbers arrived by the Authority is higher than both the actuals of 2010-11 or the annualised figures for 2011-12.It will thus be clear that as far as treating 2010-11 as base year is concerned the Authority's view is same as that of DIAL.

(v) In the scheme of SSA, 30% of the non-aero revenue is to be shared towards target revenue determination thereby proportionately reducing the aeronautical tariff. Therefore, it is important for the Authority to ensure disincentives against lower than expected non-aeronautical revenues.

21.2.23. In view of the position explained in the above paras the Authority is unable to persuade itself to agree with the submissions made by DIAL and the views expressed by Prof.Martin Cave on behalf of DIAL.

21.2.24. The Authority has, accordingly, decided to retain the Non Aeronautical Revenue forecasts i.e., Scenario 3, proposed in the Consultation Paper, which has been reproduced as follows:

Table 18 Scenario –3 - Non Aeronautical Revenues: As per Authority's basis of projection (Base year 2008-09 actuals, further projections as per Authority's forecast)

Non Aeronautical Revenues	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Flight Kitchen Royalty	12.62	14.43	28.87	33.34	38.53	44.57
Duty Free	88.11	120.03	133.92	155.66	180.93	210.30
Advertisement	47.61	54.45	61.84	74.99	91.00	110.51
Public Admission Fee	0.00	0.00	0.00	0.00	0.00	0.00
F & B Income and Lounges	23.45	31.19	41.16	49.91	60.57	73.55
Bridge Mounted Equipment	0.00	0.00	1.60	1.81	2.04	2.30
Retail	0.00	9.55	27.99	33.94	41.19	50.02
Foreign Exchange	0.00	0.00	29.94	34.80	40.45	47.02
Telecom	14.76	18.96	21.53	26.11	31.69	38.48
Land, Space and Hangar	56.35	132.14	123.27	161.47	197.73	223.05
Airport Service Charges	0.00	0.00	0.00	11.38	14.26	17.88
Radio Taxi	2.94	3.36	7.04	8.54	10.36	12.58
Car Park	23.06	26.37	29.95	36.32	44.08	53.53
Transit Hotel	0.00	0.00	0.00	1.80	2.08	2.41
Cargo Revenue		34.27	122.31	136.51	152.57	170.76
Ground Handling	19.97	37.74	42.87	51.80	58.49	66.05
Into Plane Service	0.00	0.00	0.80	0.95	1.12	1.33
Other Commercial Income	10.62	12.15	13.79	15.93	18.41	21.29

Non Aeronautical Revenues	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Total	**299.49**	**494.65**	**686.89**	**835.25**	**985.50**	**1145.65**

Decision No. 19. Decision - Forecast of Non Aeronautical Revenue

19.a. The Authority decided to retain the forecasts as proposed in the Non-Aeronautical Revenue Scenario 3 as proposed in the Consultation Paper (Ref para 374 of CP-32/2011-12 dated 03.01.2012)

21.3. Cute Counter Charges

21.3.1. The Authority had in the Consultation paper proposed to introduce a cute counter charge @ Rs. 500 per departing domestic flight over and above the Rs. 1500 per international flight already being charged and treat the revenue received from the Cute Counter charges as aeronautical revenue

Stakeholder comments – CUTE Counter Charges

21.3.2. MIAL have stated that no service is being provided by airport operator to passengers while charging for counters and this collection is like any other collection towards rentals, hence of non-aeronautical nature. Further, MIAL have also stated that the ICAO also very clearly mentions that space rentals from airlines for offices etc. are non-aeronautical in nature while airlines might be providing services which are aeronautical in nature.

21.3.3. Cathay Pacific have sought why should there be discrimination between domestic and international CUTE Counter charges. FIA have submitted that is additional charge to Airlines and cannot be passed on to its passengers.

21.3.4. DIAL have in their submissions stated that the Cute Counter Charges are Non Aeronautical as these are rental charges. However in case Authority is constrained to treat it as Aero, the effect of the same needs to be reflected in valuation of Hypothetical RAB. Further, in their clarification to the observations made by FIA and Cathay Pacific, DIAL have stated that Cute Counter charge if discontinued will result in increase in other aeronautical charges and will not have an impact on overall computed X factor and due to faster flight turnaround, they have proposed a lower rate for domestic flights.

21.3.5. MIAL have claimed that these CUTE Charges are non aeronautical in nature. FIA have stated that these charges are unreasonable while Cathay Pacific have not disputed the levy of the charges per se but have sought why should there be discrimination between domestic and international.

Authority's Examination

21.3.6. The approach of the Authority in treating the revenue from non-aeronautical services has been explained in the section on Hypothetical RAB in para 12.28. to 12.35 above.

21.3.7. The term CUTE is not as such defined either in the AERA Act or in SSA/OMDA. However, as per Section 2(a)(iv) of the Act, "Aeronautical Service" means any service provided for ground handling services relating to aircraft, passengers and cargo at airport. Common User Terminal Equipment is an integral part of service related to check in of passengers. Hence, the Authority has treated CUTE service as an aeronautical service which is required to be regulated. The service is provided by the airport operator is clear in as much as DIAL has proposed the charges for these CUTE Counter and forms part of the tariff card.

21.3.8. The Authority has also observed from the AAI Ground Handling Regulations 2007, that "Passenger and Baggage Handling at the Airport Terminal" are treated as Ground Handling Services under Para 1.2 of Schedule 2 of the regulations. Since Cute Counters are used for passenger and baggage handling at the Airport Terminal, the service so provided is a ground handling service, which is an aeronautical service.

21.3.9. The treatment by the Authority in respect of CUTE charges is consistent with its treatment of revenues from Cargo service along with computation of hypothetical RAB.

Decision No. 20. Decision on CUTE Counter Charges

20.a. The Authority decided to treat the CUTE counter service as aeronautical service and revenues from it as aeronautical revenue.

21.4. Treatment of Revenue from area disallowed as per DF Order

21.4.1. In the Consultation Paper, the Authority proposed not to accept the request made by DIAL to exclude the non-aeronautical revenue arising from the area admeasuring 8652 sq.mts (disallowed as per DF Order) for cross subsidy purpose and decided to consider the same for the purpose of cross subsidy.

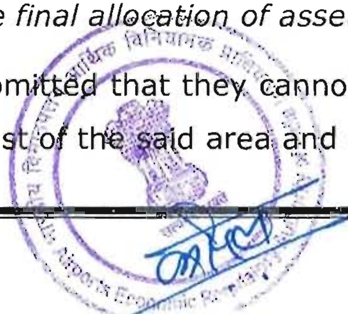
Stakeholder comments

21.4.2. IATA have submitted that they believe that exclusion of the non-aeronautical revenue arising from the area admeasuring 8652 sq.mts for cross-subsidy purpose would provide the wrong incentive for the airport to put greater focus on developing the non-aeronautical revenue for that area at the expense of other areas where the airport would be required to provide cross-subsidy. To ensure that this does not happen, IATA agrees with the Authority that revenue derived from this area admeasuring 8652 sq.mts should be included for cross-subsidy purpose.

21.4.3. DIAL have in their submissions as well as clarifications to IATA's comments reiterated their submission made vide letter ref:DIAL/2011-12/Fin-Acc/1583 dated 15.11.2011. DIAL have also extracted the opinion of Prof. Martin Cave, Deputy Chairman of the UK Competition Commission, as under:

> *"......AERA should exempt the Excluded Area, from which DIAL is already prevented from recovering its proper economic costs, from the pool of revenue share assets considered for the purpose of setting the cross-subsidy from non-aeronautical revenues.*
>
> *Should AERA apply the same disallowances as adopted in the DF Determination to the determination of the RAB, then it must update the division of aeronautical and non-aeronautical assets consistently and in a manner which reflects the final allocation of assets."*

21.4.4. DIAL have submitted that they cannot be penalised twice; firstly by disallowing the capital cost of the said area and secondly by continuing to take



economic benefit in form of cross subsidy from the said area which is against the principles of natural justice.

Authority's Examination

21.4.5. The Authority has examined the matter in detail in para 7.8 to 7.11 above. The fact is that the additional space has been built and is generating non-aeronautical revenue. The SSA provides that the *"30% of the gross revenue generated by the JVC from the Revenue Share Assets"*. Therefore, the SSA mandates that 30% of the non-aeronautical revenue received by DIAL has to be shared towards fixation of aeronautical tariffs. The case canvassed by and on behalf of DIAL seeks to make a distinction on the grounds that the costs pertaining to the subject area have not been accepted by the Authority as a part of the total project cost. However, this case appears to be misconceived in as much as the Authority had taken the relevant decision while determining DF under Section 13(1)(b) of the Act read with Section 22A of the AAI Act 1994. On the other hand, the present exercise pertains to fixation of aeronautical tariff in terms of the provisions of Section 13(1)(a) of the Act. The tariff determination only requires determination of aeronautical RAB. The costs incurred in provision of non-aeronautical services are not a pass through. Therefore, the question whether the cost of construction of a particular area for provision of non-aeronautical services was considered as a part of total project cost while determining the rate of DF or not is not relevant to the present consideration.

Decision No. 21. Decision on Treatment of Revenue from area disallowed as per DF Order

21.a. The Authority decided that though an area of 8652 sq mts was disallowed in the DF Order, the total Non Aeronautical Revenue would be reckoned towards the determination of aeronautical tariff without the exclusion proposed by DIAL.

21.5. Into Plane Services (ITP) Revenue

21.5.1. The Authority had, in the Consultation Paper, proposed to treat the concession revenue received by DIAL from the ITP service provider(s) as non-aeronautical revenue in the hands of DIAL (Para 401 of CP-32)

Stakeholder Comments

21.5.2. BPCL have submitted that they are of the view that ITP services as per the Act is an " aeronautical service which is as per Para 2 (a) (vi) is "any service provided for supply of fuel to the aircraft at the airport and its and determination of its tariff should be as per Para 13(1) (a)." ITP Charges have already been considered as 'aeronautical' and have been regulated and approved by Authority vide Order NO.1 & 2 of 2011-12 at IGIA T-3 and Order No. 20 and and 27 of 2011-12 at BIAL for IOSL and BSSPL respectively.

21.5.3. DIAL have in their clarifications stated that "According to the provisions of the AERA Act, 2008, the fueling service is aeronautical. Therefore, Into-Plane Service (ITP) has also been termed as aeronautical. At IGIA, DIAL has concession out the ITP service. Since, DIAL is not the direct service provider and the respective service providers are being regulated, the concession fee received by DIAL from ITP services is treated as Non-Aeronautical."

21.5.4. MIAL have referred to the treatment proposed by the Authority for ITP services and have compared the position with the concession received by the airport operators in respect of Fuel throughput charges (FTC) stating that the Authority's position very clearly substantiates MIAL's view that while fuelling of an aircraft may be aeronautical service, which is provided by the oil companies and not by airport operators, concession fee, i.e. FTC, received by the airport operators from the oil companies is a non-aeronautical revenue in the hands of the airport operator.

Authority's Examination

21.5.5. The approach of the Authority in treating the revenue from non-aeronautical services has been explained in the section on Hypothetical RAB in para 12.28. to 12.35 above.

21.5.6. ITP services are aeronautical services in terms of Section 2(a) of the Act. In the instant case, DIAL does not provide the ITP services themselves. The ITP services are being provided by the concessionaires. These concessionaires, viz., the ITP service providers are regulated by the Authority and their rates have been approved by the Authority separately. DIAL only receives certain part of the revenue received by these ITP service

providers as a concession fee. Therefore, the Authority is of the view that the concession revenue received by DIAL from the ITP service provider(s) may be treated as non-aeronautical revenue in the hands of DIAL.

21.5.7. The Authority finds that MIAL's attempt to draw a comparison with the treatment of Fuel Throughput Charges is misplaced as the matter stands decided by the Authority vide Order No.07/2010-11 dated 04.11.2010. MIAL have appealed against the said Order before the Hon'ble AERA Appellate Tribunal.

Decision No. 22. Decision - Into Plane Services (ITP) Revenue

22.a. The Authority decided to treat the revenue received by DIAL from the ITP service provider(s) as non-aeronautical revenue in the hands of DIAL.

21.6. Treatment of Cargo, Ground Handling & Fuel throughput Revenues

21.6.1. The Authority had in the Consultation Paper proposed the following in respect of Cargo, Ground Handling & Fuel throughput Revenues:

(i) Accept the treatment given by DIAL in treating the revenue received from Cargo, Ground Handling and ITP services as non-aeronautical revenue (Para 400 to 408 of CP-32);

(ii) Accept the increase of 7% in Fuel Throughput charges (FTC) w.e.f. 01.04.2011 proposed by DIAL and treat the revenue therefrom as aeronautical revenue (Para 408 of CP-32);

(iii) Accept DIAL's treatment of considering the revenue received from the Bridge Mounted Equipment concessionaires as non-aeronautical. However, it considered the service as aeronautical service and proposed to advise the BME service provider accordingly (Para 404 to 406 of CP-32);

(iv) Treat the Inflight Kitchen Revenues as non-aeronautical (Para 407 of CP-32).

Stakeholder Comments

21.6.2. Cathay Pacific believe that these revenues should be included as aeronautical as the nature of the service is more related to aeronautical.

21.6.3. IATA have stated that Concession revenues associated with the operation of air transport services (from ITP service providers, cargo and ground handling service providers, Bridge Mounted Equipment concessionaires, and in-flight kitchens) should be regarded as aeronautical revenue and amount included for calculation of overall passenger yield. ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082/8) discourages the full development of concession fees that are directly associated with the operation of air transport services such as fuel, in-flight catering and ground handling. This is in recognition of the fact that such concession fees collected by the airport would have a material impact on airlines' cost of operations at the airport and should not be allowed to escalate freely. If left unregulated, the airport, as the natural monopoly, could exploit these concession fees to the detriment of the industry. Economic regulation is in place to prevent such a scenario from happening. Further they have also added that the AERA Act classifies any service provided: (i) for ground handling services relating to aircraft, passengers and cargo at an airport; (ii) for the cargo facility at an airport; and (iii) for supplying fuel to the aircraft at an airport; as an aeronautical service. In the respect of supply of fuel, the Authority had rightly taken the position that fuel concession fee is an integral part of the fuel supply service and it is not possible to delink it from the service. Hence, the Authority had regarded all concession fee earned by the airport from fuel services as aeronautical revenue to be included for calculation of overall passenger yield.

21.6.4. IATA have submitted that ground handling services and services related to cargo, the concession fees levied by the airport are similarly an integral part of the respective services. Therefore, as these services are classified as aeronautical services under the AERA Act, concession fees earned by the airport in connection with ground handling services and services related to cargo should rightfully be regarded as aeronautical revenue to be fully included for calculation of overall passenger yield. Further In-flight catering has been identified in ICAO Doc 9082/8 as a service directly associated with the operation of air transport services. Concession fee levied by the airport for such a service would impact airline operating cost and given the airport's monopoly position over in-flight kitchens, needs to be regulated

in the same manner as fuel, ground handling and cargo. In respect of BME, IATA have submitted that the Use of Bridge Mounted Equipment at IGI Airport has been made mandatory for airlines and that reinforces the case for the arising revenue to be treated as aeronautical in nature. In view of the above, IATA have sought that the following concession revenues associated with the operation of air transport services be regarded as aeronautical revenue and the full amounts included for calculation of overall passenger yield:

i. from ITP service provider(s)
ii. from cargo and ground handling service providers
iii. from Bridge Mounted Equipment concessionaires
iv. from in-flight kitchens

21.6.5. In respect of FTC, IATA have submitted that as there is no cost basis for FTC. IATA rejects the proposal to load the cost on airlines through increasingly higher FTC and would support an initiative by the airport to progressively bring down the fee rather than raise it. ICAO discourages the full development of fuel concession fees. An annual escalation would be contrary to this stipulation. Furthermore, IATA have submitted that they have in various submissions to the Authority, stressed on the matter that an automatic annual escalation of a fee that has no cost basis based on an agreement between the airport and oil companies where airlines as the ultimate payer played no part in the negotiations, if any, should not be allowed. Even though increased revenue from FTC goes towards calculation of overall passenger yield, the impact on an airline's operation is different if the cost is carried by the airline (through higher FTC) versus it being borne by the passenger (through higher UDF). As there is no cost basis for FTC, IATA rejects the proposal to load the cost on airlines through increasingly higher FTC and would support an initiative by the airport to progressively bring down the fee rather than raise it.

21.6.6. BPCL have in their comments on the Consultation paper in respect of the treatment of revenue received from Cargo, Ground Handling and ITP services as non-aeronautical revenue have stated as under:

> *"The Authority proposes to accept the same to the extent the services are not provided by DIAL. However, we are of the view that ITP services as per the Act is If aeronautical*

service" which is as per Para 2 (a) (vi) is If any service provided for supply of fuel to the aircraft at the airport and its and determination of its tariff should be as per Para 13(1) (a).ITP Charges have already been considered as 'aeronautical' and have been regulated and approved by Authority vide Order No. 1 & 2 of 2011-12 at IGIA T-3 and Order No. 20 and 27 of 2011-12 at BIAL for IOSL and BSSPL respectively."

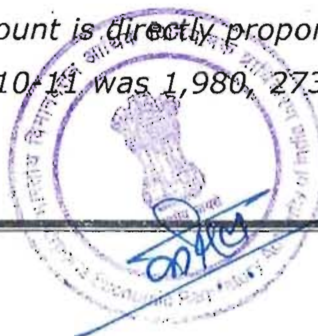
21.6.7. As regards the increase in FTC w.e.f. 01.04.2011, wherein DIAL have requested for an increase of 7% on the basis of their contractual arrangements BPCL have submitted as under:

" BPCL had been made to agree the Fuel Throughput Fees charges arrangement by DIAL. We oppose such a charge for the following key reasons:

- *The lack of justification and rationale for charging Fuel Throughput Fees;*
- *Fuel Throughput Fees significantly increases the cost offuel; and*
- *Airport Operators use overwhelming market power.*

DIAL has neither provided any assets required for storage nor provides any service for refueling .At Delhi airport, the assets are constructed, owned, operated and maintained by DAFFPL/Oil companies. We have been paying DIAL for use of the land in the way of fair, market rates rents and commercial license fees. FTC or "Throughput Fee" is charged in addition to land license fee. Hence, there is no cost basis for charging FTC.

Further, it is pertinent to note that the ATF sales at Delhi Airport has increased considerably since the time tariff had been fixed. FTCamount is directly proportional to ATF sales. ATF volumes in 2010-11 was 1,980, 273 K.L which is 26 % more than in 2009



10. Even with frozen rate of Fuel Throughput Charge, it translates into 26 % increase in payment to DIAL on account of FTC. In Rupee terms, at the prevailing rate of FTC, it translates into increase from Rs 88 Crore to Rs. 112 Crore. A charge paid which is without commensurate services from DIAL.

Internationally, only one aeronautical fee is levied by Operator which is with respect to Infrastructure and Opex charges for fuel facilities at the airport.

BPCL proposes that AERA should remove FTC or at best fix a lumpsum charge for FTC which should not be related to ATF sales.

We have observed that DIAL has not considered the revenue received from the Infrastructure and Opex charges received from DAFFPL as part of JVC and as Concessionaire to various agencies related with fuel supplies.

21.6.8. IOCL have sought clarifications on the FTC charges proposed in the consultation paper as under:

"In view of the above, we would like to submit our suggestions/ recommendations as under :

a) Clarification on the period of applicability of the proposed increase in FTC may be provided, as to whether the escalated rate of proposed for one year, i.e. till 31.03.2012 or for the complete regulatory period i.e. 31.03.2014.

b) The annual escalation of the FTC, if proposed, may be made in line with the escalation formula agreed to between DIAL and PSU fuel Suppliers, vide MOM dated 25.01.2010 which mentions that " a minimum escalation of 5% is to be linked to Wholesale Price Index (WPI), with a cap of 7%" and not on "year to year escalation of 7%".

c) The Proposed increase may be made effective only on prospective basis, in order to avoid any financial loss to

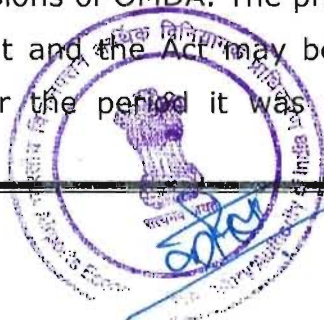
Suppliers. The present ad-hoc charges should be continued till the revised charges are made effective by AERA."

21.6.9. HPCL in their comments have submitted as under:

"The Authority has proposed to accept increase in FTC w.e.f. 01.04.2011, an increase of 7% over the adhoc fuel throughput charges of Rs. 561.75/- per KL on the basis of their contractual arrangements. It is not clear whether the increase is an one time basis for the remaining period of 1st Regulatory Period (i.e. 01.04.2011- 31.03.2014) or on annual basis. We would like to mention here that as per the arrangement with the Suppliers at IGI Airport, there is a provision for minimum escalation of 5% per annum over previous year and escalation in excess of 5% to be linked to Whole Sale Price Index (WPI) with a cap of 7.0%. The above escalation factor is applicable for next 15 yrs w.e.f. 2009-10.

As FTC applicable at the Airport are a pass through item for the Suppliers, i.e. the FTC is recovered from the Customers and passed on to the Airport Operator; it would be difficult for us to recover FTC from the customers in the even they are made applicable on retrospective basis, as is the case in above instance, where it is being proposed from 01/04/2011. In view of above, it is requested that any revision in FTC should be made from the prospective date. Till that period existing adhoc rate should only be made applicable."

21.6.10. APAO have in their submissions stated that the Authority's stand of treating cargo revenue of DIAL from concessioned/ outsourced cargo services as non-aeronautical is well appreciated. However treating cargo revenue as "aeronautical" during the period it was handled directly by DIAL would be inconsistent with the provisions of OMDA. The provisions of concession offered by the Central Government and the Act may be reconciled harmoniously by treating cargo services for the period it was directly handled by DIAL as



"aeronautical" (to be consistent with the provisions of the AERA Act), but considering revenue from cargo services as revenue from Revenue Share Assets (as per the concession offered by the Central Government), 30% of which may be considered as revenue for calculation of aeronautical tariffs.

21.6.11. MIAL have in their submissions stated that:

> *We further note from **Para 385** of the Consultation Paper that DIAL, in its submission, has mentioned that they have treated Fuel Throughput Charges (FTC)as aeronautical since the issue of treatment of FTC as aeronautical is sub-judice with the Appellate Authority and appropriate modification in the tariff determination may please be made in the event of a contrary decision of the Appellate Authority in this matter. We firmly believe that FTC is non-aeronautical revenue in the hands of airport operators as it is a concession fee received from oil companies for allowing them to carry out their business at the airport and reflects the value of concession granted and no aeronautical services are being provided by the Airport operator in this regard. ICAO policies also very clearly support this view that revenues from concessions granted to oil companies to supply aviation fuel and lubricants are, inter-alia, to be treated as revenue from non-aeronautical services, even though such arrangements may apply to such activities which may themselves be considered to be of an aeronautical nature. Further, Authority itself has decided in **Para 401** of the Consultation Paper that concession fee received by DIAL from **ITP** service provider may be treated as non-aeronautical revenues in the hands of DIAL since, in the subject case, DIAL does not provide the **ITP** service themselves and these are provided by the concessionaires though **ITP** services are aeronautical services in terms of Section 2(a) of the Airports Economic Regulatory Authority of India Act, 2008. This position of Authority very clearly substantiates our view that while fuelling of an aircraft may*

be aeronautical service, which is provided by the oil companies and not by airport operators, concession fee, i.e. FTC, received by the airport operators from the oil companies is a non-aeronautical revenue in the hands of the airport operator."

21.6.12. CII have in their submissions stated that the Authority has treated the cargo revenues as aero-revenues in some places and non-aero in others and has urged the Authority to be consistent in its approach while treatment of all the components. Further, they have stated that as the OMDA and SSA specify that Cargo revenues are Non-Aero, they should be treated as Non-aero in all aspects of the tariff determination process.

21.6.13. The MoCA, vide their letter No. No.AV.24032/4/2012-AD, dated 09.03.2012, received on 12.03.2012, on the subject Determination of aeronautical tariff in respect of IGIA, Delhi - Consultation Paper 32/2011-12, have observed as under:

> *"2. In this regard also refer to Section 13(1) (vi) of the AERA Act which provides that the Authority while determining the tariff for 'aeronautical service' shall, inter-alia, consider the concession offered by the Central Government in any agreement or memorandum of understanding or otherwise. The Authority has also reiterated that in the determination of tariff for individual airports, it will give due consideration to the extant concession agreements.*
>
> *3. In this connection, it is clarified that as per State Support Agreement entered with DIAL by Government of India, the agreement provides that the Base Airport Charges (i.e. Landing, Parking, Housing & X-Ray Baggage charges and Passenger Service Fee) have been stipulated as aeronautical charges. Cargo and Ground Handling Services have been stipulated as non-aeronautical services in Schedule 6 of Operation, Management and Development Agreement (OMDA) entered into with the JVCs by AAI.*

4. The AERA Act, 2008 provides that any service provided "for Ground Handling services relating to aircraft, passengers and cargo at an airport", "for the cargo facility at an airport"; are aeronautical services in terms of Section 2(a) and the tariff therefore has to be determined by the Authority in terms of Section 13(1) (a) of the Act. The nature of these services is clearly indicated as "aeronautical services".

5. It is seen that Cargo and Ground Handling services are being treated as aeronautical services as per Section 2 (a) of the AERA Act (Para 402 of the Consultation Paper). However, as per the Provision of OMDA and SSA, cargo and Ground Handling services are categorised as non- aeronautical and the revenues accruing from these services may be treated as non- aeronautical revenue.

6. AERA should adhere to the relevant provisions of the contractual agreements in the process of determination of tariff."

21.6.14. FIA, in response to the MoCA's submission (that was uploaded vide Public Notice No.08/2011-12 dated 12.03.2012, on the Authority's website for information of all concerned) have submitted that as under:

" ....as per section 13(l) (a) (vi) of the Act, the Authority has to take into consideration the factors including the concession offered by the Central Government by way of an agreement. However, such consideration cannot automatically bound the Authority to the terms and conditions of any such agreements entered into by the Central Government and make the Act itself secondary to the statute. If such a proposition is accepted then any agreement entered into by the Central Government would amount to overriding the Act. This will render the enactment nugatory in all those cases where the airports were being controlled by the Airport Authority of India

("AAI") and concessions are being invited or have been granted to private operators. Hence, the Act will only be relevant for green-field airports and that too where Central Government has not entered into any agreement. In this context, kind attention of the Authority is invited to Hon'bIe Supreme Court's ratio decidendi in the case of ***PTC India ltd.*** *vs.* ***CERC*** *reported as* ***(2010) 4 SCC*** *603, wherein the Constitutional Bench of the Hon'ble Supreme Court has categorically stated that any agreement cannot override the statutory provisions even if so far agreements were entered prior to the enactment itself. In such cases the parties have to realign the agreement in consonance with the statute. Relevant extracts of the said judgment are reproduced below for ease of reference:*

"40. ... A regulation under Section 178 is in the nature of a subordinate Legislation. Such subordinate Legislation can even override the existing contracts including Power Purchase Agreements which have got to be aligned with the regulations under Section 178 and which could not have been done across the board by an Order of the Central Commission under Section 79(1)(j)."

In view of the foregoing, it is submitted that MoCA's submission that cargo and ground handling services ought to be treated as 'non-aeronautical' in terms of OMDA and SSA are misplaced.

In this regard it is also noteworthy that MoCA's submission is also not in conformity with internationally recognized standards that cargo and ground handling services are to be treated as part of aeronautical and not non aeronautical services. Further, MoCA's attempt to make cargo and ground handling treated as non-aeronautical services is to render the said services outside the purview of the control exercised by the Authority under section 13(1)(a) of the Act. Further, treating 'ground handling and cargo services'

as non-aeronautical services would amount to taking the ground handling and cargo services outside the purview of the Act which in no way brings any benefits to the other stakeholders including the airlines and/or consumers."

21.6.15. DIAL have in their comments on the Fuel Throughput Charge stated as under:

> *" The Authority has forecasted the revenue from fuel thruput charges after indexing the same with CPI Inflation. We would like to bring to the notice of the Authority that the revenue forecast submitted by us was in nominal terms i.e. after factoring in the inflation allowed as per the contract. Additionally, the methodology of forecast of fuel thruput is not clear even if we apply proposed ATM growth of the Authority.* ***It appears that Authority has applied some additional variable over and above the forecasted ATM growth and inflation for arriving at the revenue forecast of Fuel Thruput. This aspect needs further clarification and correction, if any.*** *[Emphasis Original]*

21.6.16. In response to the comments of BPCL, DIAL have submitted as under:

> *"According to the provisions of the AERA Act, 2008, the fuelling service is aeronautical. Therefore, Into-Plane Service (ITP) has also been termed as aeronautical. At IGIA, DIAL has concession out the ITP service. Since, DIAL is not the direct service provider and the respective service providers are being regulated, the concession fee received by DIAL from ITP services is treated as Non-Aeronautical.*
>
> *M/s BPCL and M/s IOCL (Oil PSU Marketing companies) in their capacity as majority shareholder of DAFFPL (Fuelling Infrastructure company) are signatory to the Concession and Operating Agreement entered with DIAL on September*

22nd 2009 with regard to fuelling services being provided at IGIA.

In accordance with the terms of the said agreement, the Fuel Thruput Charges are defined in the agreement (Relevant extract attached) and the escalation thereof has been agreed by the Oil PSU companies and ratified by the minutes of meeting held on January 25th 2010 which included M/s BPCL, HPCL & IOCL) with DIAL for a period of 15 years.

We reject allegation raised by M/s BPCL that they have been coerced to agree to fuel thruput charges. In this context we submit that the practice of charging the FTC was prevalent at the AAI airports on per KL basis well before DIAL took over the operation of IGI Airport. The charging of the FTC by the airport operator as a concept was prevalent even before DIAL took over the operations and management of IGI and the same were being paid to AAI by the 3 PSU's.

M/s BPCL is a signatory to the minutes of the meeting signed along with HPCL, IOCL and DIAL wherein it was agreed to follow a mechanism for annual rate of escalation in the FTC.

The statement made by BPCL is incorrect in light of the concession agreement signed by M/s BPCL, which adequately covers the provision of charging the FTC and further by signed minutes of meeting whereby the escalation in the fuel thruput charges was decided and agreed. (Relevant extract of the concession agreement is attached) We request the Authority to ignore such false statement.

Being a signatory to the Concession and Operating Agreement, the concession terms were clear that the asset for fuelling services including the infrastructure will be

under the ownership of DAFFPL. As regards to Fuel Throughput Charge (FTC), this is a profit sharing mechanism with the oil companies and as such cannot have any cost basis.

It has been the prevalent practice of charging the FTC on a per KL basis. All the other AAI Airports charge the FTC on per KL are their rates are also subject to escalation. Therefore we do not see any merit in such argument.

BPCL sells fuel at the airport and makes profit therefrom. The FTC is a profit sharing mechanism. If we go by the principle suggested by BPCL, BPCL should also accept a fixed profit from entire sale of oil at the airport.

21.6.17. Further, in response to the comments of HPCL and IOCL, DIAL have submitted as under:

"M/s HPCL is referring to the agreement on escalation in the Fuel Thruput Charges. We have assumed that inflation will be around 7% in our tariff filing and accordingly assumed an increase of 7% in fuel throughput charges as well which will hold true if the projected inflation is clocked. However the conditions of agreement will prevail and if inflation is lower than 7% the lower increase will be charged subject to lower cap of 5%.

We shall request the Authority to provide for a true up if there is a shortfall in FTC due to change in CPI index below 7%.

We do not agree to the comment that the FTC is a pass through item for the Oil suppliers. Instead as stated in our various responses, FTC is a profit sharing mechanism between DIAL and the Oil Companies. This fact is further confirmed from the aviation fuel invoices which do not explicit state FTC charge or airport fee being recovered separately.

It has also been noticed that the Oil Companies are charging differently to different customers for the aviation fuel supplied by them. Therefore, we request the Authority to retrospectively approve the escalation in FTC charges and the same should be paid to DIAL by the Oil Companies.

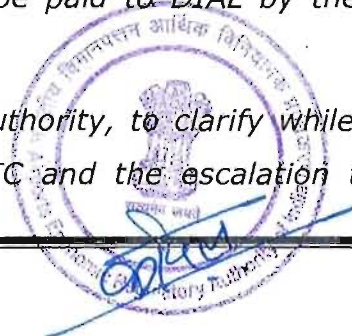
We would like clarify that the escalation in the minutes of meeting as being referred to by M/s IOCL is an annual escalation (p.a.) on the previous year's rate. Therefore the comment of "year on year escalation of 7%" has been made out of context especially in light of the fact that the minutes being referred to and signed by the representative of M/s IOCL clearly states that there would be annual escalation based on the charges of the earlier year which is the same as a year on year escalation. As such there is no deviation from the agreement being referred herein.

As states earlier, the Authority should approve the escalation in the FTC from the retrospective date of April 1st 2011.

We do not agree to this comment that the retrospective increase tariff is liable to result in financial loss to the suppliers in light of the fact explained earlier that the FTC is a profit sharing mechanism between DIAL and the Oil Suppliers. This is confirmed from the fact that the aviation fuel invoices to the customers do not explicit state any such FTC charge or airport fuel royalty being charged separately.

It has also been noticed that the Suppliers are charging differently to different customers for the aviation fuel supplied by them. Therefore, we request the Authority to retrospectively approve the escalation in FTC charges and the same should be paid to DIAL by the Suppliers w.e.f. April 1st 2011.

We request the Authority, to clarify while it is passing the Order that the FTC and the escalation thereon is on an



annual basis within the control period with the first escalation from April 1st 2011 (as considered in the financial model) and that in case of a change in CPI index true up should be available to DIAL's aeronautical charges to the extent of shortfall due to lower FTC recovery on account of lower CPI.

We have assumed that inflation will be around 7% in our tariff filing and accordingly assumed an increase of 7% in fuel throughput as well.

However the conditions of agreement will prevail and as such if inflation is lower than 7% the lower increase will be charged subject to the lower cap of 5%.

We request the Authority, to clarify while it is passing the Order that the FTC and the escalation thereon is on an annual basis within the control period with the first escalation from April 1st 2011 (as considered in the financial model) and that in case of a change in CPI index true up should be available to DIAL's aeronautical charges to the extent of shortfall due to lower FTC recovery on account of lower CPI.

Authority's Examination

21.6.18. The approach of the Authority in treating the revenue from non-aeronautical services has been explained in the section on Hypothetical RAB in para 12.28. to 12.35 above.

21.6.19. The Authority has carefully examined the stakeholder submissions keeping in view the provisions of the Act under which Cargo and Ground Handling services are defined as aeronautical services which are required to be regulated. However, as per the Schedule-VI of OMDA, these two services are to be in the category of non-aeronautical services. Since the services are aeronautical services under the Act, the service provider providing the services would also come within the ambit of regulation. In the Consultation Paper, the Authority, therefore, focussed on the service provider of these two

services, namely Cargo and Ground Handling. The approach it has decided to take is as follows:

(a) If the service provider of these services is the airport operator himself, then the revenues from these services accruing to the airport operator would be treated as aeronautical revenue and in such a case, the costs incurred by the service provider, namely the airport operator, would also be taken into account while determining the aeronautical tariffs.

(b) If the provision of these services is outsourced to a third party, including as in the case of DIAL to a JV, the third party becomes the service provider and comes within the ambit of regulation, including tariff determination. The airport operator, namely DIAL, would receive revenues from such third party concessionaire in the form such as revenue share, rent, dividend or royalties, etc. These revenues obtained from the third party by the airport operator (in the instant case DIAL) would be regarded as non-aero revenues in the hands of the airport operator. However, the costs, if any, in obtaining these revenues from the concessionaire would not be taken into account as a cost pass through as per the provisions of SSA/OMDA.

21.6.20. For the period from April, 2009 to about mid-November, 2009 the airport operator was providing the cargo services and thereafter this service was concessioned out to a joint venture (JV). Hence, in accordance with the above approach, the revenue accruing to DIAL for these 8 months from the aeronautical service, namely, Cargo Handling has been treated as aeronautical (with the attendant costs also taken into account). The amount of revenue on account of Cargo Handling services accruing to DIAL in these 8 months was Rs. 141 crore. The costs incurred by DIAL in providing this service were estimated at Rs. 13 crore. Both the revenues and the costs were reckoned towards the tariff determination. After mid-November, 2009, since the DIAL had concessioned out the provision of Cargo Handling service to its JV, the revenues accruing to DIAL from the JV have been treated as non-aeronautical

revenues of which is 30% to be reckoned towards determination of aeronautical tariffs in accordance with the provisions of SSA/OMDA.

21.6.21. The MoCA have commented on this approach stating, inter alia, that the Authority should adhere to the relevant provisions of the contractual agreements in the process of determination of tariff. The Authority infers from the Ministry of Civil Aviation's (MoCA) letter No.AV.24032/4/2012-AD, dated 09.03.2012, that according to MoCA's interpretation revenues from Cargo and Ground Handling services accruing to the airport operator should be regarded as non-aeronautical revenues, regardless and irrespective of whether these services are provided by the airport operator himself or concessionaire (including JV) appointed by the airport operator. This inference is being brought to the notice of the Government for confirmation. Depending on the confirmation of the Government on the treatment of revenues from Cargo and Ground Handling services, the Authority would duly consider the matter and the correction/truing up, as appropriate, would be considered in the next control period commencing from 1st April, 2014.

21.6.22. The Authority has also carefully considered the issue of Fuel Throughput Charges and the submissions and comments made by different stakeholders. It recognised the fact that under Section 2(a)(vi), 'aeronautical service' means any service "for supplying fuel to the aircraft at an airport". It also notes that under Entry 17 of Schedule-V a specific mention of common hydrant infrastructure for aircraft fuelling services by authorised providers is mentioned as an aeronautical service. There is no mention pertaining to fuel supply in Schedule –VI of OMDA defining non-aeronautical service. The fuel supply to the aircraft at an airport from the oil companies into the airport is an integral part of operations as defined in Section 2(a)(vi) of the AERA Act. The Authority has, therefore, taken the position that the fuel throughput charge is aeronautical revenue.

21.6.23. This position is under challenge before the Hon'ble Appellate Tribunal (AERAAT). The Authority has made its detailed written submissions in the matter apart from outlining its assessments of the legal position as mentioned above. In the meantime, as indicated in para 408 of CP, the Authority has not received any viable alternative approach in this matter.

21.6.24. The Authority, therefore, has decided to accept the proposal of DIAL for increase of the fuel throughput charge for an increase of 7% in fuel throughput charge with effect from 1st April, 2011. In the meantime, DIAL have requested for a further increase of 7% w.e.f 01.4.2012. The Authority notes that as per the contractual agreements with the Oil Marketing Companies, the rate of FTC is liable for an annual increase of CPI or 7% whichever is lower. In the revenue forecast, the FTC is factored with a 7% increase year on year. Should the CPI figure for the year be lower than 7%, the difference would be clawed back in the next control period. This decision of the Authority is subject to the final outcome of the pending appeal in this regard.

21.6.25. As far as the service of in-flight kitchen is concerned, this is not an aeronautical service within the meaning of Section 2(a) of the Act and therefore, it does not come within the ambit of economic regulation.

21.6.26. As regards the concession fee received by DIAL from the Bridge Mounted Equipment concessionaires the Authority notes that the subject service is a part of Ground Handling Service relating to aircraft and therefore is an aeronautical service. However, this particular part of the service has been concessioned out by the airport operator to a concessionaire. Hence, the revenues arising from the service into the hands of the airport operator are treated as non-aeronautical revenues. This approach is consistent with the treatment given to the revenues accruing to the airport operator from the ITP service provider (as concession).

21.6.27. The Authority has also noted that the BME service provider has not obtained the Authority's approval for the tariffs charges by it. The Authority would separately advise the service provider to seek approval for these tariffs as required under the Act and the Directions issued by the Authority.

Decision No. 23. Treatment of Cargo, Ground handling and Fuel Throughput Revenue

Decision No. 24. The Authority decided as under:

24.a. if the service provider of these aeronautical services is the airport operator himself, then revenues accruing from these services

to the airport operator would be treated as aeronautical revenue and in such a case, the costs incurred by the service provider, namely the airport operator would also be taken into account while determining the aeronautical tariffs;

24.b. If the provision of these services is outsourced to a third party including, as in the case of DIAL a JV, the third party becomes the service provider and comes within the ambit of regulation, including tariff determination. The airport operator, namely, DIAL would receive revenues from such third party concessionaire in the form such as revenue share, rent, dividend or royalties, etc. These revenues obtained from the third party by the airport operator (in the instant case DIAL), would be regarded as non-aero revenues at the hands of the airport operator, however, the costs, if any, in obtaining these revenues from the concessionaire would not be taken into account as a cost pass through as per the provisions of SSA/OMDA.

24.c. The Authority decided to treat the Cargo revenue for the period 01.04.2009 to 24.11.2009 as aeronautical, during which DIAL was carrying out the service itself. For the balance period of the Control Period the same has been considered as Non-Aeronautical.

24.d. The Authority decided to treat the Fuel Throughput revenue as aeronautical revenue. Further, the Authority decided to consider the revision in Fuel Throughput charges in line with the agreements with the Oil Marketing Companies and consider the escalation at CPI or 7% whichever is less.

24.e. Further, the Authority decided to treat the concession revenue received by DIAL from the BME Equipment service provider, In flight Kitchen, ITP service provider(s) as non-aeronautical revenue in the hands of DIAL.

24.f. The Authority infers from the Ministry of Civil Aviation's letter No.AV.24032/4/2012-AD, dated 09.03.2012, that according to its interpretation revenues from Cargo and Ground Handling services

accruing to the airport operator should be regarded as non-aeronautical revenues, regardless and irrespective of whether these services are provided by the airport operator himself or concessionaire (including JV) appointed by the airport operator. This inference is being brought to the notice of the Government for confirmation

Truing Up: 6. Correction / Truing up for Decision No. 23

6.a. Depending on the confirmation of the Government on the treatment of revenues from Cargo and Ground Handling services, the Authority would duly consider the matter and the correction/truing up as appropriate would be considered in the next control period commencing from 1st April, 2014.

6.b. As per the contractual agreements with the Oil Marketing Companies, the rate of FTC is liable for an annual increase of CPI or 7% whichever is lower. In the revenue forecast, the FTC is factored with a 7% increase year on year. If the CPI figure for the year is lower than 7%, the difference would be clawed back in the next control period.

22. Non Transfer Assets

22.1. In the Consultation Paper, the Authority had proposed to accept DIAL's submission of excluding the gross revenue from Non-Transfer Assets towards cross-subsidization of aeronautical cost while determining the target revenue, in line with the provisions under the SSA.

Stakeholder Comments

22.2. Cathay Pacific have submitted that DIAL have gross revenue from Non-Transfer Assets (assets other than Aeronautical and Non Aeronautical) which should be included towards cross-subsidization of aeronautical cost while determining the target revenue as the same is indirectly generated due to airport operations.

22.3. DIAL have in their clarifications to the observation made by Cathay submitted as under:

"We strongly oppose the view expressed herein as the same is against the provision of OMDA. There is no connection between revenue generated at the Non transfer asset area and the airport."

22.4. IATA have supported the Authority's decision as the scope of non-aeronautical revenues is already defined in the OMDA.

Authority's Examination

22.5. The Authority has carefully considered the submissions made by the stakeholders. Non Transfer Assets have been defined in OMDA as under:

"Shall mean all assets required or necessary for the performance of Non-Aeronautical Services as listed in Part II of Schedule 6 hereof as located at the Airport Site (irrespective of whether they are owned by the JVC or any third entity), provided the same are not Non-Aeronautical Assets."

22.6. It is observed that the proposal of DIAL to not include the gross revenue from Non-Transfer Assets towards cross-subsidisation of aeronautical costs is in accordance with the provisions of SSA which provide that " *30% of the gross revenue generated by the JVC from the Revenue Share Assets".* The Revenue Share Assets defined in the SSA do not include revenue from the Non Transfer Assets. Therefore the Authority reiterates position taken in the Consultation Paper.

Decision No. 25. Decision on Non Transfer Assets

25.a. The Authority decided to exclude the gross revenue from Non-Transfer Assets towards cross-subsidization of aeronautical cost while determining the target revenue.

23. Traffic Forecast and Forecast Correction

23.1. The Authority had noted that historically, over a 10-year period, domestic passenger traffic at Delhi airport has grown at an average annual rate of 17.66% and international passenger tariff has grown at an average annual rate of 10.70% and had, accordingly, in the CP-32 proposed to consider these growth rates for the purpose of traffic forecast. Further, the Authority proposed to

consider a symmetrical band of (+/-) 5% of the forecast percentages. (Refer para 423).

Stakeholder Comments

23.2. Comments, in this regard, have been received from IATA, Air France, KLM, APAO, ACI, Fraport, ASSOCHAM, FICCI, CII and DIAL.

23.3. IATA believes that the Authority's traffic forecasts are realistic so long as tariff increases are moderate. The full implementation of tariff increase proposal will decrease domestic and international traffic by 5.9% and 6.5% respectively. It is, therefore, imperative that any increase in airport charges has to be moderate without impacting the health of the industry. In their assessment of the forecasts by comparing with time series modeling, industry consensus forecasts and forecast GDP suggests that the Authority's forecasts are much more consistent with expected traffic growth while DIAL's forecasts look too low. Air France, KLM have submitted that the forecast of DIAL is pessimistic. APAI have submitted that the traffic projections are not in line with the real growth.

23.4. APAO have submitted that the traffic projection used by the Authority for determination of tariff is higher than the forecasts by DIAL and other reputed bodies such as AAI, ACI, ICAO and MOTT. The Authority has been requested to consider the following points:

23.4.1. a. DIAL's traffic growth since the start of the concession period has increased from a lower base;

23.4.2. b. Current macroeconomic scenario suggests a slowdown in India's GDP growth, which is likely to impact passenger and cargo traffic growth; and

23.4.3. c. Since traffic risk is primarily borne by the airport operator, the operator's estimates of traffic growth are more appropriate for the purpose of determining tariffs

23.5. ACI have stated that the Authority proposes a 15% increase in traffic for FY13 and FY14 which are extremely aggressive given the economic downturn globally. ACI's latest traffic forecasts conducted in 2010 produced the following growth rates for total passenger traffic at Indian airports:

23.5.1. 2013: 9.9%

23.5.2. 2014: 9.8%

23.5.3. 2019: 8.6%

23.5.4. 2029: 6.5%

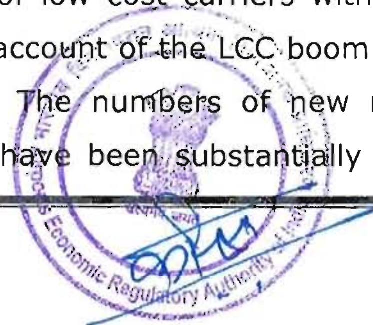
23.5.5. CAGR 2009-2014: 11%

23.5.6. CAGR 2009-2029: 8.2%

23.6. Considering that, historically, the growth rates at Delhi airport mirror the all-India growth, it is safe to assume that this correlation is likely to continue. Under achievement of the traffic estimates will result in a significant shortfall in not just the aero revenues but also the non-aero revenues which are driven by footfalls as well. In terms of ATM growth, there is considerable over capacity in the market, as suggested by the load factors of the domestic airlines, which is one of the main reasons for the weak financial conditions of the airlines which have to keep prices low due to the stiff competition. Moreover, further investments in fleet expansion looks unlikely considering the financial distress that all carriers find them in. ACI have urged the Authority to revisit the traffic assumptions and revise them downwards keeping in mind the above mentioned constraints. As regards the cargo, traffic worldwide is showing signals of a slowdown. Historically, cargo performance has been a precursor to economic upturn or downturn. A drop in cargo volumes point at falling domestic and international trade and hence lower manufacturing levels. This downturn in cargo would have an impact on other aspects of the airport revenues as well. At Delhi airport also, downturn has been recorded in Cargo Traffic.

23.7. Fraport have submitted that the congestion was removed with the opening of Terminal 3 that allowed passenger traffic to jump to a new level thanks to the enlarged passenger handling capacity. Following this one-off catch – up effect, it is assumed that the traffic growth shall return to a more usual and flatter growth path and it is further expected that the traffic growth at IGI Airport in the next years continue albeit at a much lower level than the CAGR of the last decade. Fraport have requested the Authority to reconsider the traffic forecast adopted in the Consultation Paper keeping the above factors in mind.

23.8. ASSOCHAM have stated that India has witnessed high growth phase in the last 10 years due to entry of low cost carriers with highest growth witnessed between 2005 and 2008 on account of the LCC boom. But since then the growth in supply has been tamed. The numbers of new routes added by domestic carriers in the last 3 years have been substantially lower than the cumulative



routes added in the last 10 years. Therefore, they do not expect similar growth for years to come and the low yields and relatively lower load factors commanded by Indian carriers compared to the international ones is an indicator of over-supply and cut throat competition. ASSOCHAM have stated that as per data reported in September 2011, load factors of listed Indian carriers range around 75% while American and European carrier clock between 80+%. Also, due to various efficiency issues the utilization of aircrafts in India has been lower than international peers. Hence, it could be expected that airlines would focus on higher utilization of aircrafts before entering the next phase of fleet expansion. Views of traffic estimates in the media

23.8.1. In recent quotes in the media, the airlines have mentioned the airline industry may see negative capacity induction leading to a net reduction of flights.

23.8.2. Air India is planning to prune six long-haul international flights apart from taking a relook at its domestic network as one of the steps taken for cutting costs.

23.8.3. Some airlines are learnt to be cancelling placed aircraft orders as well as considering downsizing of their fleet.

23.8.4. It is also learnt that DGCA is reviewing the fleet expansion plans of airlines. Although DGCA may consider the replacement of fleet favourably, addition of fleet is being questioned on the grounds of safety and overcrowding in the aviation market.

23.8.5. Reports by ACI and various other industry experts suggest that growth rate of Passenger traffic in India is going to be close to -10% only compared to 17% (Dom) assumed by AERA (the regulator).

23.9. Given the above scenario, ASSOCHAM have submitted that the Authority's assumption of future passenger traffic growth at 15% and ATM growth at 12% seems very aggressive and should be revisited.

23.10. FICCI have in their submissions stated that in the context of the traffic growth projections, the Regulator has taken the CAGR of the last ten years to project the growth for the next two years (2011-12 and 2013-14) and as per this analysis the passenger traffic at Delhi is expected to grow at nearly 15%. However, reports by ACI and various other industry experts suggest that growth rate of passenger traffic in India is going to be close to 10%. Further, the

capacity addition may not see similar growth numbers as in the last few years, which may have a bearing on the projected increase in Air Traffic Movements by the Authority.

23.11. CII have submitted that the Regulator has taken the last 10-years CAGR to project the growth for the future. It has been observed that the Regulator has been using the last 10-years CAGR for traffic projection in all its consultation papers and orders. CII have highlighted that various organizations, based on their own understandings and parameters, come out with their projections on future growth of the aviation sector and there are bound to be differences of opinion as to which projections should be taken into consideration while determining the tariff. Since traffic projections would have substantial impact on the tariff, it would have been ideal on the Regulators part to have undertaken an independent study to estimate future traffic. However, in the absence of this independent study, it would be prudent for the Regulator to assume the traffic estimates given by the Ministry of Civil Aviation which is based on the International Civil Aviation Organization Report dated May 2011 prepared for the Airports Authority of India. Further, CII have also stated that going forward, the Association understands that other redeveloped airports are also going to file for a tariff revision, and CII would recommend that the Regulator take up an entirely independent opinion for the purpose of tariff determination.

23.12. DIAL have in their submission stated that they had commissioned an independent traffic forecast for IGI Airport from the Madras School of Economics (MSE forecast). The MSE forecast used up-to-date advanced time series techniques and examined "the short run as well as long run relationship between air-travel demand and other economic factors; with a key objective being to compare the results across various benchmark studies already existing for India. The consultation paper does not adopt the forecasts of MSE. Instead, it proposes to use traffic forecasts derived from historical data; specifically. 10 year CAGR figures for 2001-02 to 2010-11. The Authority's dismissal of the MSE forecast is based on two premises:

23.12.1. Firstly, there were variations between the MSE forecasts and long term historical trends as calculated by the Authority; and

23.12.2. Secondly, comments by Professor N.R. Bhanumurthy were critical of the model.

23.13. DIAL have made the following submissions in this context:

23.13.1. **Forecast proposed by the Authority are much higher than the forecasts done by Independent Professional bodies**: Tariff growth proposed by the Authority is substantially higher than the MSE forecast and other comparable recent forecasts (such as those undertaken by ACI, Mott McDonalds, and MSE).

23.13.2. **Background of ACI Forecast:** ACI requested DKMA to undertake a study to evaluate the current profile of traffic in India and determine its likely future evolution during the next six years. The report presents an unconstrained passenger traffic development at a country level covering 2010-2015 and passengers are split into domestic and international.

23.13.3. **Background of Matt MacDonald Forecast:**DIAL as part of Master Planning exercise, required under the OMDA, had to carry out a traffic study for IGI Airport. DIAL assigned Mott MacDonald to undertake an independent traffic study for IGI Airport. This study was the basis of Master Planning required under the OMDA. This study has stood the test of time and as has proved 90% accurate so far.

23.13.4. **Background of ICAO Forecast:** Airport Authority of India had also appointed ICAO to carry out traffic forecast study and establish traffic demand over next 20 years from 2011 for the National Capital Region (NCR). This is one of the most recent and an independent and credible forecast carried out on behalf of AAI/ GoI by the foremost aviation body.

23.13.5. **Comparison of forecasts:** A comparison of the forecasts done by Independent bodies with that assumed by the Authority is given. These charts highlight the significant variances between the forecast used for the tariff determination by the Authority and those provided by independent and reputed organizations. It is important to note that the forecasts by all these' independent and reputed organizations marginally vary among themselves but significantly vary as a group with the forecast of the Authority which raise questions over reliance on historical trends for its proposed traffic forecasts without considering current factors impacting traffic. Faced with such significant variations, best practice would suggest that the Authority give due

credence to comprehensive submissions provided by stakeholders and experts, particularly where these submissions reflect commercial experience in the relevant field.

23.13.6. Methodological forecasts are better than simplistic historical average-

(a) Authority has projected the traffic growth based on historical data. However this approach fails to consider the various dimensions influencing air traffic growth. Mere historical data alone will not substantiate that the future growth would be the same. Many studies worldwide reveal that air travel is influenced by **economic, social and geo-political factors which are dynamic and change over a period of time**. The study carried out by various civil aviation organizations like ACI, & aircraft manufacturers like Boeing & Airbus incorporates various parameters to derive the growth of air travel.

(b) **Global & regional economic turmoil:** In the recent past, most of the regions of the world are facing severe economic turmoil due to financial instability and high inflation. This would influence the emerging countries GOP, trade, tourism, employment and travel. Hence, the traffic projected by Authority excludes these very important parameters.

(c) **MSE report:** Historical data were also analysed by the MSE to oversee the 10 years' time series data from 2000-2009 to substantiate their predicted growth with forecasting model. So the model very well fitted the forecast while comparing with 10years period historical data.

(d) Further, there are material issues with historical trend analysis which are likely to favour the use of a more sophisticated forecast model in this instance:

- First, historical trends are overly simplistic: As discussed in the MSE forecast, predictions are subject to a degree of risk and uncertainty. Air traffic volumes are affected by a variety of influences including fares. Income levels and external events, and although these determinants cannot

be fully accounted for, forecasts should at least attempt to address the major influences. The simplistic nature of historical trend analysis glosses over these factors, relying only on historical information which may have limited relevance to forecasting future events.

- Second, historical data incorporates transient one-off events that have significantly affected past traffic but are unlikely to recur. As a result, there are issues in treating the proposed forecasts as reasonable.

23.13.7. A high base cannot sustain high growth percentage - The traffic growth percentage as forecasted by the Authority is based on a low base of the year 2001. The same growth cannot be sustained on a higher base. The current base on which these growth levels are being projected are almost impossible to achieve.

23.13.8. **Cargo growth -** Recent traffic trend in cargo handling shows that negative growth has started. Cargo registered negative growth during the last two quarters over the previous years. This is evident from the graphs produced herein. It is well known historical precedence that a slowdown in cargo is a pre-cursor of slowdown in economy and passenger growth. As such there are clear signs of an imminent slowdown in passenger and ATM growths. Authority is requested to give due credence to these factors.

23.13.9. **Band-** In the CP-32 the Authority has noted that DIAL has not indicated any Traffic Band while forecasting for traffic protection. Therefore, in *normal course, it would be assumed that DIAL is not seeking any corrections in respect of traffic forecast errors. However, as discussed herein above, the Authority proposes to use 10 year CAGR figures instead of figures projected by DIAL. The proposed figures are substantially higher than the DIAL projections. Therefore, it is possible to argue that traffic risk may have enhanced due to the proposed action of the Authority. In this light, the Authority has considered proposing a symmetrical band of say (+/-) 5% of the forecast percentages.*

23.13.10. In respect to the traffic band, DIAL have submitted that the band represents the risk that an Airport Operator is willing to shoulder. In practice the band can be provided once the Airport Operator has more visibility on the

traffic forecast being used for the tariff determination and the true up mechanism. Hence, DIAL not submitting a band in the application for tariff determination may not be construed as DIAL not seeking an error correction. DIAL have submitted that they have no objection to the traffic band of (+/-) 5% of forecast percentages proposed.

23.13.11. **PAX/ATM error –** DIAL have submitted that the projected traffic growth as indicated by Authority has inconsistency in the passenger/ aircraft ratio. Going forward, one would expect that the airlines would attempt to improve load factors and operating efficiencies to stay buoyant in a very aggressive/competitive environment. Therefore there is no way the PAX/ATM ratio would decline as the Authority projected figure highlights. On the contrary, this ratio is bound to show an increase year after year. In the case of domestic, the passenger / aircraft ratio also appears to be over optimistic. Another important factor is fleet rationalization. The airlines may use medium sized aircraft in the domestic sectors instead of small sized aircraft, and secondly airlines may rationalize the routes and also increase the loads by curtailing the frequencies of an aircraft as domestic airlines have been doing, off late.

23.13.12. DIAL have also extracted the comments of LEIGH FISHER in support of their response, which is as under:

> *"It is Leigh Fishers view that it is a mistake to pay too much attention to historic traffic performance as this is distorted by the highly regulated nature of the Indian domestic market and also the non-rational behavior of some of the airlines in the market, including provision of excess capacity in the past.*
>
> *The Indian market is immature in terms of demand and in terms of the way It is served of key concern in the Indian market at present if the chronic unprofitability of most airlines operating domestic routes. The traditional solution for chronic unprofitability is for weaker airlines -to withdraw capacity and fares to rise - has not happened. This means that the airline capacity market is out of step with the market as there is an oversupply of capacity, which in turn*

has led to an overstimulation of demand by low fares due to airlines wishing to fill seats. Capacity growth projections should be treated with caution, for if there is any softness in demand, airlines may cut capacity below what is currently planned.

An examination of past performance suggests a rapidly maturing market. In Leigh Fisher's view, the impact of deregulation has now passed through the system and the market now has a much more mature relationship to GDP. In addition there is a price factor at play as well as some positive impact from capacity constraints at Mumbai that may or may not continue.

It is not possible to derive the price directly from air fares as no data is available but in certain years there is evidence that there was a price factor at work in terms of either increases in fares or cuts in capacity due to profit ability issues.

In addition in the last year or so, constraints on airfield capacity at Mumbai appear to be driving some traffic to New Delhi.

.....In addition, in 2010-11, Leigh Fisher expect that there has been a positive boost to traffic at Delhi due to congestion/lack of capacity at Mumbai which has forced Air India in particular to reroute capacity via Delhi rather than Mumbai as evidenced by their decision to make New Delhi IGIA their hub. Without adjusting for these factors (capacity, price and congestion at Mumbai) it is unlikely that any forecast will be reliable.

Significant risks still exist to any forecast. These include the risk of airline closure, especially in the domestic market and the risk of lower capacity and demand, due to the current global situation. Network carriers are struggling

across India and Kingfisher's situation remains volatile despite recent efforts to improve the debt situation.

23.13.13. DIAL have also extracted the comments of Professor Martin Cave as under:

> *"The MSE forecast remains the most attractive option with respect to traffic forecasting. There are numerous concerns with AERAs forecasts -particularly their variation from other benchmarks, their application of historical trend analysis and the use of a low 2001-02 base–and adopting them would present a clear difficulties. I recommend that the final Tariff Determination adopt the methodologies and figures as set out in the MSE forecast."*

23.13.14. DIAL have in their summary requested the Authority not to use forecast based on 10 year CAGR and use the forecast of MSE or Mott MacDonald submitted by them for determination of tariff for IGI Airport In this control period.

Authority's Examination

23.14. The Authority has carefully considered the various submissions of the stakeholders.

23.15. DIAL have requested the Authority not to use forecast based on 10 year CAGR and to use the forecast of MSE submitted by them for determination of tariff for IGI Airport in this control period or that made by Mott MacDonald.

23.16. The Authority had, in the Consultation Paper, proposed to consider the historical traffic movement for the Passenger, ATM and Cargo movement at IGI Airport, New Delhi over the past 10 year period, i.e., from 2001-02 to 2010-11, based on Airports Authority of India (AAI) Traffic Review. The Authority felt that the historical trends could be a better representation of potential growth trends in future by choosing to analyze historical data over longer periods of time. Further, the 10-year period chosen for the exercise included the depressed traffic years of 2001-02 and 2008-09 as well as buoyant tariff growth years of 2004-05 and 2005-06. The Authority noted that historically, over a 10-year period, domestic passenger traffic at Delhi airport has grown at a CAGR 17.66% and international passenger tariff has grown at a CAGR of 10.70%.

23.17. Prof. N.R. Bhanumurthy, National Institute of Public Finance and Policy (NIPFP) had, in his comments on MSE Traffic forecast, observed that *"...the forecasts from the model may not be robust and using this for any policy formulation may lead to unwarranted results. Thorough revision is required for the study to be useful for policy."* The Authority also observed the fact that the forecast presented by DIAL based on the MSE Model are significantly lower compared to the long term historical trends. Hence, the Authority felt that forecast of traffic in line with the historical trends would be a more reliable basis. Further, in its recent decision in respect of DF levy, vide Order No.28 dated 14.11.2011, the Authority has used traffic forecasts on 10 year CAGR basis (albeit over the period 2000-01 to 2009-10). In view of the above, the Authority decided to use the 10 years CAGR figures (for 2001-02 to 2010-11) for tariff projections.

23.18. The Authority has taken 10 year historical growth as the basis of its traffic forecast for the last three years of the control period (2009-2014). DIAL and DIAL's advisers have thought that this forecast is too ambitious. Prof.Martin Cave has questioned the selection of the base year (2001) and has stated that if this year is altered, the figures of historical traffic growth would also change (and become lower). FIA, IATA, etc., on the other hand, have felt that the traffic forecast of Authority is somewhat pessimistic.

23.19. As already indicated in the Consultation Paper, the independent expert opinion suggests that the forecasts from the model used by MSE may not be robust and using this for any policy formulation may lead to unwarranted results. The Authority notes that no material has been produced to rebut the expert opinion. Therefore, it is not persuaded to change its view that the MSE forecasts cannot be relied upon for the present exercise.

23.20. The following table compares the forecasts adopted by the Authority for the year 2011-12 with the actual traffic at IGI Airport, New Delhi upto January 2012.

Table 19 Traffic Forecast Comparison - Actuals at IGI Airport for 2011-12 upto January 2012

Particulars	Actual IGI Airport, Traffic Growth (April to Jan 2012 (Y-O-Y)	Authority's Forecast 2011-12 - 2013-14
Passenger		
International	16.3%	10.70%
Domestic	25.0%	17.66%
ATM		
International	5.2%	11.5%
Domestic	22.0%	13.38%
Cargo		
International	-5.7%	10%(approx)
Domestic	-3.6%	13.86%

23.21. It is observed that the Authority's forecast for passenger traffic and ATM (Domestic) are lower than the actual growth rates whereas in case of ATM (International) and Cargo Traffic the actuals are lower than the Authority's forecasts.

23.22. The Authority has given careful consideration to the conflicting views of the stakeholders and the actual position depicted in para 23.20 above. The Authority had, in the Consultation Paper, proposed a mechanism of truing up the traffic forecast with respect to actual to the extent of 50% with band of 5% around the forecasted number. It further recognized that the passenger traffic to some extent is not within the control of the airport operator. It also recognized that the forecast number and the economic consequences thereof have to be so made so as to balance the interests of the stakeholders, namely, the passengers, airlines and the airport operator. However, keeping in view the submissions made by DIAL supported by the opinions of experts, the Authority has further considered the matter. It is felt that the forecasts based on historical growth rates are more reliable for the present. However, a 100% correction (truing up) without the band of 5% around the forecast would remove the uncertainties/ risks perceived by the airport operator.

Decision No. 26. Decision on Traffic Forecast and Forecast Correction

26.a. The Authority decided to use the actuals for FY 2009-10 and 2010-11 and to use the 10 year CAGR for forecasting Passenger, ATM and Cargo traffic for the years 2011–12, 2012-13 and 2013-14 [with the year 2010-11 as the base year].

26.b. The Authority will make 100% correction (truing up), of the traffic.

26.c. The Authority decided not to have any symmetrical band around the forecast number for the purpose of truing up.

Truing Up: 7. Correction/Truing up for Decision No. 26

7.a. The Authority will make 100% correction (truing up), of the traffic, the effect of which would be given in the next control period commencing from 1st April, 2014.

24. Calculation of CPI –X

24.1. The Consultation paper had given the details of DIAL's submission in this regard. DIAL had submitted that "*In addition to the value of 'X' determined by equating the NPV of the Target and the Actual revenues, CPI Inflation will be added to the tariff. Accordingly, it is understood that the regulator will give an allowance towards inflation (CPI) over and above the target revenue being submitted herewith based on actual CPI numbers.*" DIAL also submitted that they did not consider any inflationary increase and have assumed that the regulator will adjust the charges annually based on the actual CPI data. DIAL have, subsequently, provided a 5 year forecast of CPI-IW at 7% per annum based on Survey of Professional Forecasters as published by RBI on its website.

24.2. However, the Authority had in the Consultation Paper observed that based on the provisions in the SSA, the X Factor would need to be computed considering inflationary increases along with X factor. In view of the same, the Authority had in the Consultation Paper opined that the approach proposed by DIAL is not acceptable. (Para 424 to 430).

Stakeholder Comments

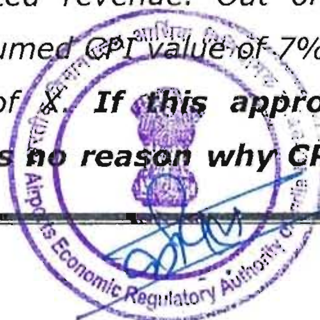
24.3. APAO, ACI, CII and DIAL have furnished their comments in this regard. APAO have requested the Authority to provide details on its treatment of inflation for the components in the price cap model and the resultant estimation of X Factor and have proposed that the Authority should estimate the initial tariff based on X Factor and that the tariffs can then be adjusted for inflation annually based on the initial tariff estimated using the X Factor.

24.4. ACI have stated that the best international practices in calculating the X-factor suggest that it is judicious to exclude inflation in its calculation and hence arrive at the real value of X. However, the Authority has included inflation in some components in the calculation of X. ACI have recommended the Authority to revisit this and adopt the more appropriate treatment by considering CPI as an add-on after computing X.

24.5. CII have observed that the Authority has adjusted the operating expenses and the non-aero revenues for CPI. Over and above this, it has reduced the X-factor by considering CPI in the calculation of the X-factor. CII have submitted that the CPI is a year on year phenomenon. Hence, the model created as per the base year numbers would be devoid of any inflationary growth for the coming years, provided that the growth projections taken for each component of the target aero revenue determination is based on real growth. The X-factor determined from such a process would result in the calculation of real tariff required to achieve the target aero revenues. Adjusting for inflation after this process would enable the concessionaire to meet its target aero revenues in real terms. CII have stated that the SSA also provides for a similar approach in determining the X-factor and would like the Authority to follow similar guidelines, as also iterated in the SSA, in adjustment for CPI in the X-factor calculation.

24.6. DIAL have stated that the position taken by Authority that the CPI adjustment is part of the X factor is incorrect and the correct position under the State Support Agreement is that the CPI minus X adjustment is to be made to the 'AC'. Authority's approach of calculating X factor including the effect of CPI is contrary to the provisions of SSA and is flawed due to the following facts:

> *"Based on the approach suggested by the Authority, the value of X factor has been determined by equating the present value (PV) of the target and the actual/projected revenues. CPI value is, thereafter, extracted from the value of X. In the present case, Authority has arrived at 341.63% as the equating factor for matching the PV of target and actual projected revenue. Out of the above equating factor, Authority has subsumed CPI value of 7% and residual value of 334.63% as the value of X.* ***If this approach was preferred approach, there appears no reason why CPI based indexing is***



stated in the SSA in the first place. Therefore, it would be not be logical to claim CPI as part of equalising factor.[Emphasis Original]

Secondly, the Authority while aggregating the target revenue from 5 building blocks has considered indexing only 2 blocks with inflation viz. Operation and Maintenance Costs and Non-Aeronautical revenues. The Authority has not indexed the remaining 3 building block i.e. (Return on RAB, Depreciation and Taxes). Therefore, effectively with the proposed approach of the Authority, the value X factor is getting eroded due to partial buildup of CPI in two building blocks which is then fully stripped in overall revenue while de-indexing.

Thirdly, it is also difficult to understand how the Authority has interpreted that CPI has been mandated to be allowed only on Operation and Maintenance Costs and Non-Aeronautical revenues and not any other building blocks in the SSA."

24.7. DIAL have also extracted the Expert Opinion from Prof. Martin Cave in support of their stand, which is extracted as under:

"DIAL has proposed that a CPI adjustment to the overall tariff (that is, a CPI adjustment is applied after the tariff has been calculated) to reflect the effects of inflation on the overall tariff. This is an orthodox approach that would be expected to be applied. Price controls based on the CPI-X formula are designed to replicate the discipline provided by market forces, by accommodating general inflationary trends (via the indexation of prices to the CPI) and then taking account of potential productivity growth above that prevailing in the economy as a whole, via the firm-specific 'X'. These dual objectives are most simply and transparently best reflected by adjustments to tariffs.

It is therefore surprising that AERA has rejected DIAL's proposal and appears to have built inflation adjustments into specific components of the building blocks formula.[1] Such an approach misunderstands the purpose of the CPI- X adjustment. It focuses myopically on aspects of the costs and revenues of the regulated business, where

the focus should be on the overall potential for profits. This wider approach provides the necessary incentives for regulated firms to seek productivity gains, and both costs and revenues ought to be understood on this wider basis. I understand that this approach is also inconsistent with DIAL's interpretation of the concession agreement.

Recommendation

I recommend that AERA accept DIAL's proposed tariff-wide inflation adjustment as more consistent with the CPI-X approach to price control that has been adopted."

Authority's Examination

24.8. The Authority had in para 424 to 430 of the Consultation Paper No.32/2011-12 stated the methodology adopted for calculating X. The Authority had reviewed the following aspects:

24.8.1. Treatment of aeronautical charges in the shared till inflation – X price cap model as per the SSA.

24.8.2. Illustrative Numerical Example of the Price Cap Approach for X factor determination in the SSA.

24.9. According to Schedule 1 of the SSA, "The X factor is calculated by determining the X factor that equates the present value over the regulatory period of the target revenue with the present value that results from applying the forecast traffic volume with a price path based on the initial average aeronautical charge, increased by CPI minus X for each year. That is, the following equation is solved for X:"

$$\sum_{i=1}^{n} \frac{RB_i \times WACC_i + OM_i + D_i + T_i - S_i}{(1 + WACC_i)^i} = \sum_{i=1}^{n} \sum_{j=1}^{m} \frac{AC_{ij} \times T_{ij}}{(1 + WACC_i)^i}$$

RB = regulatory base pertaining to Aeronautical Assets and any investments made for the performance of Reserved Activities etc. which are owned by the JVC, after incorporating efficient capital expenditure but does not include capital work in progress to the extent not capitalised in fixed assets. It is further clarified that working capital shall not be included as part of regulatory base. It is further clarified that penalties and Liquidated Damages, if any, levied as per the provisions of the OMDA would not be allowed for

capitalisation in the regulatory base. It is further clarified that the Upfront Fee and any pre-operative expenses incurred by the Successful Bidder towards bid preparation will not be allowed to be capitalised in the regulatory base.

WACC = nominal post-tax weighted average cost of capital, calculated using the marginal rate of corporate tax

OM = efficient operation and maintenance cost pertaining to Aeronautical Services. . It is clarified that penalties and Liquidated Damages, if any, levied as per the provisions of the OMDA would not be allowed as part of operation and maintenance cost.

D = depreciation calculated in the manner as prescribed in Schedule XIV of the Indian Companies Act, 1956. In the event, the depreciation rates for certain assets are not available in the aforesaid Act, then the depreciation rates as provided in the Income Tax Act for such asset as converted to straight line method from the written down value method will be considered. In the event, such rates are not available in either of the Acts then depreciation rates as per generally accepted Indian accounting standards may be considered.

T = corporate taxes on earnings pertaining to Aeronautical Services

S = 30% of the gross revenue generated by the JVC from the Revenue Share Assets. The costs in relation to such revenue shall not be included while calculating Aeronautical Charges.

$AC_{i,j}$ = average aeronautical charge for the jth category of aeronautical revenue in the ith year
$T_{i,j}$ = volume of the jth category of aeronautical traffic in the ith year X = escalation factor
n = number of years considered in the regulatory period
m = number of categories of aeronautical revenue e.g. landing charges, parking charges, housing charges, Facilitation Component etc.

It can be seen that "X" does not directly figure in this equation. However, the SSA provides the following in continuation to the above equation.

"The maximum average aeronautical charge (price cap) in a particular year 'i' for a particular category of aeronautical revenue 'j', is then calculated according to the following formula:

$$AC_i = AC_{i-1} \times (1 + CPI - X)$$

where CPI = average annual inflation rate as measured by change in the All India Consumer Price Index (Industrial Workers) over the regulatory period"

Substitution of this formulation of AC_i into the above equation would be required to enable solving the equation for "X" as required in the SSA.

$$\sum_{i=1}^{n} \frac{RB_i \times WACC_i + OM_i + D_i + T_i - S_i}{(1 + WACC_i)^i} = \sum_{i=1}^{n}\sum_{j=1}^{m} \frac{AC_{i-1\,j} \times (1 + CPI - X) \times T_{ij}}{(1 + WACC_i)^i}$$

24.10. DIAL, vide letter no. DIAL/2011-12/Fin-Acc/1583 dated 15.11.2011, had submitted that :

"In a CPI - X methodology of tariff determination, as envisaged in the SSA, the CPI is tariff add-on to cover inflation. In this methodology the efficient way is to determine X factor without considering inflationary increases and only considering real increases in costs. This provides an unadulterated X factor bereft of inflation. Thereafter the CPI inflation coverage on actual year on year basis in rate card is provided which ensures transparency and ease of computation. The X factor has been computed in the model accordingly and the request is that this may be continued."

24.11. Further, DIAL, in response to Consultation Paper No.32/2011-12, have requested the Authority to first arrive at AC_i as defined in SSA without inflation and thereafter giving the CPI inflation separately. The Authority is of the view that this essentially seems to imply the following calculation:

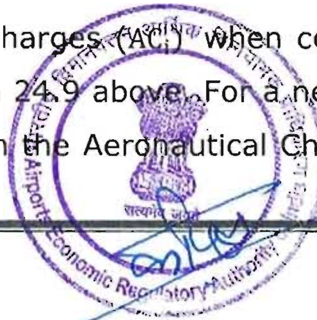
$$AC_i = AC_{i-1} \times (1 - X) \times (1 + CPI)$$

Regrouping the terms, the formulation would effectively result in the following:

$$AC_i = AC_{i-1} \times (1 + CPI - X - CPI \times X)$$

$$AC_i = AC_{i-1} \times (1 + CPI - X) - AC_{i-1} \times CPI \times X$$

As can be seen, this formulation has an additional term "$-AC_{i-1} \times CPI \times X$" in the determination of Aeronautical Charges (AC_i) when compared to the formulation in the SSA, as discussed in para 24.9 above. For a negative "X" factor, this term would result in a net increase in the Aeronautical Charges (AC_i). In view of this



the Authority does not find any justification to accept the methodology proposed by DIAL and deviate from the approach proposed in the Consultation paper. The submissions of APAO, ACI and CII which are on the same lines as DIAL, are also not acceptable for the above reasons.

Determination of X Factor

24.12. In the Consultation Paper, the 'X' factor was calculated solving the two equations simultaneously to arrive at a number of -334.64% as a one-time increase if the revised tariffs were to be made applicable with effect from 01.04.2012.

24.13. The date of implementation of the tariffs will now be 15.05.2012. By this change of date, the 'X' factor changes to -355.44%. This is on account of shortening of the remaining period of current control period when revised tariffs will be in effect.

24.14. In addition, certain modifications in some of the parameters were necessary to account for the most recent data as well as inflation built into the certain parameters like fuel throughput charges. The updated Opex, as on 31st March, 2012, was also factored in while calculating 'X' factor.

24.15. The impact of these items is as follows:

Table 20 Impact on X factor due to change in parameters

Parameters	Impact on 'X' factor	Impact of various parameters
Change of date for the revised tariffs to be effective (i.e. from 01.04.2012 to 15.05.2012.	'X' factor increases from -334.63% to -355.44%.	+20.81%
Change in Fuel throughput charges projections with inflation factored only once.	As a result, the 'X' factor changes from -355.44% to -366.51%.	+11.07%
Factoring the updated US Dollar exchange rate @ Rs. 50.66	As a result, the 'X' factor changes from -355.44% to -353.44%.	-2.00%
Taking into account the latest figures 31.3.2012 on aero expenses.	As a result, the 'X' factor changes from -355.44% to -336.83%.	-18.61%
Total impact		+11.27%

24.16. The cumulative impact of above mentioned parameters results in a change in the 'X' factor from -334.63% to -345.92%.

24.17. The tariff card, reflecting the 'X' factor **at -345.92% as on 15.05.2012** has been submitted by DIAL and the Authority has decided to approve the same as a ceiling into the respective aeronautical charges.

Decision No. 27. Decision on CPI-X

> **27.a. The Authority decided to follow the formulation specified in the SSA and calculate the "X" factor by solving the system of equations mentioned therein.**

25. Issue of 10% increase

25.1. In view of the proposed increase in tariff, the Authority had, in the CP -32 reiterated the position taken by it in the Order No.03/2010-11 dated 21.05.2010. The Authority had also observed that the issue of allowing a 10% year-on-year increase in Base Airport Charges, as claimed by DIAL, has become an issue of academic interest only. - This issue is briefly discussed hereunder:

25.1.1. The request of DIAL for a 10% increase in their aeronautical charges *(in accordance with Clause 1 of Schedule 6 of the SSA, after completion of 2 years*; the proposal was forwarded by the MoCA vide its letter no.AV.20036/014/2009-AD dated 06.10.2009) was examined in detail by the Authority. It was noted that the 'Base Airport Charges' are the charges which were prevalent on 26.04.2006 (as set out in Schedule 8) and that a nominal increase of 10% had already been permitted by the MoCA over the Base Airport Charges (BAC) in terms of Clause 1 of Schedule 6 and that this increase could be termed as *"permitted nominal increase of 10%"* contemplated in Schedule 6 of the SSA. Further, the second part of Clause (2) of Schedule 6 states that "*a permitted nominal increase of ten (10) percent of Base Airport Charges will be available to the JVC for the purposes of calculating Aeronautical Charges in any year after the commencement of the fourth year*". Thus, on a co-joint reading of Clauses 1 & 2, it is evident that as per Clause (1) a nominal increase of 10% is to be permitted on completion of first two years, subject to certain conditions, and as per Clause (2), this permitted nominal increase of 10% will, at the least, be available to the JVC for the purposes of calculating airport charges from fourth year onwards. Expressed differently, in terms of first part of Clause 2, the Authority/GOI are

required to set aeronautical charges in accordance with Clause 3.1.1 read with the principles set out in Schedule 1 of SSA from 4th year onwards and by virtue of second part the nominal increase of 10% permitted (in terms of Clause 1) is saved. The Authority also noted that the request of DIAL, at least in some part of their communications, appeared to be for an increase of 10% on the prevalent Airport Charges, whereas the second part of the Clause 2 of Schedule 6 mentions an increase of 10% on the BAC, which in the Authority's view had already been permitted by the MoCA in terms of Clause 1 of Schedule 6.

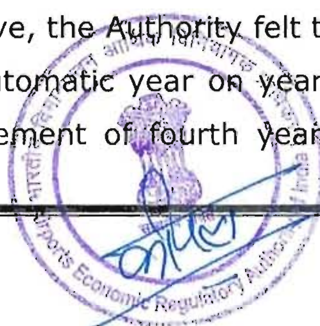
25.1.2. The Authority had observed that, if it is accepted that Clause 2 contemplates an year on year increase of 10% from the commencement of 4th year onwards, it would mean that the GOI have agreed to a doubling of BAC in about 7 years time irrespective of the actual determination in terms of principles set out in Schedule 1. Thus, on a co-joint reading and harmonious construction of the provisions of Schedule 6 of SSA, the Authority found that the following scheme is revealed:-

(i) The airport charges, as existing on 26.04.2006 (which are set out in Schedule 8) will continue for first two years from the effective date.

(ii) In the event the JVC fully completes and commissions all the mandated facilities required to be completed during the first two years, it would be allowed a tariff increase of 10% in nominal terms from the beginning of 3rd year from the effective date, as an incentive.

(iii) From the commencement of 4th year onwards, tariff will be set by the Authority/GOI as per principles set out in Schedule 1 subject to the condition that, at the least, the nominal increase of 10% of the BAC permitted during the third year, as incentive, will continue to be available to the JVC.

25.1.3. In view of the above, the Authority felt that there was no warrant in Schedule 6 of SSA for an automatic year on year increase of 10% in airport charges from the commencement of fourth year onwards. Accordingly, the



Authority rejected the request made by DIAL for a 10% increase in aeronautical charges at IGI Airport, New Delhi, with effect from 03.05.2009, vide Order No.03/2010-11 dated 21.05.2010.

25.1.4. DIAL appealed against the said Order of the Authority before the Honble AERA Appellate Tribunal vide Appeal No.03/2010. The Hon'ble Tribunal, disposed off the said Appeal vide its final Order dated 11.05.2011 and directed that:

> *"Therefore, without expressing any opinion on the merits of the case we set aside the impugned order and remit the matter to the Regulatory Authority to pass a reasoned order after grant of opportunity to the parties for hearing and to place further materials, if any. The exercise shall be undertaken within a period of ten weeks. If the Regulatory Authority requires any material to be produced it is but imperative that the same shall be supplied by the appellant. We note the stand of Mr. Nanda that a final determination has to be done in each case."*

25.1.5. Pursuant to the decision of the AERAT, the Authority filed IA indicating that it would be determining the final tariff in respect of aeronautical services and that the issue of 10% increase thereof would be taken up as part of this exercise. The Tribunal has permitted the Authority to do so in a time bound manner, in pursuance of which the Authority has under taken the present tariff determination exercise in respect of IGI Airport, New Delhi.

25.1.6. As indicated earlier the Authority had, in the CP-32, stated that there is nothing on record, presently, to change the views earlier taken by the Authority. Further, as brought out in the section relating to sensitivity analysis, the draft determination is resulting in X factor of (-) 280.36%, which would result in a one-time increase of 287.36% (on account of CPI-X) in the airport charges on 01st February 2011, *over* and above the 10% increase (which DIAL received on 16th February 2009) in Base Airport Charges. Alternatively, considering an equated increase for each of the years in the regulatory period, the X factor becomes (-) 71.95% which would result in increase of 78.95% (on account of CPI-X) in the airport charges on 1st

February 2011, over and above the 10% increase (which DIAL received on 16th February 2009) in Base Airport Charges. In view of the proposed increase in tariff, the Authority felt that the issue of allowing a 10% year-on-year increase in Base Airport Charges, as claimed by DIAL, had become an issue of academic interest only.

Stakeholder Comments

25.2. MIAL have stated that the Authority has concluded that on co-joint reading and harmonious construction of the provisions of Schedule 6 of State Support Agreement (SSA), it is found that *"from the 4th year onwards, tariff will be set by the Authority / GoI as per principles set out in Schedule 1 subject to the condition that, at the least, the nominal increase of 10% of the Base Airport Charges permitted during the third year, as incentive, will continue to be available to the JVC"*, which means, according to MIAL understanding is that, aeronautical charges from 4th year onwards shall be minimum 110% of the Base Airport Charges.

25.3. IATA is of the view that the issue must still be resolved by AERA Appellate Tribunal expeditiously for two reasons:

25.3.1. Base Airport Charges does not include UDF and it is premature at this point to dismiss a rate card option whereby the increase in Base Airport Charges is kept below 10% and the shortfall recovered through UDF.

25.3.2. The situation in the second regulatory period could be one where the Base Airport Charges are reduced or the annual increases kept below 10%.

25.4. DIAL have stated that the aforesaid matter is sub-judice and pending decision before the Hon'ble AERAAT. Notwithstanding, they reiterate their earlier stated position that the Aeronautical charges shall be set by the Authority after giving due adjustment of 10% increase in the Base Airport Charges as contemplated in the Schedule 6 of the SSA. Even though this provision does not have any bearing in the current tariff determination but the same will be relevant for future tariff determinations.

Authority's Examination

25.5. The Authority has carefully examined the stakeholder comments. It is observed that no fresh grounds or new facts have been brought on record by

any of the stakeholders including by DIAL. Therefore, the Authority finds no grounds to review the position already taken by it in the Order No.03/2010-11 dated 21.05.2010 as reiterated in the Consultation Paper No.32/2011-12 dated 03.01.2012. In any case the Authority's present Order is fully in consonance with the requirement of retaining the quantum of 10% increase over the Base Airport Charges as read under Para 1and 2 of Schedule 6 of the SSA.

Decision No. 28. Decision on Issue of 10% increase

28.a. The Authority's present Order is fully in consonance with the requirement of the SSA.

26. Cost of Equity (ROE), Fair rate of Return (FROR)/Weighted Average Cost of Capital (WACC) and Leverage-

26.1. In the consultation Paper the Authority had based on the report of a study commissioned through National Institute of Public Finance and Policy (NIPFP), and consideration of other relevant factors, the Authority had for the purpose of calculation, considered 14%, 16% and 18% as cost of equity and also gave the scenarios at these rates. The Authority had requested the stakeholders to specifically comment on this important issue so that it could take a final view in the matter with the benefit of the stakeholder responses. DIAL had based on the recommendations of Leigh Fisher, claimed 24% as the cost of equity.

Stakeholder Comments

26.2. On the issue of Cost of Equity- Cathay Pacific, British Airways, IATA , AOC, APAI, VOICE, APAO, ACI, Fraport, APAI, ASSOCHAM, FICCI, CII, and DIAL have commented on the Authority's proposal.

26.3. The MoCA, vide letter dated No.AV.24032/037/2011-AD dated 12.03.2012, have forwarded a report of M/s.SBI Capital Markets Ltd. (SBI CAPS) on the fair rate of return on the equity for Indian Airport sector. Airports Authority of India had got a study conducted through SBI CAPS which had opined a return on the Equity in the range of 18.5% to 20.5% would be reasonable for airport sector in India.

26.4. Cathay Pacific have submitted that given the fact that the cost of equity of DIAL has been estimated by the NIPFP to be ranging from 12.7% and 14.06%, there is no reason to adopt a RoE higher than the range indicated. They have stated that in recognition of airports to be of strategic value in driving the economic development of a place, consideration has often been adopted by governments in using a RoE at a modest level than the one derived under pure mathematical formula. Cathay have given the example the Airport in Hong Kong where a RoE of 5% has been adopted and have stated that the strategy adopted by the Airport in Hong Kong has been one of promoting traffic growth for the overall and greater economic return of the Airport and Hong Kong at large, which has worked successfully over the years bringing healthy and sustainable growth to the place.

26.5. British Airways have stated that it must be noted that the expected return on investment by GMR Group bears no relationship to the industry in which it is operating as the airline industry overall is currently achieving a 0.8% return on investment and that should the airlines be forced to collect a development fee through an extra tax on the ticket the airlines will be absorbing these costs for all tickets that have already been sold. As the booking period opens a year in advance this will impact further on the fragile profitability of the airlines thus leading to an ever increasing downward spiral of less tonnage and less frequency.

26.6. IATA have in their submission stated that a cost of equity in the following range is fair :

26.6.1. 10.3% to 11.7% - for a 5-year period with full 5-year risk exposure (prices are set in advance for 5 years)

26.6.2. 9.0% to 10.3% - for a 5-year period with only 2-year risk exposure (prices are set in advance for two years, as with the current determination)

26.7. AOC is of the view that the cost of equity should be taken below 14%. APAI have stated that the Cost of equity at 16% as suggested by the Authority is certainly the right methodology. VOICE, have stated that the request for return on investment of 22% is criminal and even 16% is unwarranted in today's circumstances.

26.8. APAO have in their submission stated that the cost of equity as 16% appears to underestimate the risk to equity investors of IGI Airport and as the

aviation sector in India competes with other sectors in India as well as global airport projects around the world for investments, returns to equity investors in airports should adequately incentivize global developers and operators to invest in this sector. Referring to the cost of equity estimates for IGI Airport made by reputed external agencies APAO have requested the Authority to adopt the cost of equity as estimated by KPMG and Leigh- Fisher Management in the range of 20% -25%.

26.9. ACI have submitted that that in order to attract global investors, the opportunities available investing in India's airports must allow them the possibility of achieving attractive returns. ACI have stated that

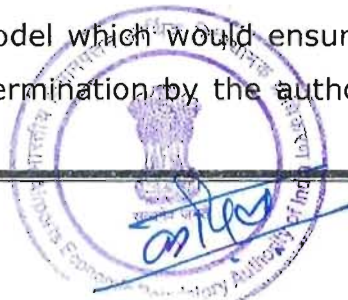
> *"......... in Greece a 15% RoE is assured to the private investors despite a mere 2.4% inflation currently. The difference of approximately 7% in inflation, as compared to 9.3% inflation in India, should be adequately factored while arriving at the fair RoE. We understand that AERA has taken average beta of airport companies from developing and mature economies. It is however worthwhile to note here that the perceived risk profile of investment options varies vastly between asset classes from economies at different levels of maturity. It is important to note that the current beta adopted by AERA of 0.5 is similar to betas adopted for Heathrow and Gatwick (0.47 and 0.52) which are much more mature markets devoid of any cyclic effect compared to Delhi airport. As such we believe the selection of beta for Delhi airport should be reconsidered. Finally, we would like to point out that, as outlined by the UK's CAA, investing in the business of airport operations is considered riskier than other sectors (beta of 0.4 for utilities versus an average of 0.5 for international airports or even 0.61 for Stansted airport)."*

26.10. Fraport have stated that it should be noted that India's country risk profile and airport sector specific risk are considered to be comparatively high compared with other markets and as a result any proposed cost of equity needs to reflect these elevated risk profiles in order to attract investment.

26.11. ASSOCHAM have in their submission compared the returns in other sectors: Power (15.5% RoE at base rate by CERC, 16% CoE by State Electricity Regulatory Commission) Port (16% RoE by TAMP) Roads (IRR upto 18% by

NHAI) and in the case of renewable energy 20 to 25% by CERC and stated that given the risk profile of airports a 20% plus is needed to attract investment. Further, they have also submitted that submitted given the lack of precedence in this sector in India, the risk-return profile of airport development and operations business in other economies can be considered. Specifically in this case, ASSOCHAM agree with DIAL's contention that the betas of relevant companies from developing economies should only be considered, while the same from mature economies should be left out as the risk-return profile of business in the developing countries is significantly higher than mature countries and the taking asset beta of developed countries for determination of cost of equity of airports in a developing country has inherent and obvious flaws. ASSOCHAM have requested that the Regulator would do well to take cognizance of the above arguments in its final determination of return on equity.

26.12. FICCI have submitted that the RoE of 16% recommended by the Authority for airports is at par with that allowed to power projects by the Central Electricity Regulatory Commission (CERC). However, FICCI have stated that, it needs to be noted that this return in power projects is provided on the total equity for the complete concession period. In the airport sector, however, it is based on the RAB which decreases every year due to depreciation. Additionally, all utility-based projects earn a residual value at the end of the concession whereas in the current context, no residual value would be provided. FICCI have requested that these factors should be considered when evaluating the return to be provided in the airport sector vis-a-vis the other infrastructure sectors. They have also stated that it is worthwhile to note that given the risks, lenders are cautious when issuing long-term debt to capital intensive and long-gestation infrastructure projects and that there are significant political or geo-political risks as well in the airport sector. These manifest in the form of changes in bilateral air service agreements. Further, FICCI understands, from speaking to some PE firms, that such investors expect a return of more than 20% from their investments in the infrastructure sector in India. While FICCI believes that the decision to adopt the CAPM model to calculate the cost of equity is fair they have urged the Authority to adopt the best practices of calculating the cost of equity from employing the CAPM model which would ensure a fair outcome and could be used in all the future determination by the authority. FICCI have requested



that the Authority may like to revisit the proposed 16% RoE with a view to make the returns commensurate with the risks faced by DIAL.

26.13. CII's submission to the consultation paper is on the same lines as that of ASSOCHAM and FICCI. CII have also urged the Authority to revisit the proposed 16% RoE and revise the same upwards to make the returns commensurate to the risks taken.

26.14. DIAL have in their response to the consultation paper, stated that the computation of cost of equity proposed to be adopted by the Authority, based on the study of NIPFP suffers from various lacunae and infirmities and have flagged the same for the Authority's attention along with various other issued as under:

26.14.1. Risk free rate: Methodology

26.14.2. Selection of Betas

26.14.3. Equity Risk Premium

26.14.4. Levering and De-levering methodology based on market value of equity.

26.14.5. Indicative Cost of Equity at time of bidding.

26.14.6. Other issues

(i) Comparative Risk of airports vis-a-vis other sectors.

(ii) Residual value of assets at end of concession.

(iii) Expectation of investors.

(iv) Stabilization of interest cost not confirmed.

26.15. On the Methodology of determining the Risk Free Rate, DIAL have submitted that the Authority has considered the recommendation of NIPFP who have considered an average yield of past 10 years Government of India bonds as nominal risk free rate at 7.35%. In the aforesaid report, NIPFP have taken a simple average of ten years nominal GOI bond yields from 2001 and 2010. DIAL have made the following observation on the aforesaid approach:

26.16. It is not appropriate to use the historic nominal figures (under historic inflationary conditions), especially where these do not provide an appropriate indicator of forward-looking risk free rate. Inflation index have moved quite erratically during period under consideration and therefore the

underlying risk free rate should not be, in any case, influenced by such abnormal anomalies. To consider an example, in case, we go by the recommendations of NIPFP of 7.35% as nominal risk free rate and considering inflation forecast of 7%, the resultant real risk free rate is 0.33% (Based on Fisher's formula). This is erratically low compared to real risk free rate suggested by Varma and Barua (2.60%) and UK Regulators 2.50%.

26.17. The risk free rate estimate incorporated in CAPM assessments of the cost of equity, is usually based on establishing a forward looking rate for the expected return on Government debt, which in turn is then used as a proxy for the return on a notional risk free investment.

26.18. DIAL have also furnished Opinion of Prof.Jayanth R Varma, IIM Ahmedabad and Management Consultants Leigh Fisher on the Risk Free Rate Methodology. Opinions of both the experts are extracted hereunder:

> ***Prof Jayanth R Varma, has opined the following on Risk Free Rate: -*** *"AERA's consultant proposes to estimate the risk free rate of return by taking the arithmetic average of the daily yield on 10-year government bonds over the period January 1, 2001 to December 31, 2010. In my opinion,* ***this averaging is completely inappropriate.*** *For computing the cost of capital on any given date,* ***what is relevant is the risk free rate prevailing on that date, and not the average of what the rate has been in the past.***
>
> *The cost of capital is used to discount future cash flows, and the past is completely irrelevant except in so far as it provides some guide to the future. In the case of a market determined bond yield, the yield at any point of time represents the market's expectation of what the average interest rate will be during the life of the bond (plus appropriate risk premia). Since long term interest rates already represent an average of expected future short rates, a further averaging of these rates does not make any sense.*
>
> *Moreover, an average of past bond yields is a purely mathematical construct devoid of any economic significance. By contrast, the long term interest rate is the risk free cost of capital today; it is the rate*

that would have to be paid today to finance a risk free project, and is therefore economically highly meaningful and relevant.

A case could also be made that interest rates of maturities longer than ten years might be appropriate if airport assets have an average economic life exceeding ten years. Ten year yields might be used for estimation purposes because of their greater liquidity, ***but it might be appropriate to add a small term structure spread of say 25 basis points to reflect the longer average economic life of the assets.****"*

26.19. **Leigh Fisher,** in their opinion, have commented on the Risk Free rate, which is extracted as under-

"The risk free rate estimate incorporated in CAPM assessments of the cost of equity, is usually based on establishing a forward looking rate for the expected return on Government debt, which in turn is then used as a proxy for the return on a notional risk free investment.

AERA is intending to calculate a nominal cost of capital and it is therefore appropriate that a risk free rate should be calculated in nominal terms.

However, this does not mean that it is best practice simply to use the historic nominal figures (under historic inflation conditions), where these do not provide an appropriate indicator of what a forward looking risk free rate would be.

In general we would expect the nominal risk free rate to take account of two factors:

- *An underlying real rate of return;*
- *A forward looking inflation rate.*

This reflects the fact that it is more realistic to assume that the real rate of return is consistent over time, rather than to ***assume that investors have a consistent view of the nominal rate and would, by implication, feel equally satisfied with (say) a nominal 9% return if inflation were at 5% as they would be if***

the same 9% nominal rate were offered and the inflation rate were 15%.

As a result, if government debt costs are to be used as a proxy for nominal risk free rates, it is important that the inflation expectations at the time are taken into account - so as to establish the best estimate level for a forward looking nominal benchmark."

26.20. DIAL have also produced the extract of the opinion of Dr Harry Bush, Ex Regulator of CAA, UK as under:

"..........there could be significant reservations about the NIPFP's approach to assessment of the beta.

.... NIPFP's argument for broadening the comparator list beyond emerging markets is to eliminate the 'bias' that such a restricted list entails but, if that involves downplaying of the comparisons that investors would themselves make, it risks identifying a beta – and a cost of equity – that is not commensurate with the risks involved.

*Given India's state of economic development, **airports in emerging markets look to be an important and distinct reference point** in any full analysis. Their betas are likely to be impacted by broadly similar factors, in particular (significantly) higher rates of economic growth and income elasticity of demand than in more mature markets, both of which would tend to increase the susceptibility of airport revenue and profitability to economic fluctuation.*

While there might be discussion about the relative relevance of different airports in any list, a wholesale move to excluding such considerations and moving solely to an alternative basis for comparison requires very clear identification of factors which are relevant to the risks which the beta is attempting to measure.

*In this respect the **NIPFP's identification of size and ASQ scores as reasons for broadening the pool of comparators do not appear to bear directly, to any significant degree, on the systematic risk** to which airports are subject. In particular, ASQ scores largely reflect passenger perceptions of service quality and ambience. **Airports with similar betas may have very different***

ASQ scores and vice versa. They do not relate directly to the risk that investors bear.

Some factors might, in my view, tend to suggest ***a higher beta for Delhi than some comparators. For example, the high degree of competition for transfer traffic which has developed across the Middle East and Asia*** *may have an effect, as in economic downturns reduced transfer traffic may disproportionately impact the less well established and competitive hubs. This could suggest a higher beta for Indian airports compared to some other emerging market hubs.*

The operational leverage implied by the Government's high share of revenues might also be a factor arguing for a higher beta.

There may be other, different factors which might argue for either higher or lower betas and affect the weight to be attached to any particular average of emerging market betas or to any individual comparators. But using emerging market airport betas as a higher reference point alongside other approaches, in the sort of range discussed earlier in this note, would create a clearer framework for a regulatory judgment about the appropriate level of beta and the risks to investment that might be involved in any choice.

It is sometimes useful to perform a cross check of the results that emerge from regulatory consideration. The result of NIPFP's approach, ***even as amended by AERA, is that Delhi airport's beta is assessed to be in the same region as those which the UK regulatory authorities determined as applying to Heathrow and Gatwick (0.5 compared to 0.47 and 0.52 respectively) and to be lower than that assessed by the CAA for NERL's monopoly provision of en route air traffic control services (0.6).***

It also results in a cost of equity broadly similar, possibly below, those applying to the mainstream of Indian infrastructure/utilities. These are strongly counterintuitive results.

Heathrow and Gatwick operate in one of the world's most mature aviation markets subject to significant capacity constraints, factors which would both tend to dampen the response of traffic to economic volatility. The NERL result depended to an extent on the operational leverage to which the business was judged to be subject, a factor which is also present in the Delhi case."

26.21. DIAL have also furnished the opinion of Professor Martin Cave who has also highlighted the various incongruities in the NIPFP report relied upon by the Authority, which is extracted as under:

" 18 The following suggest that an asset beta estimate of around 0.60 for airports in developed countries would be in line with expectations:

- *The New Zealand Commerce Commission has estimated asset betas for New Zealand airports to be 0.60, which is in line with previous estimates undertaken by the Commission.*
- *The British Civil Aviation Authority (CAA) has estimated the asset betas for airports other than Gatwick and Heathrow to be 0.61.*

19 An asset beta estimate of around 0.60 for airports in developed countries would therefore be in line with expectations, as two regulators have independently reached very similar conclusions. As discussed elsewhere in this paper, in my view a higher figure is appropriate for a developing country such as India.

20 A sense check would also be likely to reveal that 0.50 is too low in respect of DIAL. The UK CAA has estimated an asset beta for Heathrow Airport in London at 0.47. Heathrow Airport is one of the largest and busiest international airports in the world, which suggests that the asset beta estimate for DIAL should be much higher than the 0.47 estimate for Heathrow Airport.

This result is not, of itself, a criticism of SFG Consulting's attempt to compile a larger sample set to increase statistical robustness of the asset beta estimate.

However, it is relevant to any residual discretion of the regulator that the asset beta estimate is likely to be underestimated. On this basis, an estimate of at least 0.70 and probably higher (in the 0.75 to 0.85 range) would be within expectations. This is in line with the estimates produced in reliance on the New Zealand Commerce Commission's analysis, once the distinction between developing and developed countries is taken into account.

As mentioned above, using the Commission's data set is preferable because it is more up to date than the SFG Consulting data, is larger, and has the additional credibility of endorsement by an independent regulator and its expert advisors.

However, it is also relevant to note that both the SFG Consulting and New Zealand Commerce Commission data sets include both developed and developing countries. The table shows that the average (mean) beta of observations taken from Western Europe, the United States, Australia, New Zealand and Japan is 0.56 whereas the average of observations from other countries is 0.86.[1] In my view, this is consistent with the observation that macroeconomic shocks are likely to be strongly transmitted to the airport sector in a period of high traffic growth[2]. Conversely, developed countries are likely to face lower risk, which explains this result.

Therefore, the available data is likely to underestimate asset betas for Indian airports, due to the inclusion of airports from developed countries. On this footing the appropriate beta estimate is at least 0.70 and probably higher – in the 0.75 to 0.85 range."

26.22. As brought out hereinabove, the MoCA, vide letter dated No.AV.24032/037/2011-AD dated 12.03.2012, forwarded a report of M/s.SBI Capital Markets Ltd. (SBI CAPS) on the return on the Equity. AAI had got a study conducted through SBI CAPS which had opined a return on the Equity in the range of 18.5% to 20.5% would be reasonable for airport sector in India.

26.23. FIA have in response to the MoCA's letter submitted that the stakeholders have not been provided with the copy of the study conducted by the M/s.SBI Capital Markets Ltd and the Rate of Equity ("RoE") as suggested by

MoCA @ 18.5% to 20.5% is totally unreasonable. FIA has objected to the Return on Equity proposed by the Authority @ 16% as well as DIAL's proposal of 22.8%, which is totally unreasonable and have requested that the Authority must consider the rate on return on equity applicable to nationalized banks which would be in the interest of the stakeholders and the consumers.

26.24. SBI Capital was appointed by AAI to carry out a study on "*Fair Rate of Return of Equity for Indian Airport Sector*". In its study, SBI Cap has recommended and that a return of 18.5% to 20.5% is fair rate of return for private airports and has enumerated certain risk factors for airport sector in India in general. This report was forwarded to the Authority by MoCA vide letter No. AV.24032/037/2011-AD dated 12.03.2012 wherein the Authority was asked to "*............report of the Financial Advisor may kindly be considered in taking decision in this regard*". This report was uploaded on Authority's website vide Public Notice No.01/2013-13 12.4.2012.

Table 21 Comparative table indicating the RoE's proposed by stakeholders

S.No.	Stakeholder	ROE Proposed
1	APAO	20%-25%
2	ACI	In Greece a 15% RoE is assured to te private investors despite a mere 2.4% inflation currently. The difference of approximately 7% in inflation, as compared to 9.3% inflation in India, should be adequately factored while arriving at the fair RoE.
3	DIAL	24%
4	Fraport	Reasonable return on investment for viable operations
5	AOC	Below 14%
6	APAI	16% as proposed by Authority
7	BAR(I)	Below 14%
8	Cathay Pacific	As estimated by NIPFP, in the range of 12.70% to 14.06% is reasonable
9	IATA	10.3% to 11.7% - 5-year period with full 5-year risk exposure (prices are set in advance for 5 years); 9.0% to 10.3% - 5-year period with only 2-year risk exposure (prices are set in advance for two years, as with the current determination)
10	ASSOCHAM	20% plus
11	FICCI	AERA may review proposed 16% ROE to make returns commensurate with risks faced by DIAL
12	CII	Revise the proposed 16% ROE upwards
13	VOICE	Even 16% unwarranted
14	MoCA- SBI Caps Report	18.5% to 20.5% as per the report of financial advisor (SBI Capital Market Ltd, appointed by AAI), has been forwarded for consideration in taking decisions
15	Harry Bush, LeighFisher, Martin Cave and Jayant R Vernma	Have commented on the on the various incongruities in the NIPFP report; Risk Free rate, selection of Betas; Equity Risk Premium, Gearing etc

Authority's Examination

26.25. Under Section 13(1)(a)(iv), the Authority is required to take into account consideration of economic and viable operation of major airports while determining the tariff of aeronautical services. In accordance with this requirement, the Authority is required to determine fair rate of return on equity (RoE) brought in by the promoters. It had, accordingly, requested the National Institute of Public Finance and Policy (NIPFP) to estimate the fair rate of return especially for projects under PPP mode, namely, Mumbai, Delhi, Bangalore and Hyderabad. Accordingly, NIPFP vide its report dated 13.12.2011 gave its estimate and range of fair rates of return on equity, i.e. 12.70% to 14.06%. After taking into account the advice of NIPFP and the regulatory landscape, the Authority made the necessary computations based on RoE of 16% for the consultation purpose It is to be noted that DIAL and its Consultants had suggested a rate of return of 24% for equity.

26.26. DIAL have in their response to the Consultation Paper given opinions and reports from 4 consultants viz., Prof. Martin Cave, Deputy Chairman of the UK Competition Commission; Dr. Harry Bush, Ex-Regulator of the Civil Aviation Authority of the UK; Prof. Jayanth R Varma, IIM Ahmedabad as well as Leigh Fisher, Aviation Consultants. Parallely, the AAI had also appointed SBI CAP as a financial adviser to carry out a study on the " *Fair Rate of Return on equity, for Indian Airport Sector"* which the MoCA have, vide their letter No. AV.24032/037/2011-AD dated 12.03.2012, forwarded to this Authority stating that the financial adviser SBI Cap has suggested a range between 18.5% to 20.5% as a fair rate of return on equity and that the Authority may consider this report while determining tariffs.

26.27. The Authority requested NIPFP to review the SBI Caps report and the comments made by the other stakeholders and to submit their report which it did on 19th April 2012.

26.28. The NIPFP in its latest report has reviewed all material and has come to a conclusion that the Authority could consider the RoE for DIAL in the range of 11% to 14%. A copy of the NIPFP report is attached to this order (Annexure – I).

26.29. The Authority has further considered the matter in the light of stakeholders' comments, SBI Caps report, NIPFP report etc.

Building Blocks of Cost of Capital (Weighted Average Cost of Capital or WACC):

26.30. Since the investments made are broadly composed of investors' equity and debt, the calculation of fair rate of return on investment involves calculation of fair rate of return on equity consistent with the risk profile of the airport as well as the cost of debt. As the costs of both these forms of finance are different, the costs or returns of each form of means of finance are weighted by its proportion to arrive at the Weighted Average Cost of Capital (WACC). If D and E represent the debt and equity proportions, gearing g is defined as:

$$g = \frac{D}{D + E}$$

26.31. The building blocks in calculation of the cost of capital thus are: (a) Cost of equity or Return on Equity (R_e) and (b) cost of debt (R_d) with their relative proportions. The cost of equity is to be consistent with the risk profile of the airport. The cost of debt is generally that at which the loan is contracted. Hence what is important is to estimate the fair rate of return on equity. The Return on equity is computed using the Capital Asset Pricing Model (CAPM) in accordance with the formula:

$$R_e = R_f + \beta_e \times (R_m - R_f)$$

Where R_e is the return on equity, R_f is the risk free rate, R_m is the market return and β_e is the equity β which is a measure of risk of the asset with respect to the market (or as a measure of systematic risk for a stock) and is given by:

$$\beta_e = \frac{Cov(R_e, R_m)}{Var(R_m)}$$

Where the numerator is the covariance of R_e with market return and the denominator is the variance of the market return. β_e is also referred to as levered beta and often represented as β_L.

The term $(R_m - R_f)$ is also called the Equity Risk Premium (ERP) or Market Risk Premium (MRP). Since β value leverages (i.e. either amplifies or dampens) the ERP, its value, along with that of ERP becomes important for calculation of R_e.

Calculation of WACC:

26.32. Vanilla WACC: This approach is highlighted in Consultation Paper No. 3/2009-10, referred to as the 'Vanilla' Cost of Capital approach, models the tax shield on interest payments in the analysis of company profits itself. Using the Vanilla approach therefore, tax as a building block can be calculated as per prevailing accounting practices and laws and the calculation does not need to be adjusted for aspects like interest tax shield.

26.33. The Authority in its "Airports Economic Regulatory Authority of India (Terms and Conditions for Determination of Tariff for Airport Operators) Guidelines, 2011" has adopted this approach by stating that the WACC for an Airport Operator will be estimated as

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

Where $FRoR$ is the Fair Rate of Return and the other terms have the same meaning as above (R_d is the pre tax cost of debt). This is also the approach used by DIAL in their tariff filing.

Calculation of β_e:

26.34. If the airport is listed, this calculation is straightforward. For an unlisted airport, this exercise involves the following steps:

26.34.1. Find a set of comparators that are listed on the stock exchange and hence the equity betas of which can be directly estimated.

26.34.2. De-Lever the equity betas so estimated by appropriate leverage of the listed airport (taking into account the gearing or the debt to equity ratio) to arrive at the asset betas of the elements of the comparator set. Find the median (or average) of the asset betas of the elements of the comparator set.

26.34.3. As a first approximation, use the median asset beta so calculated as the asset beta of the unlisted airport in question. Assess any risk mitigating factors in the regulatory environment in the unlisted airport and use judgement to arrive at asset beta for the unlisted airport.

26.34.4. Re-lever the asset beta of the unlisted airport by appropriate leverage of the airport (taking into account the gearing or the debt to equity ratio) to arrive at the equity beta of the unlisted airport.

26.34.5. Once the equity beta of the unlisted airport is obtained, make the calculation of the fair (or required) Return on Equity.

26.35. The issues associated in these steps are indicated below:

26.35.1. Selection of the Comparator set:

26.35.1.a. The Authority is aware of the issues involved in choosing an appropriate comparator set and that "pure pay" comparator companies are hard to find. (See for example, Lally, M., *The cost of capital for the airfield activities of New Zealand's international airports*, Appendix 18, Final Report Part IV Inquiry into Airfield Activities at Auckland, Wellington, and Christchurch International Airports of the commerce commission NZ, Aug 1, 2002, or also see Page 154, Para 6.40 of the Report). Regulatory authorities have had to use their judgment in this matter. For example, the observations of the Competition Commission of UK (CC UK 2007) are relevant here. In its report (28th Sept 2007) on the Economic Regulation of the London Airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd), the CC has made a reference to the request by BAA and its advisers Oxera that CC UK should give much more weight to asset beta estimates for other airport companies. CC observed that "We are not persuaded by this stance: international airports have fundamentally different risk profiles from Heathrow and Gatwick and in particular are subject to a different form of regulation or, in some cases no regulation at all."

26.35.1.b. The Commerce Commission NZ's (CC NZ) Final Report Part IV Inquiry into Airfield Activities at Auckland, Wellington, and Christchurch International Airports, 1 Aug 1, 2002, Page 158, Para 6.49 and 6.50 has observed:

Commission considers that the regulatory environment is fundamental to the performance of the airports and is, therefore, the dominant factor considered in choosing comparators (Emphasis added). Useful benchmarks for an asset beta for airfield activities are, therefore, as follows:

(a) United States firms engaged in electricity generation and/or distribution that are subject to rate-of-return regulation (which almost guarantees them a certain rate of return).

(b) Electricity firms in the United Kingdom subject to CPI-X price caps (Para 6.50)".

26.35.1.c.At another place (Paras 65 and 66 on page 25), the CC NZ observes:

Characteristics important in assessing the suitability of comparators include the nature of the firm's output, the nature of the customer, the duration of any contracts with customers, the extent of any regulation, degree of monopoly (e.g., as reflected in the price elasticity of demand), the nature of options for expansion, operating leverage, market weight, and capital structure.

The regulatory environment could significantly effect the performance of the airports and is, therefore, a key consideration in choosing appropriate comparators. The Commission adopted benchmarks for asset beta based on United States firms engaged in electricity generation and/or distribution that are subject to rate-of-return regulation (which almost guarantees them a certain rate of return), and firms in the United Kingdom subject to RPI-X price caps. ***Other airports are not used as comparators because there is not sufficient data to arrive at reasonable estimates (emphasis added)***

26.35.2. Consideration of any special features of the unlisted airport that may call for any uplift or downward adjustments to the asset beta and arrive at the appropriate estimate of its asset beta.

26.35.2.a. In the Indian context, the Government and the Authority have put in place several de-risking (risk mitigating) measures that can be expected to bring down the riskiness of the unlisted airport, in this case DIAL. These are separately indicated below.

26.35.3. Appropriate gearing or leverage used to de-lever the equity betas of the comparator set and re-levering the asset beta of the unlisted airport.

26.36. The calculation of equity beta from the asset beta is done on the basis of "Hamada Equation"[1]. The CC NZ[2] notes that "A range of formulae have been developed as possible ways to de-lever and re-lever beta estimates. All of these formulae rely on making assumptions, including how firms manage their debt and the tax environment of the country in which the firm operates." The CC NZ finally decided that a formula without a tax term is appropriate.

26.37. SBI Caps has employed the version of the Hamada equation with the tax term in de-levering and re-levering processes as under:

$$\beta_e = \beta_a \times \left(1 + (1 - T) \times \frac{D}{E}\right)$$

This formulation implicitly assumes that the debt beta β_d is zero. This is "the parameter in the formula that shows how much systematic risk is borne by debt holders, rather than equity holders, as gearing changes"[3]. A debt beta measures the (systematic) riskiness of debt relative to the market portfolio in the same way that an equity beta measures the (systematic) riskiness of equity relative to the market as a whole. If β_d is non-zero, the Hamada equation with the β_d term takes the form:

[1] Hamada, R.S. (1972) "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks," The Journal of Finance, 27(2):435-452

[2] Input Methodologies (Airport Services) Reasons paper December 22, 2010, Para E8.51 page 324

[3] CC 2007 Appendix F Para 85, Page F22

$$\beta_e = \beta_a \times \left(1 + (1 - T) \times \frac{D}{E}\right) - \beta_d \times (1 - T)\frac{D}{E}$$

Clearly if $\beta_d = 0$, these two equations become identical.

26.38. Though NIPFP has also performed these operations with $\beta_d = 0$ in its calculations and the Authority has also decided to adopt the same approach i.e. $\beta_d = 0$, the Authority notes that a non-zero value of debt beta has important bearing on how the WACC behaves with increasingly higher levels of gearing. This is seen from the following table given on page 220 of CC NZ "Input Methodologies (Airport Services) Reasons paper December 2010". It will be seen that with a non-zero debt beta, the uplift of cost of capital with higher levels of gearing is substantially dampened and almost eliminated in the gearing range of 0% to 40%.

Table 22: Leverage, debt betas and the post-tax WACC for Airports

Leverage	Post-tax cost of capital with $\beta_d = 0$	Post-tax cost of capital with $\beta_d = 0.2$
0%	7.83%	8.04%
17%	8.06%	8.06%
20%	8.12%	8.07%
40%	8.42%	8.08%
60%	8.72%	8.12%

26.39. The proportion of debt and equity has a bearing on the calculation of β_e. The CC UK 2007, in their "A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd), presented to the Civil Aviation Authority on Sept 28, 2007 (CC 2007) have stated that "In this inquiry (Q5), we have had to deal with a substantial step up in leverage during the latter part of Q4 and therefore require a means of translating an observed beta at historical levels of gearing into the beta for a company with the same level of underlying riskiness but with a much higher level of gearing" and that in Q4 enquiry, it did not explicitly examine the relationship between a firm's asset beta and equity beta. [4] CC UK used the following formula for this:

[4] CC 2007, Appendix F, Para 83.

$$\beta_a = \beta_e \times (1 - g) + \beta_d \times g$$

$$g = \frac{D}{D + E}$$

Where $\beta_a$is the asset beta, β_e is the equity beta, β_d is the debt beta and g is the gearing level (leverage), D is debt and E is equity. (According to Prof. Ashwath Damodaran, both D and E are to be reckoned at their market values. One can however make a reasonable simplification that the market value of debt is equal to the book value of debt. For equity, this assumption is not valid and if the market value of equity is to be used, this is possible for a listed company and for an unlisted one it will have to be estimated based on valuation methods. Note that in the absence of debt, the equity beta equals asset beta.)

26.40. CC UK 2007 notes that the above formula implies that for a given value of asset beta, the equity beta will increase with gearing. It is also evident that higher the value of debt beta smaller will be the effect of higher gearing in increasing equity beta. The debt beta thus has a dampening effect on the impact of gearing on equity beta. The CC UK 2007 then observes that:[5]

"The key feature of these charts is the upward-sloping relationship that exists between a firm's gearing and its pre-tax cost of capital when one assumes a zero debt beta. This suggests that gearing up increases a firm's pre-tax cost of capital and therefore warrants the inclusion of a higher rate of return in price caps—something that can be seen explicitly in Table 1 at the beginning of this appendix where BAA's estimates for the pre-tax cost of capital at Heathrow increase with the use of a higher gearing figure, while estimates of the pre-tax cost of capital at Gatwick fall on the assumption of lower gearing.

We find this overall position difficult to reconcile with the observed behaviour of a range of firms in a broad sample of different industries. In the regulated sectors, the trend in recent years has been for firms to inject more debt into their capital structures on the apparent assumption that higher levels of gearing represent more efficient financing. Indeed, ADI has told us that its own decision to move BAA's gearing from around 34 per cent to more than double this figure would improve the efficiency of BAA's financing.

*Given this starting point, **we do not accept the argument that higher levels of gearing produce a higher cost of capital.** We do not believe that this is a credible characterization of the returns that investors require at different levels of gearing and it is largely for this reason that we consider it appropriate to use a non-zero debt beta in our calculations,*

[5] CC 2007 Appendix F, Paras 88-90

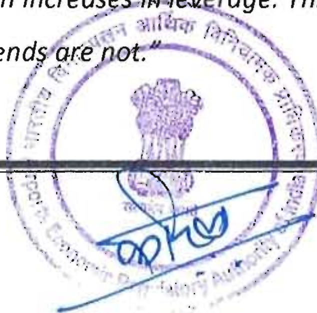
despite the difficulties that we face in estimating the value of the debt beta with precision. ***Assuming a debt beta of zero when increasing gearing over-rewards equity by implying that all additional exposure to systematic risk which gearing brings accrues only to equity*** *(emphasis added)".*

26.41. CC UK 2007 finally imputed a non-zero value to debt beta at 0.1 in its report observing that "A debt beta measures the (systematic) riskiness of debt relative to the market portfolio in the same way that an equity beta measures the (systematic) riskiness of equity relative to the market as a whole." Regarding cost of capital, CC UK 2007 has also observed that:

> *The cost of capital calculations for Heathrow and Gatwick, and hence the returns that we have allowed for at both airports, are therefore based primarily on our estimates of five parameters: g, K_d, R_f, R_m and beta. These parameters can change as a result of movements in financial markets, whilst at the same time there is continuing work by financial and academic analysts on new data and on the reinterpretation of existing data. In addition, there can be considerable uncertainty over the appropriate level for some inputs.* ***All of these factors suggest to us that we must not approach the cost of capital calculation mechanistically, but need to exercise a degree of judgment when selecting our parameters, and similarly in evaluating the outcomes and reaching our conclusions*** *(emphasis added).(Para 9 of Appendix F)*

26.42. Similar observations (including reference to the observations of CC UK 2007) have also been made by the CC NZ. In its analysis "Input Methodologies (Airport Services) Reasons Paper, 22 December 2010, Para 6.6.1, page 132":

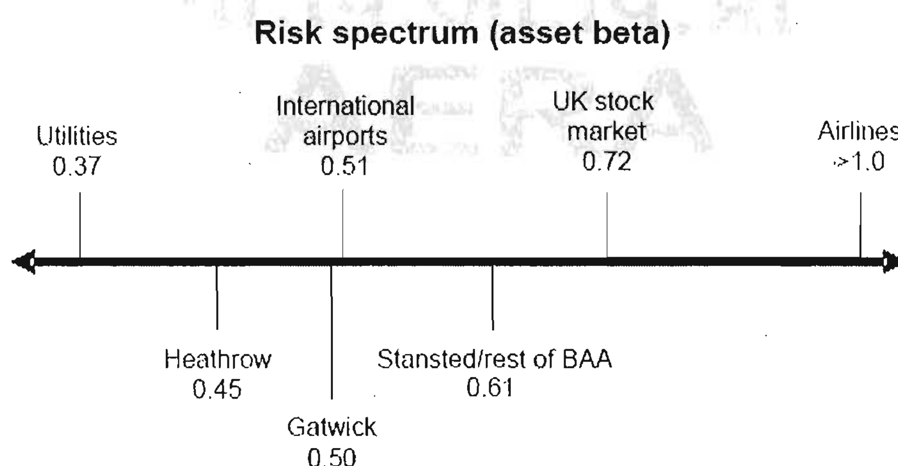
> *"Leverage refers to the mix of debt and equity capital that is used to fund an investment. Leverage is used in two places in estimating the cost of capital. One use is to re-lever the asset beta into an equity beta (and vice versa). The second use is to derive a weighted average cost of capital (WACC) from the estimates of the cost of debt and the cost of equity.*
>
> *In a tax neutral world, leverage is generally understood not to affect a firm's WACC, since the cost of capital reflects the riskiness of the cash flows, rather than how these are divided up between equity and debt investors. When corporate tax is considered, the WACC is generally understood to decline with increases in leverage. This is because interest costs are tax deductible to the firm but dividends are not."*



26.43. As has been seen above, higher gearing results in higher value of weighted average cost of capital (WACC) with zero debt beta, β_d. Hence there is a positive relationship between gearing (leverage) and the estimated cost of capital, which the CC NZ calls a "potentially serious anomaly as it is inconsistent with the behavior of firms in workably competitive markets. That is, firms in workably competitive markets do issue debt and, so long as the debt levels are prudent, are considered to be acting rationally when they do so."

26.44. The CC NZ too did not want to set a higher cost of capital due to higher levels of gearing.[6] It recognized that "The use of non-zero debt betas is theoretically sounder than using notional leverage[7], as the use of non-zero debt betas would reduce or eliminate the extent to which the post-tax WACC estimate for each service varies with leverage". Finally it settled for a leverage number of 17% "in line with the average leverage of the 24 international listed airports" that CC NZ used as comparators. Applying leverage of 17% to the asset beta resulted in an equity beta of 0.72.[8] It would be relevant to highlight here that New Zealand follows a light handed regulatory regime.

26.45. Another useful observation comes from the regulatory order of Competition Commission UK in case of Stansted airport[9]. The CC UK has given a "risk spectrum" as follows:[10]



Source: CC analysis.

[6] Input Methodologies (Airport Services) Reasons Paper, 22 December 2010. Para 6.6.8 page 134
[7] CC NZ had proposed a figure of 40% in its "The Draft Reasons Paper for Airports"
[8] Input Methodologies (Airport Services), Reasons Paper, 22 December 2010, X33, page vii
[9] Stansted Airport Ltd Q5 price control review, Oct 23, 2008.
[10] Stansted Airport Ltd Q5 price control review, Oct 23, 2008, Appendix L, Figure 5

26.46. The CC UK observes:

> *"The first point to note about Figure 5 is the position of the three London airports relative to the market as a whole. With equity beta of 1 (by definition) and average gearing among firms of 28 per cent[11], UK equities generally can be thought of as having an asset beta of around 0.7. We regarded it as intuitively sensible that a regulated asset such as Stansted should be a significantly less risky investment than UK equities in general..... there was no evidence to suggest that infrastructure/airport/regulated companies as a class of asset were perceived to be more risky equity investments".*

26.47. What is important is to note that the asset beta of the airports is considered to be much less than the asset beta of the market as a whole and far lesser than asset beta of airlines. What is equally relevant from the point of view of the risk mitigating factors employed by the Authority (especially the truing up mechanism for traffic) is the observation of CC UK:

> *"A second useful comparison is the asset beta for a typical regulated utility. The average beta of the sample that we presented in Table 8[12] is 0.35 (One year asset beta at 12.9.08)[13], which is broadly in line with the water company asset beta that NERA used in the cost of capital study to which we referred in paragraph 52. Figure 5 shows that our beta estimates suggested that airports and Stansted in particular, were more risky than conventional regulated companies. Again, we believed this made a certain amount of sense as, **unlike owners of electricity, gas and water companies, investors in airports face non-trivial demand risk, which impacts on returns** (Emphasis added). However, as we noted earlier, **it is important not to overstate the scale of this risk given that designated airports benefit from reset price caps every five years** (emphasis added)".*

26.48. In the Indian context, and in case of DIAL specifically, the Authority has mitigated the non-trivial demand risk i.e. the traffic risks by deciding to allow 100% true up..

26.49. The CC UK 2007 had evaluated asset betas from other international airports. The average asset beta from these other international airports was 0.44 with a range of 0.20 to 0.88. (A report on the economic regulation of the London airports companies (Heathrow Airport Ltd and Gatwick Airport Ltd),

[11] Source: bank of England
[12] For Stansted, the CC uses utility companies as comparators (in addition to some international airports).
[13] Incidentally, this figure has decreased from 0.47 at for the previous year (One year asset beta at 14.8.07)

Appendix F - Cost of Capital, 28 September 2007, Appendix F, Table 7, p. F30). For sake of convenience, this is reproduced below:

Table 23: Comparator Airports asset betas CC 2007

Airport	Equity beta	Gearing	Asset beta
Macquarie Airports	0.71	0.52	0.39
Auckland	1.15	0.26	0.88
Copenhagen	0.22	0.18	0.20
Fraport	0.50	0.04	0.48
Vienna	0.58	0.11	0.53
Zurich	0.39	0.49	0.25
Florence	0.35	0.00	0.35
Average	0.56	0.23	0.44
Median	0.50	0.18	0.39

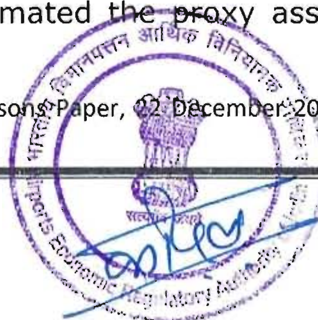
Source: CC analysis based on Thomson Financials
Note: For simplicity, the asset beta calculation uses a constant debt beta of 0.1, which may lead to the asset beta estimates being slightly overstated.

26.50. As regards the relative riskiness of airports with the market, the observations of the CC NZ are important. It concludes that "The supply of airport services has relatively **lower exposure to market risk than the average New Zealand Company (Emphasis supplied)**. This relative risk relationship compared to the overall share market is represented by beta. Using data from AIAL and 23 international listed airports, the Commission has estimated the asset beta for airport services at 0.60. The Commission's estimate is in the middle of the range of independent estimates of airport asset betas."[14]

Risk factors in SBI Capital's Report:

26.51. SBI Capital has presented a general risk analysis giving the major risks that could be associated with airport sector. It has not, however, commented on which of these are specifically applicable to DIAL keeping in view the regulatory environment under which DIAL is to operate. As will be apparent in the Authority's examination of these risk factors, many of them have been specifically addressed by the Government of India/ Authority in the de-risking or risk mitigating measures put in place in the regulatory framework. SBI Caps does not seem to have taken this factor into account in its analysis. Secondly, SBI Caps has, in its report, estimated the proxy asset beta estimate for the

[14] Input Methodologies (Airport Services), Reasons Paper, 22 December 2010, Executive Summary, Para X32 page vii. CC NZ estimated equity beta at 0.72.



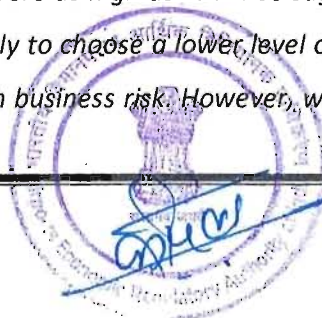
Indian Airport Sector based on the average asset beta of listed companies only in emerging markets and hence at 0.71. If one takes the overall market (including the mature market airports), the asset beta comes to 0.61. For reasons that are given elsewhere, the Authority is unable to agree to make this distinction. Apart from that, SBI Caps have used the asset beta of the airports in the emerging market for DIAL. Having listed a number of major risk factors that, according to SBI Caps are associated with the airport sector in India, SBI Caps has not uplifted the asset beta of the Indian airport sector taking into account these risk factors, if according to it, these risk factors were absent in the airports in the comparator set. The approach of SBI Caps therefore appears to be inconsistent.

26.52. Before going into detailed analysis of these risk factors, the Authority notes the observations of the CC UK 2007 in its analysis on the issue of business risk associated with the airport. The British Airports Authority had made an argument that "it was exposed to catastrophic risk, and that such risk was not captured in the CAPM because it was either downside-only risk or because the consequences of the risks were asymmetric." (Para 139 of Appendix F: Cost of Capital, CC UK 2007). CC UK 2007 considered this submission and observed that:

"We considered whether the events suggested by BAA as catastrophic risks, such as the two Gulf wars, 11 September 2001, SARS, the 7 July 2005 bombings, the August 2006 terrorist plot, communicable diseases, natural disasters, geopolitical upheaval, and technological failures of either aircraft or airport systems were catastrophic risks or business risks. (Para 140 of Appendix F)

Whilst we accept that these were all significant events, we believe them to be business risks to which investors would expect an international airport to be exposed. Unlike these business risks, we consider catastrophic events to be low frequency and high impact in terms of rendering an airport inoperable for a sustained period. These events highlighted by BAA are not infrequent (four in the last five years) and not high impact (as Oxera notes, these events have not threatened the overall activities or viability of BAA). (ibid, Para 141)

We note that if business risk were as high as BAA has suggested (due to these events) then such a company would be likely to choose a lower level of gearing so that the financial risk would not exacerbate the high business risk. However, we note that BAA increased gearing



prior to the Ferrovial takeover, and post takeover has geared up further. We do not believe that this is the action of a company which regards itself as facing high business risk." (ibid para 144)

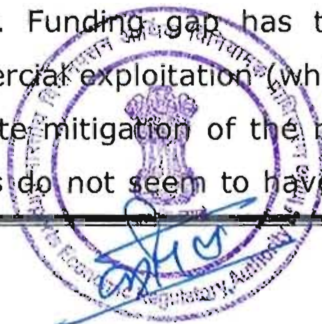
26.53. As regards the catastrophic events, CC UK 2007 have recognized that risks associated with such (catastrophic) events cannot be captured by Cost of Capital and that a truly catastrophic event is outside the framework of economic regulation. CC UK 2007 has expected that in such an eventuality (of truly catastrophic events), "CAA would intervene and a recovery plan would be agreed between the CAA, BAA, airlines and probably the Government". (ibid, Para 145). In the Indian context of the economic regulation of airports, the Authority believes that Section 13 (2) of the AERA Act gives it adequate mandate to address such an eventuality, were it to arise. The Authority's comments on each of the risk factors mentioned by SBI Caps are given below:

26.53.1. **Construction**: Construction risk is present in all projects, and not confined only to airport sector. Even in a listed company, while its project had been under construction (say for a new project), there would always be some risks associated with construction. The Beta of the project reflects the systematic risk in the project which is non-diversifiable.

26.53.2. **Land Acquisition**: Similar comments as are given for "construction" also apply to land acquisition. However, in DIAL's case land was already in possession of AAI and a running airport was handed over to DIAL. In the Authority's view, DIAL, therefore, had no risk factor on account of land acquisition.

26.53.3. **Environmental clearances and other approvals:** Such clearances as are required under applicable laws have to be obtained in respect of all projects (including infrastructure projects) and not only by the airport sector. Therefore whatever may be the risk on account of this factor is common across all projects in all sectors.

26.53.4. **Funding risk:** The capital funding risk has been more or less mitigated by grant of Development Fee (DF) which is a legal instrument used in favour of the project. Funding gap has thus been effectively bridged. Additional land for commercial exploitation (which yielded Rs. 1,471.52 crore) also contributed to ex-ante mitigation of the risk. In advancing debt (in the form of loan), the lenders do not seem to have felt the need to consider this



factor in determining the cost of debt. In the Authority's view again, maturity mismatch, if any, between the **tenor** of the debt and the long concession period may not be in the nature of systematic risk.

26.53.5. **Traffic Risk:** It was made clear in the Consultation Paper that traffic risk was proposed to be mitigated through a truing up mechanism. This treatment is different from the treatment of volume risks in "Economic Regulation of Stansted Airport 2009-2014, March 13, 2009" by CAA UK, Para 2.3 page 23 wherein the volume risk is borne entirely by the airport operator. In view of the comments received on the forecast of the Authority on the future traffic growth, the Authority has now decided to true up the traffic 100% (instead of 50% mentioned in the consultation paper), also removing the 5% band around the forecast. This, in view of the Authority, has more or less completely mitigated the traffic risk. Apart from this truing up mechanism, the airport operator has also suggested charging User Development Fee (UDF) which is also a legal instrument. UDF is a revenue enhancing mechanism so that any revenue shortfall can be effectively met to enable the airport operator get fair rate of return as may be determined by the Authority. This along with DF is important de-risking measures not available to the other infrastructure sectors like Highways or Energy or Ports or SEZ's, sectors that have been mentioned in the SBI Caps report.

26.53.6. **Airlines Financial Condition:** The risks associated with the financial condition of the airlines are a business risk. Different sectors are exposed to different types of business risks. When the comparative set is chosen for DIAL airport, it can be said that there is similarity between DIAL and the comparative set in terms of such business risks. The Authority does not agree that any further special consideration needs to be given on account of this risk factor.

26.53.7. **Regulatory Risk:** The economic regulation of airports in India is in the initial stages of regulation. To make this regulation transparent and predictable, the Authority has put out its philosophy and framework for economic regulation of the airports. It has also stated that this framework does not apply to Delhi and Mumbai in as much as these airports are governed by certain covenants that are market discovered price mechanism. The Authority has duly considered the covenants of SSA/OMDA in this

determination. The Authority, therefore, does not feel that there is any additional factor on account of regulatory risk.

26.53.8. **Political Risk:** The only comment that the Authority would like to make is that, if at all, this is common to the entire economy; neither particularly to the airport sector nor to the infrastructure sector in general. The market as a whole internalizes such risks. The observations of CC UK 2007 referred to above are especially relevant in this regard.

26.54. Risk mitigating Measures by Government of India and the Authority: There are a number of such measures that need to be kept in view before judging the perceived riskiness of DIAL in particular and the airport sector as a whole. The Authority feels that these measures should be adequate to substantially mitigate risk perceptions.

26.54.1. **Assuring Traffic (Risk of Competition and New Entrants)**: The Government of India has a general policy not to allow any new airport or expansion of existing airport within 150 kilometres of the airports in question (apart from the specific mention in the mutually signed concession agreement of Bangalore.) Furthermore, in respect of Delhi and Mumbai, existing incumbents are accorded preferential treatment and they have the right of first refusal (RFoR) of up to 10% in case airports nearby (Noida and Navi Mumbai) are proposed to be built.

26.54.2. **Assuring traffic from inception**: In case of Bangalore and Hyderabad, though the new airports were built as Greenfield airports at new locations, the Government of India closed down the existing airports (with assurance that they will not be opened up for civilian traffic), thus assuring the concessionaire, an assured traffic volume.

26.54.3. **Provision of additional resources (Land etc.)**: AAI has given about 5,000 acres of land at Delhi at an annual lease rent of just Rs.100. DIAL is allowed to commercially exploit and monetize around 245 acres. DIAL has done so for an area of 45 acres in the first phase and received Rs. 1,471.52 crore interest free security deposit to be repaid after 57 years, as well as rental of close to Rs. 90 crore per annum (around Rs. 2 crore per acre per year), escalating at 5% per annum.

26.54.4. **Risk of financing gap** (construction period): Provision of DF is an explicit pre-financing measure to ensure meeting Viability Gap Funding requirements (if any) during the construction period and facilitating financial closure. By granting the DF, the Authority has de-risked the financing gap during construction. The proportion of ADF in the CAPEX for DIAL is about 30%. (Rs. 3,415.35 crore in a Regulatory Asset Base of Rs. 12,502.86 crore).

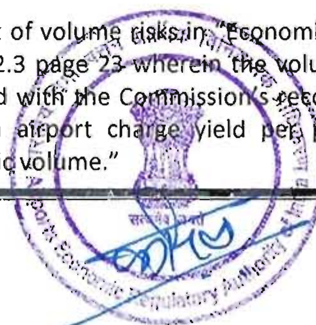
26.54.5. **Risk of economic downturn** (traffic risk): The Authority has proposed to true up the entire variations in the actual traffic from the forecasted figure so that the airport operator does not have to bear any risk of traffic downturn owing to any deterioration of economic conditions affecting traffic growth or forecasting errors (variation from what was forecasted at the time of tariff determination).[15]

26.54.6. **Risk of revenue generation** (operational risk): Provision of User Development Fee (UDF) is a revenue enhancing measure to ensure that the airport operator gets a fair rate of return on his investments (including rate of return on equity) as determined by the Authority. It has used this provision in cases of Hyderabad, Trivandrum and Ahmadabad airports. The Government has also allowed UDF in some of the airports regulated by it. The UDF at Bangalore airport also continues in terms of the approval given by the Government before the establishment of the Authority. The Authority has proposed to use this measure in case of Delhi as well. This means that the airport operator DIAL will receive, ex-ante, the RoE through this legislative instrument.

26.54.7. **Pass-Through of certain costs**: The Authority has proposed to allow cost pass-through of certain uncontrollable costs relating to statutory taxes and levies and change of rates of electricity and water as may be determined by the respective regulators.

26.54.8. **Inflation**: Accounting of inflation will be on actual basis (and not only on forecasts thereof) as reflected in the consumer price index (CPI) to

[15] This treatment is different from the treatment of volume risks in "Economic Regulation of Stansted Airport 2009-2014, March 13, 2009" by CAA UK, Para 2.3 page 23 wherein the volume risk is borne entirely by the airport operator. "Volume risks: the CAA agreed with the Commission's recommendation to continue to set the price cap based on an average projected airport charge yield per passenger, with no subsequent adjustment to the price controls for outturn traffic volume."



remove the effect of non-controllable (beyond the control of the operator) cost escalations while determining annual tariff corrections.

26.55. The Authority has also noted the observations of the Supreme Court of India in Union of India vs. Cynamide India Ltd (known as Cynamide India case), (1987 (2) SCC (720)) that tariff fixation under a statute is a quasi-legislative function and that, "The ups and downs of commerce are inevitable and it is not possible to devise a foolproof system to take care of every possible defect and objection (Para 35)". The Authority has, to the extent feasible, put in place measures that will address issue of risk faced by the airport operator, especially for those elements that are generally outside the control of the airport operator. First, the Authority has put in place framework to mitigate the non-trivial demand risk (apart from other measures indicated) in terms of traffic through truing up mechanism for DIAL. Second, it is clear that proper estimate of the asset beta of the airport is a non-trivial matter. Its value gets magnified (leveraged) by gearing and has impact on the fair rate of return on equity and then more significantly on WACC. CC UK used a notional gearing figure of 60% for Heathrow and Gatwick in CC 2007 and 50% for Stansted and re-levered the asset betas of Heathrow, Gatwick and Stansted accordingly into respective equity betas.[16] In calculating the cost of capital and its different elements, the Authority has adopted a formulation that is practical and suitable to the Indian context and which in the opinion of the Authority is generally consistent. (Cynamide India case, Para 33 where their lordships held that "It is open to the subordinate legislating authority to adopt a rough and ready but otherwise not unreasonable formula rather than a needlessly intricate so-called scientific formula"). While considering the issue in the Indian airport context, the Authority has noted the following:

Indian Airport Context:

26.56. Gearing or Debt to Equity Ratio: In its analysis of "Computation of return on Equity", SBI Capital Market has stated as under:

> *"Average DER of listed airports in emerging markets in the Data Set over a period of 5 years is estimated at 0.47:1. However, the same may not reflect the target DER for India, as infrastructure projects in India are generally financed at a much higher DER. In this context*

[16] Stansted Airport Ltd Q5 price control review, Oct 23, 2008, Appendix L, para 106

a comparable could be brought out by taking into account the fact that a notional DER of 1.5:1 has been considered by regulators[17] *of Sydney airport and Heathrow airport for determination of cost of equity"*

26.57. SBI Caps then calculated the equity beta on a notional gearing of 60% (debt to equity ratio of 1.5), using the asset beta of 0.71 of the emerging markets to arrive at the adjusted levered beta (Adjusted Equity Beta) for Indian airports at 1.43. Apart from the issue that SBI Caps has not taken into consideration the specific risk mitigating measures (particularly the use of User Development fee and the truing up of the traffic) for Delhi in its consideration of asset beta, the Authority has the following concerns with the approach of SBI Caps.

26.58. Debt to Equity Ratio of comparator set: The SBI Capital has argued that the data set for the airports from the emerging economies is more relevant as a comparative set for Indian airports. However, while taking the five year debt-equity ratio it has not relied on the debt-equity ratio (DER) of 0.47:1 for the airports in the emerging economies but suggested a normative DER of 1.5:1. The target debt-equity ratio is for the purposes of efficient financing of the project. Generally, stable revenue returns are considered as justifying higher debt-equity ratio. Relatively, stable revenue streams are also indicative of low risk hence generally, ceteris paribus, higher debt-equity ratio could be indicative of lower risk. However, the Authority is conscious of the fact that cost of debt depends on a large number of factors including the assessment of risk.

26.59. Notional DER: SBI Cap has felt that the notional debt-equity ratio of 1.5 to 1, as was done in Sydney and Heathrow airports may be comparative to the Indian sector. It is not clear as to why the debt-equity ratio of 1:1 which CAA had indicated for Gatwick is not a good comparator for this purpose. SBI Cap has also indicated that (considering the nature of investments and risk profile of airport sector) a target debt-equity ratio of 1.5:1 has been assumed to arrive at the estimated rate of return on equity for investment in Indian airport sector. Analysis of the Authority with respect to the risk factors

[17] "Economic Regulation of Heathrow and Gatwick Airports (2008-2013)-UK Civil Aviation Authority (CAA) decision dt. 11 March 2008 and "Aeronautical Pricing Proposal" –Australian Competition and Consumer Commission's decision for Sydney Airports Corporation Limited in May 2001.

indicated by SBI would indicate that risk profile for the Indian airports sector can be said to have been substantially altered downwards on account of risk mitigating factors.

26.59.1. **Adjustments to the betas**: The Data set gleaned by SBI Caps from Bloomberg mentions "Adjusted Equity Beta" and "Adjusted Asset Beta". The nature of the adjustments is not indicated in the SBI Caps report and hence the Authority cannot comment on the same, except noting the observations of the CC NZ on the issue of adjustments. For reasons given by it in paras E8.99 to E8.105 it concludes in Para E8.106 that "For this reason, the Commission's decision is that Blume or Vasicek adjustments should not be made in determining the cost of capital for suppliers of airport services." Dr. Lally, one of the experts in the Expert Panel of CC NZ (Para E8.101, page 316 of Input Methodologies, Dec 2010) "considered Bayesian adjustments inappropriate as **these types of adjustments lead to an upward bias** for low beta industries. Dr Lally recommended that the Commission not make Blume adjustments to equity betas; even Vasicek adjustments are undesirable if beta estimates are sought for more than one firm in an industry because it will lead to different estimates for different firms in the same industry". Since full details of the adjustments in the SBI Caps comparator set are not available, without making any definitive conclusion, it may be that there is an upward bias in the asset betas relied upon by SBI Caps and that its estimate of 0.71 of the asset beta of the airports in the emerging economies requires downward adjustment. All in all, the NIPFP's estimate of around 0.60 (without taking into account the risk mitigating measures) for the unadjusted asset beta for DIAL appears quite reasonable.

26.60. . Apart from the comparator set of the airport sector, SBI Caps has also considered other infrastructure sectors like Power companies, Telecom, Roads and Ports and SEZ's. For the airports in India, it has based the DIAL's asset beta on the basis of the asset beta estimates in emerging markets (at 0.71). These estimates of SBI Capital Market do not take into account the various risk mitigating measures put in place by Government and the Authority (particularly the traffic risk).

26.61. One of the point common in the comments made by several commentators has been that "mature" economies have lower betas than

emerging economies. In a regulatory determination (Dec 2010) CC NZ, (Input Methodologies (Airport Services) Reasons Paper, 22 December 2010) gives Table E19 as a list of airports comparable to those of New Zealand. It includes airports of both developed and developing economies and taken a mean of all these airports. There are substantial differences in the results of monthly and weekly observation in the values of asset betas that the CC NZ has given in Figure E9 of its report. The asset beta based on weekly observation is substantially lower in many airports. The average of weekly observations is invariably lower than the monthly observations for years 2005-2010. Some of the airports in developing economies have average unadjusted asset betas comparable or lower than those in developed economies.

26.62. It is also noteworthy that the comparator set for CC NZ in 2002 includes electricity utilities. Without going into the question of comparability of the regulatory environments obtaining in the developing economies with the Indian conditions, the Authority feels that a wider comparator set (including both the developed and developing economies) would be more robust and representative. The Authority however, does not, at least for the current regulatory cycle, intend to include other comparator companies in different infrastructure sectors (like the electric utilities) for the purpose of analysis of beta of DIAL.

26.63. Keeping all these factors in view, the Authority does not believe that classification based on developed and emerging markets is an appropriate classification to approach the asset beta calculations for an airport. The specificities of the regulatory regime in both the developed and the emerging markets need to be kept in view. The observations of CC UK are relevant in this regard that "Other airports have different risk profiles from Heathrow and Gatwick and we are especially uncomfortable with the setting allowed returns for these two UK regulated airports in line with betas for airports that are subject to different forms of regulation or, in certain cases, no regulation at all.[18]" Secondly, the Authority has also noted the observations of Prof. Damodaran (recognizing the somewhat different context) in his latest ERP

[18] CC 2007 Appendix F Para 77

estimates (Mar 2012)[19] where he observes that "The emerging market companies consistently have lower betas, when estimated against global equity indices, than developed market companies. Using these betas with a global equity risk premium will lead to lower costs of equity for emerging market companies than developed market companies. While there are creative fixes that practitioners have used to get around this problem, they seem to be based on little more than **the desire to end up with higher expected returns for emerging market companies**.(emphasis added)." Prof Damodaran further observes that "information differences may be one reason why investors demand larger risk premiums in some emerging markets than in others. After all, the markets vary widely in terms of transparency and information disclosure requirements. Markets where firms provide little (and often flawed) information about operations and corporate governance should have higher risk premiums than markets like India where information on firms is not only more reliable but also more easily accessible to investors." He has also quoted a study by Prof. Lau, Lilian Ng and Zhang, **2011** "Information Environment and Equity Risk Premium Volatility Around the World", Management Science which "looked at time series variation in risk premiums in 41 countries and conclude that countries with more information disclosure, measured using a variety of proxies, have less volatile risk premiums and that the importance of information is heightened during crises (illustrated using the 1997 Asian financial crisis and the 2008 Global banking crisis)". Prof. Damodaran also gives other relevant parameters that impact risk (e.g. liquidity etc.) The appropriateness of the sectors mentioned in the SBI Caps report as comparators or "sense check" to DIAL is discussed below.

26.64. Coming to the other infrastructure sectors used by the SBI Caps, one of these is the Telecom sector. This sector is fiercely competitive and has seen explosive growth. The set of companies listed employ two different set of technologies, GSM and CDMA that is said to have significant impact on the efficiency of spectrum utilization. Indian Average Revenue per User (ARPU) is stated to be the lowest in the world. The charges levied by the telecom operators are on "forbearance", i.e. the Telecom Regulator (TRAI) does not

[19] "Equity Risk Premiums (ERP): Determinants, Estimation and Implications" – The 2012 Edition, Updated: March 2012, by Prof Ashwath Damodaran.

determine them, leaving it to the market forces, insisting only that they are fully transparent to the user in the published rate card (pulse rate, etc.) The regulatory regime in telecom is thus not comparable with that in the airport sector. There are no risks mitigating measures in place in the telecom sector. If anything, it can be argued that the asset beta of the airport sector should be less than the telecom sector. The Authority however believes that instead of comparing with the telecom sector, one could say that the inclusion of telecom sector in the "comparator set" is inappropriate. It also notes that SBI Caps has stated that some of the companies like Bharti and Idea Cellular have adjusted asset betas of 0.56- 0.61. NIPFP has estimated (as a point estimate) the asset beta of DIAL at 0.61 and after giving qualitative weight to the risk mitigating measures, at 0.55.

26.65. Coming to the ports and highways sector, the Authority is informed that there is no concept of User Development Fee in these sectors, nor is any risk mitigating measure in terms of volume of cargo or vehicular traffic and that traffic risk is borne fully by the investor or the concessionaire. While both these sectors could be regarded to be operating in a relatively non-competitive environment, the regulatory regime in port and highways sector is not comparable to that in airports. The Authority has alluded to these sectors in its consultation paper for the reason to indicate the regulatory landscape as obtains in India. Regarding highways, at any rate, the B. K. Chaturvedi committee appointed by the Planning Commission has felt that the **ceiling on the equity return** for highway sector should be 18% in non-difficult areas.

26.66. Regarding the sector of SEZ in the comparator set, the Authority understands that SEZ is more in the nature of industrial area development focused on the needs of export oriented units and to facilitate their special requirements. It is more in the nature of real estate development, albeit with a particular focus on export units. The Authority is not aware if the government has a comparable regulatory regime in place to determine the fair rate of return etc. The Authority also understands that the land required for the SEZ's is to be largely purchased and paid for by the developer which introduces a significant amount of upfront risk regarding availability of land itself (as is witnessed by a number of SEZ projects in India). This is not, at any rate, the case in DIAL. Though full details are not available in the report, from the report

of SBI Caps it appears that the asset beta for the combined company viz. Adani Ports and Special Economic Zone Limited with two verticals viz. ports and SEZ is 0.60. From the merchant bankers and equity analysts that the Authority has interacted with, it is informed that the asset beta of real estate development is generally (almost always) higher than other activities like airport or port development. The Authority thus concludes that based on the above reasoning the asset beta for port vertical in Adani Ports and SEZ Ltd is likely to be less than 0.61. In the absence of any specific data, it is not possible to arrive at any firm conclusions. However, the Authority feels that the asset beta for DIAL as estimated by NIPFP at 0.55 (taking into consideration the risk mitigating measures) does not look unreasonable.

26.67. That leaves the set of power utilities in the comparator set. Power sector can be said to be subjected to a regulatory regime that in many respects is similar to what obtains in the airport sector. The Authority recognizes that its demand patterns are generally steady. However, with the various risk mitigating measures put in place by the Government and the Authority for the airport sector, it is not intuitively clear if the asset beta of the power sector ought to be **always** lower than that of DIAL UK Competition Commission, Stansted Airport Ltd - Q5 price control review, 23 October 2008, Appendix L, pp. L33-L35, page 687 of the main report, gives Table 8 where the set of comparator asset betas for Stansted also include utility companies. It is seen that the asset betas of these utility companies are comparable to those of the overseas airports included in the comparator set. At any rate, if, based on the above reasoning, airports are to be compared with the power sector, then again, the asset beta of DIAL as calculated by NIPFP at 0.55 is quite comparable to the average (and also median) of 0.59 for the power sector.

Different Perceptions of different investor class:

26.68. FICCI have suggested that some private equity (PE) firms expect a return of more than 20% from their investment in the infrastructure sector. The Authority is conscious that different class of investors can have different expectations of return on their investments not necessarily based entirely on the perception of risk. The calculation of Beta addresses the systematic risk of the airport in question. To estimate the value of beta only on a particular

investor class (like PE's for example), in the Authority's assessment would be inappropriate in a regulatory tariff determination.

Wide divergence of Debt to equity ratios in Indian airports:

26.69. There is a very wide variation between the DER for Indian airports. On one end of the spectrum are the airports of the AAI where the debt is not contracted airport wise but at the corporate level and then AAI has apportioned it, generally pro-rata for the individual airports. Even at the corporate level, the own funds of AAI (akin to equity) constitute about 92% of the asset base giving a DER of 0.87. Moreover, AAI is also the sole provider of the Air Traffic Control services. AAI is in the process of building up separate balance sheets and income statements for the major airports. At the other ends of the spectrum, the Public Private Partnership (PPP) airports where the debt to equity ratios are much higher. The DER for the private and PPP mode airports is given below:

Table 24: Gearing, DER of AAI and Private airports, Rs in crore (one crore equals ten million)

	Airport	Equity	Internal Accruals	Equity + Internal Accruals	Debt	DER	Gearing
Private Airports	Hyderabad	378.0	0.0	378.0	2,376.0	6.29	86.27%
	Bangalore	384.6	0.0	384.6	1,619.0	4.21	80.80%
	Delhi	2,450	50.0	2,500	5,266	2.11[20]	67.81%
	Mumbai	1,200.0	1,999.0	3,199.0	4,231.0	1.32	56.94%
	Cochin	370.2	0.0	370.2	0.8	0.00	0.22%
Total Private		**4,782.8**	**2,049.0**	**6,831.8**	**13,426.8**	**1.97**	**66.39%**
AAI Airports	Calicut	139.3		139.3		0.00	0.00%
	Chennai	1,664.6		1,664.6	284.3	0.17	14.59%
	Trivandrum	309.8		309.8		0.00	0.00%
	Jaipur	196.5		196.5		0.00	0.00%
	Lucknow	179.6		179.6		0.00	0.00%
	Ahmedabad	309.3		309.3		0.00	0.00%
	Kolkata	2,094.2		2,094.2	100	0.05	4.56%

[20] In this calculation the interest free Refundable Security Deposits (RSD) are not included.

	Airport	Equity	Internal Accruals	Equity + Internal Accruals	Debt	DER	Gearing
	Guwahati	117.1		117.1		0.00	0.00%
Total AAI	**AAI- 8 airports** [21]	**5,010.3**	**0.0**	**5,010.3**	**384.3**	**0.08**	**7.12%**
Private+AAI	**Private + AAI (8 airports)**	**9,793.1**	**2,049.0**	**11,842.1**	**13,811.1**	**1.17**	**53.96%**

26.70. The weighted DER of the PPP mode projects and the five private airports (including Cochin) along with AAI comes to 1.17 and gearing of 53.96%. The DER of DIAL as can be seen is 2.11. The Authority also notes the very wide variation between the airports, including the private airports. To impute higher riskiness only on account of higher gearing (or higher debt to equity ratio) does not appear appropriate. The cost of debt contracted by the airports under PPP mode is also comparable signifying that the lenders do not perceive airport with higher gearing as riskier only on the ground of higher debt to equity ratios. The Authority also notes that despite these very wide variations in DER, the fair rate of return on equity for these airports as estimated by the consultants appointed by these airports is around 24%. The Authority infers that given the nature of the process of beta estimation, finer granularity in its estimation is not entirely feasible. (The Supreme Court has also observed on these lines in its Cynamide India judgment of 1987).

26.71. The propensity of the borrower to take on higher debt and that of the lender to sanction the same can be said to reflect a low assessment of risk in the project. Moreover, coming to the case of Delhi, successive tranches of long term debt have been contracted at comparable costs (equity has not changed), there being not a significant difference between the first tranche and the last. The Authority notes that the lenders (which are financial institutions) have not asked for higher cost of debt through successively higher levels of gearing (with successive tranches of loans) as reflective of higher levels of risk.

26.72. The comparator set of 29 airports analyzed by NIPFP show wide variation in the DER with both debt and Equity at market values. (For practical purposes, the book value of debt can be taken as its market value). However what is significant is the exceptionally low figures in the case of some of the

[21] Excluding two civil enclaves of Pune and Goa

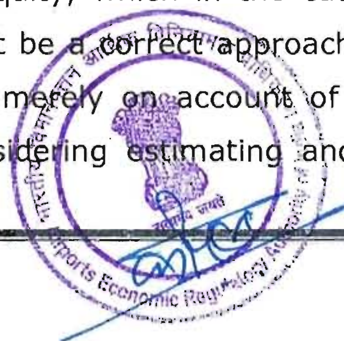
Mexican airports, one airport in Italy and some Chinese airport. This may or may not signify efficient or not so efficient financial structure.

26.73. Issue of consistency: One of the comments on the NIPFP's rate of return on equity in the consultation paper was that of consistency. It has been argued that there needs to be consistency of approach in all the three steps of determination of equity beta for DIAL and later in calculation of WACC. The Authority has carefully considered this comment and its observations are given below.

26.74. De-levering the equity beta into asset beta for the (listed) comparator set of airports. It is argued that this can be done either on the basis of market values or book values. Once a particular methodology is chosen, it should be followed in the subsequent process of re-levering of the asset beta of the unlisted company of DIAL into the estimate of its equity beta. Listed airports have values of market capitalization. NIPFP has calculated asset beta values both on the basis of market capitalization (0.61) as well as based on book values (0.58). It is seen that both these values are very close.

26.75. Re-levering asset beta of DIAL: Since the market valuation is used in de-levering the equity betas of airports in the comparator set, consistency requirements would indicate that the asset beta of DIAL should also be re-levered using the market valuation of DIAL. NIPFP has made a valuation for DIAL (value of equity at Rs. 11,500 crore) and arrived at the values of the equity beta (re-levered) of DIAL at 0.72. As has also been commented by the experts like Prof Varma of the Indian Institute of management Ahmedabad, this is a theoretically sound approach. However, this approach involves judgment calls on the various assumptions regarding a number of parameters. The Authority therefore has also examined other scenarios of re-levering the estimate of asset beta of the Delhi airport based on values other than the market valuation.

26.76. As indicated above, re-levering could conceivably be done on the basis of the book value of debt to equity, which in the case of DIAL is 2.11. The Authority notes that this will not be a correct approach. One of the reasons is that higher risk does not flow merely on account of higher debt, especially when the Authority is not considering estimating and using debt beta. The



Authority notes that the CC NZ had encountered similar situation and it observed that: "Some submissions proposed that regulated suppliers' actual leverage should be used. For the reason outlined in paragraph 6.6.5 this is not appropriate. If actual leverage were used, non-zero debt betas would have to be used in the simplified Brennan-Lally CAPM to minimize the effect of leverage on the estimate of the cost of capital and ensure there are no incentives on suppliers to increase leverage (or propose increases in leverage that would exploit the anomaly in the model)" (See Para 6.6.16, Page 135 of the Input Methodologies (Airport Services) Reasons paper Dec 2010.)

26.77. Furthermore, in Para 6.6.14, the CC NZ observes that "If the cost of capital IM (Input Methodologies) specifies leverage for each regulated service in line with that observed for the respective sample of comparator companies (that is, 17% for Airports), the cost of capital estimated and applied under Part 4, will be the same for those services regardless of whether the debt beta is set at zero or **at a level to make the estimated cost of capital invariant to leverage** (emphasis supplied)". The impact of non-zero value of debt beta is already mentioned in above. The Authority notes that mechanically applying the equation for re-levering based on book value will not be correct because as has been observed by the CC UK "Assuming a debt beta of zero when increasing gearing over-rewards equity by implying that all additional exposure to systematic risk which gearing brings accrues only to equity." (See Para 26.40) CC UK 2007 also did not accept the argument that "higher levels of gearing produce a higher cost of capital." Hence the Authority does not propose to use the book values of debt and equity for the purpose of re-levering of asset beta of DIAL.

26.78. Another method of re-levering could be to use the leverage of the listed airports in the comparator set. Commerce Commission New Zealand has used this approach and used the leverage of 17% for re-levering the beta of unlisted airports, in line with the average leverage of the 24 international listed airports. Applying leverage of 17% to the asset beta results in an equity beta of 0.72. (Para X33, page vii).

26.79. The weighted average (or simple average) DER at market values by different analysts is as follows:

Table 25 DER and Gearing for different airports in comparator set

Name	DER	Gearing	remarks
NIPFP (mature + emerging countries)	0.47	30%	Weighted Average
SBI Caps (mature + emerging countries)	0.6	37.5%	Simple average
SBI Caps (only emerging countries)	0.46	32%	Simple Average
SBI Caps (only Mature countries)	0.71	41.52%	Simple Average
CAA Heathrow and Gatwick	1.5	60%	Individual Airport
CAA-Stansted	1	50%	Individual Airport
Indian Airports (PPP+AAI)	1.17	53.96	Weighted Average
CC NZ 2010 Input Methodologies	0.2	17%	
Indian Airports Private	1.97	66.39%	Weighted Average
Indian Airports AAI	0.08	7.12%	Weighted Average
SBI Caps recommendation for DIAL	1.5	60%	Based on infrastructure projects in India

26.80. Apart from the issue of comparability between SBI Caps data that is simple average and that of NIPFP and Authority (for AAI and private airports in India) which is weighted average, it is seen that the variation between the gearing levels in different airports is very wide. **The NIPFP gearing closely matches that of SBI Caps for emerging economies.** The gearing level of 60% suggested by SBI Caps for DIAL is in fact based on that of Heathrow and Gatwick. It is not clear from its report why SBI Caps found the gearing of Stansted at 50% to be inappropriate for DIAL. The SBI Caps also does not indicate why after indicating that only the comparator set of the emerging economies be used for Indian airports it did not consider the gearing of 32% of the emerging economies as inappropriate for Indian airport sector. Hence the Authority feels that gearing at 60% is generous and at any rate may be taken as an upper limit, though a reasonable number should lie between 30% and 60%. Introduction of debt should generally reduce the WACC. However, if the proportion of the debt is much larger, this may result in WACC increasing through higher leverage and resultant higher equity beta if the process of re-levering is based on mechanically applying the equation on book values. The Authority has therefore felt that some normative (or notional) leverage may be used in the re-levering process to arrive at equity beta. Based on this outcome, the Authority would determine the equity beta to be considered for DIAL. However, this being the beginning of the regulatory regime in India, the Authority has decided to re-lever the asset beta of DIAL at the gearing level of 60% (corresponding to a DER of 1.5), conscious of the fact that this number

may be giving an upward lift to the equity beta for DIAL and consequently the estimates of fair rate of return on equity.

Risk free rate, Equity risk Premium and Rate of return on Equity:

26.81. Risk free rate: SBI Caps have estimated the risk free rate in the range of 7.19% to 8.02%. NIPFP has estimated this number at 7.23% for an average yield of 10 year Government of India bonds during the time period from March 21, 2002 to March 21 2012. NIPFP has also pointed out the volatility around this number. The Authority has decided to take 7.23% as the risk free rate in its calculations.

26.82. Equity Risk Premium (ERP): Depending on the value of equity beta β_e, the ERP gets levered upwards or downwards. Hence this is an important number in the calculation of cost of equity. SBI Caps has given different approaches for estimating this number, finally settling at a number of 9% for its estimation of ERP. NIPFP has analysed the evidence based on the ERP in USA and adding the country risk premium thereto. It calculates the ERP for USA at 4.10% and adding the latest country risk premium at 2%, arrives at 6.1% as current estimate of ERP for India in the calculation of cost of equity in the present control period. The Authority has decided to accept the advice of NIPFP.

26.83. Return on Equity: The Authority is conscious of the fact that estimation of the rate of return on equity depends on judgment call on a number of factors and assumptions. While drawing upon the examples of other regulatory determinations, it is therefore necessary to keep this in view. For example, CAA in UK has taken debt beta at 0.1, used (notional) gearing at 60% (or debt to equity ratio of 1.5:1). The CC NZ did not give any positive value to debt beta, used the leverage of 17% of the comparator set (not distinguishing between airports in mature and emerging economies.) of the airports in New Zealand. Prof. Martin Cave, SBI Caps and others have felt that distinction needs to be made between the set of airports in emerging and mature economies. However, SBI Caps did not use the DER of 0.47 of the airports in the emerging economies in its set (corresponding to 32% leverage) but used DER of 1.5 (corresponding to leverage of 60%) as was used for Heathrow and Gatwick, ignoring however that CAA had in fact proposed a debt beta of 0.2 based on

advice it received from Europe Economics in its submission to Competition Commission but the CC suggested a lower value of 0.1 (on account of the uncertainties involved in its estimation and Q5 being the first inquiry In which Competition Commission UK carried out a detailed analysis of the debt beta), an advice that CAA accepted in its calculations.

26.84. The return on equity R_e is to be calculated by application of the CAPM equation given above. With the parameters estimated by NIPFP (risk free rate of 7.23%, ERP of 6.1%, asset beta of 0.55 by qualitatively taking into account the de-risking measures, debt to equity ratio of 0.47 based on the market valuation of DIAL made by NIPFP giving an equity beta of 0.72) the return on equity is calculated as 11.6%. NIPFP has also given other scenarios based on different combinations of parameters that go into the calculation of the rate of return on equity. The range of RoE based on these combinations of scenarios is 11.6% (DER at 0.47 based on estimate of market value of equity) to 13.3% (DER based on normative approach, at 1.2). NIPFP has approximated this to 11% to 14% considering the possibility of errors in some of the estimates. It is seen that the estimate of R_e is sensitive to the DER and ERP and different combination of these two numbers will give different values for R_e. For example, keeping DER at 1.5 (as suggested by SBI Caps) and taking DIAL's asset beta at 0.61 (i.e without giving any consideration to the risk mitigating measures), return on equity works out to 15.83% for ERP value of 7%. If, however, DER was to be taken as 1:1 (notional DER for Stansted), then return on equity would be 15.92% for ERP of 8.5%. The Authority has noted the comments of Dr. Harry Bush that "users' interests might well be better served by a higher allowed cost of equity than its short term price impact would suggest. Put simply, it is in users' interests that the cost of equity should not be excessive, but it is in all parties' interests that it should be enough". The Authority is also conscious that it is determining tariffs for the first regulatory cycle and a clear indication needs to be given to the prospective investors. Keeping these considerations in view, the Authority has concluded that a value of 16% for R_e represents a sufficiently generous allowance for the various uncertainties involved in the estimation of this number as well as it represents a reasonable incentive for prospective investors. Therefore the Authority has

decided to adopt this value (i.e 16%) for calculation of WACC in respect of DIAL for this control period.

26.85. Calculation of Weighted Average Cost of Capital (WACC): Having made the decisions Rate of return on equity for DIAL, it remains to combine this with the cost of debt to arrive at the WACC. Having decided to re-lever beta on the basis of notional DER, this decision is important. Once the Return on equity is determined at 16%, the calculation of WACC should be transparent and reflect to the extent practicable and feasible the audited accounts of DIAL. In the Indian context, audited values in the books of accounts general acceptability and widespread appeal.[22] The Authority thus concludes that it will calculate the WACC on the basis of book values of equity and debt (including the RSD with their actual cost), giving 16% return on the equity apportioned to aeronautical RAB. The Authority, believes that, if for a lower value of equity, a higher total return is held admissible (as would happen in case of DIAL if WACC were to be computed with notional DER, the book to equity ratio of 2.11 being higher than notional DER of 1.5), this would appear as giving some return to DIAL for the equity that DIAL has not put in the project. The Authority has not made any decision for the present, if DER of 1.5:1 be treated as a floor for calculating the WACC in the interest of efficient financing of the project.

26.86. The Authority has calculated Weighted Average Cost of Capital (WACC) based on the different component of means of finance -debt, equity as well as any other means of finance and the costs thereof that Authority had forecast. The figure of WACC once arrived at for the control period is not proposed to be changed nor will be trued up at the end of the control period. During the control period, the operator may make substitutions in the means of finance to achieve, presumably, more efficient means of financing. In the incentive-oriented economic regulation, the objective is to put in a framework which would incentivize the airport operator to do so. It may happen that in some of the years of the control period, the airport operator may contract a particular means of finance at a cost higher than what was forecast, in which case, he would be penalized since WACC is not proposed to be trued up during the control period.

[22] (The reasons why the Authority has not been able to consider the actuals for 2009 and 2010 in its assessment of non-aeronautical revenues are separately given)

26.87. In the reverse scenario, where airport operator is able to substitute a particular means of finance at a lower cost, he stands to benefit which, as mentioned above, is one of the objectives of incentive-oriented economic regulation coupled with efficient means of finance.

26.88. If the WACC is trued up, this may lead to less than optimum effort on the part of airport operator to obtain finance at the least possible cost, hence, on balance, the Authority feels that truing up of WACC may lead to undesirable outcomes. It has therefore decided that WACC once determined, after appropriate review of the means of finance and their respective costs, should not be altered during the control period nor trued up at the commencement of the next control period. However, the Authority would conduct fresh review of WACC calculations for next control period.

26.89. Having regard to these considerations, the Authority has thus concluded that the following scheme is best suited for Delhi airport in this initial phase of the airport project and its economic regulation:

Decision No. 29. Decision on WACC:

29.a. The de-levering of the equity beta of the comparators will be in accordance with the market capitalization figures to arrive at the asset betas (as is advised by NIPFP).

29.b. The re-levering of the asset beta of DIAL will be at the notional DER of 1.5:1 (as indicated by SBI Caps).

29.c. RoE will be calculated based on the actual book value of debt and equity of DIAL.

29.d. The Authority decided to adopt Return on Equity (post tax Cost of Equity) as 16% in the WACC calculation.

29.e. The Authority determined the WACC at 10.33% for the Control Period.

29.f. The Authority also decided that WACC will not be trued up.

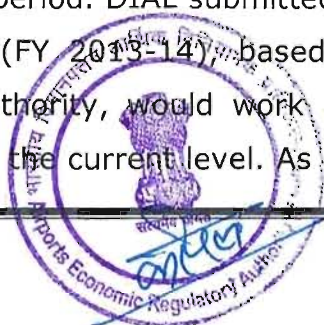
27. Tariff Structure/ Rate Card

27.1. In the Consultation paper the indicative rate card w.e.f 01.02.2012, as submitted by DIAL, was put up for stakeholder consultation with the caveat that the charges proposed would be, in-principle, reduced proportionately in line with the final decision of the Authority in respect of price cap and disposal of objections, if any, that may be received from stakeholders on the grounds mentioned in the said Principle 10 of the SSA. Further, to smoothen the price path, the Authority also proposed to effect the increase in tariffs in two equated annual increases w.e.f 01.04.2012 (X=-148%) and w.e.f 01.04.2013 (X=-148%) instead of a onetime upfront increase (X=-334.63%).

Stakeholder Comments

27.2. IATA have stated that besides carrying out the necessary financial assessment to arrive at tariff levels that would meet the requirement of a fair rate of return for the airport, AERA should also take into consideration the impact that such tariff levels would have on airlines, consumers and the industry as a whole. Especially when such tariff levels would have serious adverse impact on industry growth, AERA ought to consider solutions that would moderate such an impact. While in principle, effecting the increase in two equated annual increases would smoothen the price path, the desired outcome of minimizing the impact on the industry can only be achieved if the equated increases are of a reasonable quantum. In IATA's opinion, an equated increase of 148% per year would be too much for the industry to absorb and would have a severe impact on traffic growth in the first year and an even more severe impact in the second year due to the compounding effect. It is fundamentally important that the quantum of equated increase be brought down significantly.

27.3. DIAL had, in their response to the Consultation Paper requested the Authority to approve an upfront increase (one-time) followed by CPI Inflation thereafter w.e.f April 1st 2012 as the equated increase (equal annual increase) proposed by the Authority will lead to shortfall in the FY 2012-13 and significantly impact debt servicing, liquidity and viability of DIAL. Further, DIAL have stated that it will lead to a huge increase in Aeronautical Charges in last year (FY 2013-14) of the control period. DIAL submitted that the rate card in the last year of the control period (FY 2013-14), based on the equated annual increase as proposed by the Authority, would work out to approximately six times the Aeronautical charges at the current level. As such, the smoothening as



proposed by Authority is in fact imposing price shock on the users towards the end of the Control Period.

27.4. In respect of the observation of the Authority (caveat that the charges proposed would be, in-principle, reduced proportionately in line with the final decision of the Authority in respect of price cap and disposal of objections, if any, that may be received from stakeholders on the grounds mentioned in the said Principle 10 of the SSA) , DIAL have requested the Authority that the proportioning of the rate card:

27.4.1. Can be done only in case of upfront increase (one-time);

27.4.2. The proportioning is not going to be the same as the ratio between the X factor submitted and the X factor proposed because of the various reasons.

27.5. Further, DIAL have vide their submission (email dated 16.04.2012) regarding the revision in rate card based on the revised target revenue and X-Factor have also highlighted the difficulties with respect to implementation of the tariff w.e.f. 15.05.2012.

27.5.1. DIAL have submitted that :

- *"The tariff once approved will need to be implemented. Necessary directive (in form of AIC) in this regard needs to be issued by DGCA which will be based on the instructions from MOCA. This entire process will take sizable time.*
- *Once approved by DGCA the charges will need to be incorporated in the IATA system. Since UDF (both departing and arriving) is a new charge a new code will need to be created. This also will take some additional time.*
- *Since this is the first time that charges are being collected from the arriving passenger as well, sufficient time will need to be given to airlines for the implementation of the same.*
- *Sizable number of passengers generally book tickets in advance. International travelers generally book tickets three to four months in advance. As such the passenger who has booked ticket before the date of incorporation of the new rate*

in IATA system will need to pay UDF at the airport. This will entail huge infrastructure requirement and collection charges for the agency collecting these charges at the airport.

- *Implementation of the new charge by 15th May 2012 will also lead to very long queues at the airport for collection of UDF. This will result in passenger discomfort, adverse publicity and reduction in airport quality standards.*
- *Collection of UDF from the passenger on his arrival at the airport will have practical problems and collection of the same is possible only through inclusion of this charge in airline tickets.*

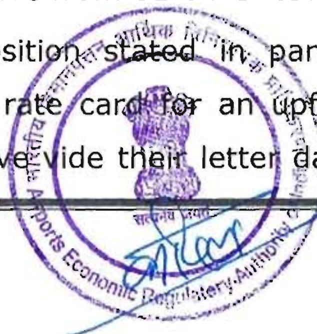
We therefore request the Authority to kindly consider the date of revision of charges to not earlier than 01st June 2012."

Authority's Examination

27.6. The SSA contemplates that DIAL would be free to impose charges within the overall price cap subject to conditions stated therein. In view of this, the Authority had in the Consultation Paper, proposed that it would make appropriate proportionate adjustments to DIAL's rate card proposed by DIAL (at the X Factor of 775%).

27.7. In their response to the Consultation Paper, DIAL have highlighted that in case the Authority opts for an equated increase in X Factor, then their debt servicing, liquidity and viability will be affected. The Authority is conscious of the fact that as per Section 13 (1) (a) of the AERA Act, it is required to determine the tariff for aeronautical services, inter alia, taking in to consideration the economic and viable operation of major airports. In view of the submission made by DIAL regarding viability in case of equated increase, the Authority has decided to effect an upfront one time increase in 'X' Factor, which works out to X=-345.92% (w.e.f.15.05.2012). Accordingly, the X Factor for 2013-14 will be taken as zero. The tariff increase for the tariff year 2013-14 will be only on account of CPI and will be effective from 01.04.2013.

27.8. Keeping in view the position stated in para 27.7 above, DIAL were requested to submit a revised rate card for an upfront onetime increase in X factor of (-) 345.92%. DIAL have vide their letter dated 20.04.2012, submitted



their revised tariff card. DIAL have stated that they have removed the distance based charging for landing charges and have proposed increasing the landing charges by 50% for domestic and 120% for international and that the parking and housing charges have been proposed to be increased by 225%. In respect of UDF, DIAL have submitted that they have proportionately revised the same based on the revised X-factor. DIAL have also confirmed that none of the charges being proposed are lower than the respective existing charges.

27.9. As per DIAL, they may not be able to implement some items of the rate card by 15.05.2012. However, DIAL have indicated that it would like to have an early order in view of the cash deficit. Keeping in view the consideration of early implementation of revised tariff and balancing the same with the requirement of sufficient preparatory time to implement the revised tariffs, the Authority has decided to permit DIAL a grace period of one and half months to implement the revised tariffs. In other words while the revised tariffs are effective from 15.05.2012, however if DIAL for reasons such as inability of the airlines to incorporate the revised tariffs in their booking systems is unable to implement the revised tariffs by 15.05.2012, they can do so upto 30.06.2012. It is clarified that in case of any delay in implementation of the approved tariff structure and rate card beyond 30.06.2012, the Authority will not allow any adjustments (truing up) on account of such non-implementation in the next control period.

27.10. DIAL had in their indicative rate card that was put up for stakeholder consultation proposed charging of User Development Fee (UDF) on departing, arriving as well as transfer passengers. This is a new charge proposed to be introduced at Delhi airport. UDF for arriving passengers is a new element which was proposed to be introduced for the first time in India at IGI Airport, New Delhi. In the Consultation Paper, the rate card including UDF was put up for stakeholders' consultation. The Authority has not received any comments on UDF.

27.10.1. UDF is in the nature of revenue enhancing measure to bridge the revenue shortfall between the revenue required and the revenue to be generated from other charges such as landing, housing, parking, etc., by charging passengers directly. So far the Government as well as Authority has determined UDF only for the departing passengers.

27.10.2. The Authority has given careful consideration to DIAL's proposal of splitting UDF between departing, arriving and transfer passengers. As far as the issue of UDF on transfer passengers is concerned, the Authority has been conscious of the fact that for healthy airport development and exploitation of hub potential of major airports charging the transfer passengers is likely to militate against this objective. Since India is at the early stages of hub development, the Authority does not consider it appropriate to allow any such charge on transfer passengers. It is, therefore, unable to accept the proposal of DIAL to levy UDF on transfer passengers. In the new rate card submitted by DIAL on 20.04.2012, DIAL have accordingly removed the UDF in respect of transfer passengers.

27.10.3. As far as splitting of UDF between departing and arriving passengers is concerned, both departing and arriving passengers use the airport facilities. The Authority is also informed that such a charge on the arriving passengers is prevalent in some of the airports like Brussels, Darwin, Sydney, Canberra, Brisbane, Auckland. The Authority decided to accept this proposal of DIAL.

27.10.4. The rate card with the UDF rates mentioned therein with removal of UDF on transfer passengers as has been re-submitted by DIAL on 20.04.2012, after review, is accordingly approved by the Authority.

Decision No. 30. Decision on the Tariff Structure & Rate Card

30.a. The Authority determined the X factor for the tariff determination w.e.f 15.05.2012 at -345.92% on a one time basis during the Control Period. Hence the X factor for the tariff year 2013-14 is zero.

30.b. The Authority approved the tariff structure and rate cards for the tariff years 2012-13 and 2013-14 as appended hereto. The rates for 2012-13 would be effective from 15.05.2012 and the rates for 2013-14 will be effective from 01.04.2013;

30.c. DIAL should endeavour to implement the rate card for the tariff year 2012-13 by the effective date, i.e., 15.05.2012 but in no case beyond 30.06.2012.

30.d. In case of any delay in implementation of the approved tariff structure and rate card beyond 30.06.2012, the Authority will not allow any adjustments on account of such non-implementation.

30.e. The rates approved are the maximum rates allowed to be charged.

Truing Up: 8. Correction/Truing up for Decision No. 30

8.a. Any shortfall in actual revenue on account of the delay in implementation of the revised tariff beyond 15.05.2012 and upto 30.06.2012 would be adjusted (trued up) at the commencement of the next control period.

28. Discount on all domestic scheduled landings

28.1. DIAL have proposed a non discriminatory 2% discount on all the domestic scheduled landings in case the landing charges are received by them within 15 days credit period. However, it has been a stated position of the Authority that discounts or rebates are commercial decisions of the airport operator. Accordingly, Authority had proposed not to permit any adjustment on account of under recoveries due to discounts.

Stakeholder Comments

28.2. CII have stated that the proposal of DIAL for a discount on timely payment of domestic landing charges and levy of collection charges for DF are always healthy for the growth of the industry as a whole and should be considered by the Regulator.

28.3. DIAL have submitted that the non-discriminatory discount for timely payment on landing charges was part of the Base Airport Charges as given in Schedule 8 of State Support Agreement. Based on the same principles, DIAL had proposed a non-discriminatory discount for the healthy growth and acknowledging existing industry practice. The Authority should allow this discount:

28.3.1. For honouring the concession agreement.

28.3.2. To ensure healthy growth of Industry and thereby safeguarding viability.

Authority's Examination

28.4. It has been a stated position of the Authority that discounts or rebates are commercial decisions of the airport operator. This view of the Authority is further substantiated, in the present case, as the discount for timely payment is being offered only for domestic landings. No policy or socio-economic considerations have been substantiated for confining the discount to domestic landings nor has any case been made out as to how the quantum of proposed discount would achieve such considerations, if any. The Authority has also noted that, presently, the rate of discount is 15%. DIAL have, now, proposed to drastically reduce the same to 2% without justifying the proposed reduction. Thus, there is hardly any case for DIAL to state that they propose to offer the discount as it is a part of the Base Aeronautical Charges and as such the same is required for honouring the concession agreement. The Authority has, accordingly, decided not to permit any adjustment on account of under recoveries due to such discounts.

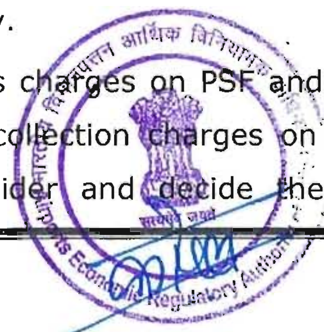
Decision No. 31. Decision on Discount on all domestic scheduled landings

31.a. The Authority decided not to consider any adjustments on account of discount.

29. Collection Charges on DF, PSF and UDF

29.1. The Authority had in the Consultation Paper, proposed not to accept the request of DIAL for defraying the collection charges paid by them to the airlines in respect of DF through Opex. The Authority was of the opinion that DIAL's request does not appear to be acceptable because as per the provisions of Section 13 (1) (b) of the Act read with Section 22A of the AAI Act, 1994, the Authority's function in respect of DF is confined to determination of the rate/amount thereof. Further, the issue of collection, deposit etc.,of DF are not within the purview of the Authority.

29.2. In respect of the collections charges on PSF and UDF , the Authority had noted that DIAL have proposed collection charges on both PSF and UDF. The Authority had proposed to consider and decide the issue of the proposed



collection charges at the stage of final determination keeping in view the stakeholder submissions

Stakeholder Responses

29.3. IATA have supported the Authority's decision in respect of collection charges on DF.

29.4. CII have stated that the proposal of DIAL for levy of collection charges for DF are always healthy for the growth of the industry as a whole and should be considered by the Regulator.

29.5. APAO have submitted that DIAL has been allowed to collect DF to part fund the capital expenditure. Collection charges with respect to DF are similar to the financing expenses paid to the lenders for arranging debt. The Authority has considered such financing expenses as part of the capital expenditure which are allowed as part of the tariff calculation. Additionally, DF collection charges have been mandated by the DGCA vide Directive Number AIC S.No.2/2009 dated 28.02.2009. However, this directive was later cancelled in June 2011 following Delhi High Court's order to stop the levy of DF at IGIA until analyzed and approved by AERA. APAO have requested the Authority to allow DF collection charges as pass-through expenses as these were mandated expenses. CII have also requested the Authority to consider these collections charges.

29.6. APAI on the other hand have opposed the collection charges for collecting the PSF, DF, etc. as highly unjustified. APAI have stated that this further adds to the burden of the passenger.

29.7. DIAL have submitted that while they acknowledge Authority's acceptance of allowing collection charges on PSF/UDF, on the similar lines, they have requested the Authority to approve the collection charges on DF as the same was mandated under the Order of MoCA and has been accordingly incurred by DIAL. Further, in their clarifications to APAI DIAL have submitted a under:

> *"The charges charged by airlines are as per the mandate of MoCA, GOI and not arbitrary. The collection charges proposed by us are also subject to approval of the Authority. Collection of an airport charge is different from a statutory tax collection and the two cannot be compared. The airlines need to be remunerated for additional work involved in collection of the charges."*

Authority's Examination

29.8. The Authority has further considered the issue of permitting collection charges on DF to be defrayed as OPEX. However, in view of the specific provisions of Section 13(1) (b) of the Act and Section 22A of the AAI Act, 1994, the Authority does not find any grounds to review its position. Accordingly, the Authority reiterates the stand proposed in the Consultation Paper.

29.9. As regards the collections charges sought on PSF/UDF, the Authority notes that as a practical mechanism the passenger related charges are collected through airline tickets. The Authority also notes that, presently, PSF being collected at IGI Airport, New Delhi is comprised of two components [PSF Security component (SC) - Rs.130 and Facilitation Component (FC) - Rs.77]. As per the MoCA's letter No.G.29011/001/2002/AAI dated 25.03.2001, the collection charges are 2.5%. The collection charges on the PSF amount of Rs.207 works out to Rs. 5.17 per passenger. The Authority is informed that DIAL in its tariff (Fin) Model have netted the collection charges. The Authority has now decided to delink the PSF (FC) and consider it as part of UDF. DIAL have proposed UDF on arriving and departing passengers as well. The Authority therefore considers that an amount of Rs.2.50 per departing passenger and Rs.3/- per arriving passenger as the maximum collection charges.

Decision No. 32. Decision on collections charges on DF, PSF and UDF

32.a. The Authority decided not to allow any collection charges on DF to be defrayed as operating expenditure.

32.b. The Authority decided to delink the Facilitation Component from the existing PSF at IGI Airport, New Delhi and consider it as part of the UDF proposed by DIAL in the rate card. As the total collection charge for both PSF and UDF, the Authority decided to consider an amount of Rs.2.5 per departing passenger and Rs.3/- per arriving passenger as a ceiling on the collection charges. This is in accordance with DIAL's request to keep differential collection charges for arriving and departing passengers.

30. Quality of Service

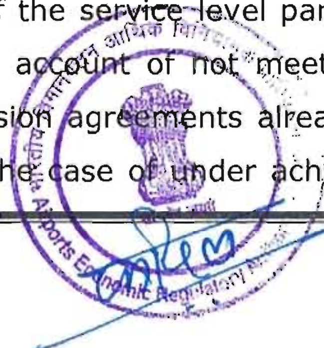
30.1. As mentioned in the Consultation Paper, in the scheme of the Act, the Authority has two mandates relating to quality of service– first, to consider the quality of service for determination of tariff and secondly, to monitor the set performance standards relating to quality of service. These are two distinct functions - one relates to determination of tariff whereas another relates to monitoring of set performance standards. Chapter IX of OMDA deals with Service Quality requirements. It prescribes both Objective and Subjective Service Quality requirements. The penalties contemplated in the concession agreements are contractual requirements whereas fixation of tariff commensurate with the quality of service is a statutory requirement. Hence, it is proposed that to follow the rebate mechanism as indicated in Order No.13/2010-11 dated 12.01.2011 and the Guidelines dated 28.02.2011.

Stakeholder Responses

30.2. Comments have been received in this regard from APAO, ACI, DIAL, CII

30.3. APAO have stated that OMDA already provides for penalties for deficiencies or defaults in performance or service quality. AERA's proposal to levy additional penalties for defaults in service quality would amount to additional cost burden for DIAL and there is no evidence of regulators in other infrastructure sectors imposing dual penalties on service providers. While APAO recognizes that regulating service quality is a statutory obligation of the Authority, the objectives of incentivizing service quality and penalizing poor performance are achieved per force by the provisions of the OMDA and are consistent with the objectives of the Authority. APAO has requested that the Authority duly recognize the provisions of OMDA with regard to penalties on specific defaults in service quality and observe the process followed by AAI in reviewing cases of defaults and imposition of penalties thereof, and satisfy itself that the actions taken are in compliance with the OMDA

30.4. ACI have submitted that the Regulator has taken the view that the increase in tariff cannot be taken independently of the service quality provided by the operator which is appreciated. While ACI have supported the Authority's view of close monitoring of the service level parameters, they have stated that penalizing the operator on account of not meeting the set standards seems a harsh move as the concession agreements already have provisions of penalties levied on the operator in the case of under achievement. Additional penalty by



the Regulator would lead to double penalty which would be unfair. Also, the Regulator has proposed additional parameters to be monitored. ACI have stated that it should be noted that the quality parameters monitored at Delhi airport is far greater than the international standard which have relatively less number of parameters. Including additional parameters would increase the compliance costs and hence the overall operating costs of the airport which would in turn increase the tariff and will be counterproductive.

30.5. CII have submitted that while the Regulator clearly specifies that penalization by AAI is a contractual arrangement and penalizing by AERA is a statutory arrangement, it must be noted that no such caution/clause was provided by either OMDA or the SSA to the Airport Operator during the signing of the agreements. This is unfair on the investor who had based its cost estimate on the compliance requirements with prescribed quality standards.

30.6. Considering all the above stated arguments, the industry associations would like the Regulator to reconsider their current decision on the partial honouring of the OMDA and SSA. Had the participants of the bid been cautioned earlier regarding such clause change, the benefits in terms of revenue share provided to AAI could have considerably been lower.

30.7. DIAL have in their submission stated that OMDA prescribes fixed objective and subjective service quality standards, and also lays down the mechanism of penalty & fines in the event of a failure by DIAL to meet such service quality standards. They have submitted that:

> " *Authority has evaluated the said position and concluded in paragraph 456 and 457 as follows:*
>
> *456. The Authority is conscious that an argument which can be raised against the rebate mechanism could be that since OMDA itself provides for penalty mechanism in the event of default in respect of quality parameters, a separate rebate mechanism as part of tariff would tantamount to penalizing the default twice. However, it has been the stated position of the Authority that the penalties contemplated in the concession agreements/ contractual arrangements are contractual requirements whereas fixation of tariff commensurate with the quality of service is a statutory requirement. Therefore, the system of reducing tariff in case of default in quality of*

service is a system which implements the mandate of the Section 13(1)(a) of the Act.

457. <u>In view of the above, the Authority proposes to use the rebate mechanism as indicated in Order No. 13/2010-11 dated 12.01.2011 and the Guidelines dated 28.02.2011 in the case of DIAL as well.</u>

AERA Act, 2008 in its preamble sets out the scope and coverage of the AERA Act, as also the scope of the Authority's powers and functions there under. The preamble of the Act provides:

"An Act to provide for the establishment of an Airports Economic Regulatory Authority to regulate tariff and other charges for the aeronautical services rendered at airports and to monitor performance standards of airports and also to establish Appellate Tribunal to adjudicate disputes and dispose of appeals and for matter connected therewith or incidental thereto."

Further, in terms of Section 13(i) (d) of the AERA Act, the Authority has been vested with the function:

(d) to monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorised by it in this behalf;

From reading of the aforesaid provisions of the AERA Act, it is clear that the justification and functions of Authority is limited to monitoring the performance standards relating to quality, continuity and reliability of service as have been specified by the Central Government or any authority authorized by the Central Government in this behalf, Including under the Operations, Management and Development Agreement dated April 4, 2006. This position is also supported by the terms of the State Support Agreement between DIAL and the Government of India, which provides, in principle 7 in Schedule 1 that:

.....in undertaking its role AERA will monitor, pre-set performance in respect to service quality performance as defined In the Operations Management Development Agreement (OMDA) and revised from time to time."

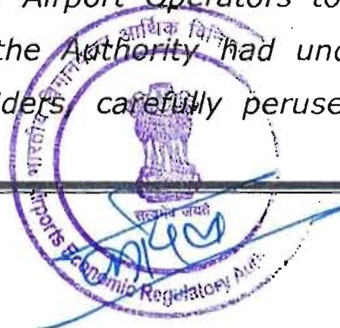
Accordingly, on a combined reading of the terms of the AERA Act, the OMDA and the State Support Agreement, it is clear that the role and jurisdiction of the Authority is limited to monitoring compliance by DIAL of the service quality standards prescribed under the OMDA, and the prescription of any new services standards or going beyond monitoring methodologies prescribed in OMDA is not envisaged.

DIAL notes that while Section 13(1)(a)(ii) of the AERA Act permits the Authority to consider the services provided, its quality and other relevant factors in determining the tariff, there is no explicit power vested with the Authority to prescribe any penalties under the AERA Act in the event of a failure to meet service quality requirements. While the Authority has sought to term the mechanism of penalties for failure to meet services quality requirements as a 'rebate' on the tariff, the same is essentially in the nature of a penalty, since there is no correlation between the cost of services not provided and the rebate imposed and instead a pre-determined rebate is imposed in all cases.

Further, even in the event that Section 13(1)(a)(ii) is interpreted as giving the Authority the power to impose penalties in the event of a failure by DIAL to meet service quality requirements, this consideration has to be balanced with the considerations in Section 13(1)(a)(vi)and(vii). In this regard, it is pertinent to note that the Authority has in the Consultation Paper, and specifically in paragraph 61 thereof already accepted the position that it is, in determining tariff to be guided by the terms of the State Support Agreement and the OMDA. Specifically, paragraph 61 of the said Consultation Paper provides as under:

In view of the:

Provisions of Section 13(1)(a)(vi) and (vii)of the Act; and the fact that with respect to evolving its regulatory philosophy and approach for economic regulation of, Airport Operators to give effect to its mandate under the .Act, the Authority had undertaken extensive consultations with stakeholders, carefully perused all submissions,



views and opinions expressed by stakeholders and had issued its Order No. 13/2010-11 dated 12th January 2011 , in the matter; the Authority proposes to adopt the following approach towards determination of tariffs for aeronautical services provided by DIAL:

(i) Be guided by provisions of the SSA read with the provisions of OMDA and other agreements as far as these are consistent with provisions of the Act; and

(ii) Wherever possible, have recourse to principles of tariff determination contained in Order No. 13/2010-11 dated 12.01.2011 and Guidelines embodied in Direction No. 5/2010-11 issued on 28.02.2011.

Further, in terms of the OMDA, and specifically Articles 9.1.1. and 9.1.2 thereof, there is already a set prescription for damages in case of a failure by DIAL to meet the service quality requirements as set forth therein. In this regard, Articles 9.1.1. and 9.1.2 of the OMDA provide as under:

9.1.1. (c) Default: At any time after the expiry of two (2) Years after Effective Date, in the event that the Airport has not achieved ISO 9001:2000 certification, the JVC shall produce an action plan within 30 days that sets out how it will address the deficiencies and these initiatives shall be immediately implemented.

Should the JVC fail to produce such an action plan within 30 days or if the Airport (or any part thereof) continues not to achieve ISO 9001:2000 certification, for further 6 months from the date of submission of action plan or fails to maintain the certification at any time during the Term after having achieved certification, the JVC shall thereafter pay to the AAI 2.5% of the monthly Revenue (prior to default) tor every month, that the Airport does not achieve or maintain ISO 9001:2000 certification, as the case may be, as liquidated damages provided however that the total liquidated damages payable hereunder shall not exceed 15% of the monthly Revenue (prior to default).

9.1.2 (c) Default

At any time after the JVC is obligated to achieve and maintain a particular Objective Service Quality Requirement, In the event that the immediately succeeding quarterly report show that the Airport (or any part thereof) is rated below the respective Objective Service Quality Requirement, the JVC will achieve the particular Objective Service Quality Requirement within 30 days of the last submitted quarterly report.

Should the JVC fall to achieve the above, or if the Airport (or any part thereof) continues to perform below the targets mentioned in Schedule 3, the JVC shall pay to the AAI 0.5% of the monthly Revenue (prior to default) for every month, that the standards are below any of the Objective Service Quality Requirements, for each such performance area, as liquidated damages provided a however that the total liquidated damages payable hereunder shall not exceed 1.5% of the monthly Revenue (prior to default).

In view of the Authority being required to take the terms of the State Support Agreement and the OMDA into consideration for determining tariff and in view of the OMDA read with the State Support Agreement already providing for a mechanism for penalties for failure to achieve service quality requirements, we note that for Authority to have taken into consideration the terms of the OMDA and the State Support Agreement, the Authority should not only take into consideration the service quality requirements, but also the penalties for failure to meet service quality requirements as set forth therein. Any penalties prescribed by the Authority for failure to meet the said service quality requirements would effectively tantamount to the Authority not taking into consideration the terms including penalties) of the OM DA and therefore would not be consistent with the AERA Act."

30.8. In respect of the Monitoring of performance standards, DIAL have stated that the methodology laid down by Authority is too complex and the intervals of the measurements are too stringent to be practically implemented. DIAL have stated that the ultimate intent of the concession agreements is delivering superior passenger service by ensuring both Subjective Service Quality

parameters ACI-ASQ) & Objective Service Quality parameters (OSQ-OMDA Sch3jwhiCh is addressed by very well established and a comprehensive system to measure, monitor, control and report the performance against set standards for both ASQ & OSQ parameters. The methodology followed is detailed below:

30.8.1. Existing Monitoring practice (OSQ- OMDA):

30.8.2. 23 parameters are monitored

30.8.3. Sample covered: 9500 sample/Quarter

30.8.4. Monitoring Mechanism

- Measurement is proportionately divided into lean & busiest hour of days (it covers all days of the week)
- Daily monitoring for facilities *related* passenger touch points
- Data is collected either through independent third party assessments or *objective* data sources
- There *exists* an internal report & review mechanism at predefined *intervals/a*ppropriate *levels*
- Performance score is calculated for every month& complied on quarterly basis for reporting to AAI as per the OMDA requirement.

30.9. This has resulted into continuous compliance/improvement *respectively* for *ASQ* and ASO parameters. The OMDA provides clear and objective mechanism of monitoring. The Authority has *itself* laid out the principle that it will *"Be guided by provisions of the* SSA *read with the provisions of OMDA and other agreements as far as these are consistent with provisions of the Act:* The adoption of monitoring mechanism enshrined in OMDA *will* be in line with this principle and will *ensure* the monitoring is done in a practical and feasible *manner* without costs and effort *over* and above that prescribed by the *Concession* documents.

30.10. In light of the above DIAL have submitted that in terms of Section 13(1) (d) of the AERA Act, the Authority has been vested with the role of monitoring the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf. Further, Authority is also requested to consider the provision of the SSA, which clearly lays down that Authority, shall only monitor the Standards as prescribed in OMDA and not impose any additional service quality standards and penalties which may be double jeopardy for DIAL. Thus the Authority is requested to continue with the methodology as

prescribed under OMDA for compliance, monitoring and penalties for non-conformity.

30.11. The MoCA have vide their letter No. No.AV.24026/001/2009-AAI dated 09.03.2012, observed that the Authority has proposed a separate rebate mechanism as part of tariff to be prescribed as a penalty for not meeting the service standards in addition to those prescribed under the contractual Agreements in force. The MoCA have stated as under:

> *" 2. On perusal of the Paper, it is seen that vide Para 456 of the Paper, a separate rebate mechanism as part of tariff is proposed to be prescribed as a penalty for not meeting the service standards in addition to those prescribed under the contractual Agreements in force. Kind attention is also invited to sub-section (1) (d) of Section 13 of the AERA Act which stipulates that AERA is to monitor the set performance standards relating to quality, continuity and reliability of service, as may be specified by the Central Govt. or any Authority authorized by it in this behalf. Therefore, AERA can only monitor the set performance standards.*
>
> *3. This Ministry has been asking AERA to indicate the proposed performance standards, and also forward the related draft Rules for notification. The response of AERA to the above is long awaited despite repeated reminders from this Ministry. It needs to be appreciated that in the absence of any Rules prescribing performance standards, it may not be justifiable to prescribe a separate rebate mechanism as part of tariff determination as has been proposed in the Consultation Paper. Under the statute, AERA clearly has not been mandated to impose additional quality parameters and penalties over and above those prescribed in the OMDA.*
>
> *4. It is pertinent to mention that there is a provision under OMDA prescribing fixed objective and subjective service quality standards and also the mechanism of penalty and fines in the event of a failure by DIAL to meet such service quality standards. This Ministry had advised AERA vide its letters dated 04.01.2010 and 15.06.2011 to monitor the performance standards as prescribed in the Concession Agreement (for Hyderabad and Bangalore airports)*

and OMDA (for Delhi and Mumbai airports) entered into with respective JVCs.

5. In the light of above, AERA may re-consider its decision regarding separate rebate mechanism as part of tariff, as it is in non-conformity of the agreement entered into with the JVCs."

30.12. In response to the above submission made by MoCA, the FIA have vide their submission dated 26.03.2012 stated that MoCA has once again failed to recognize the statutory provisions and are placing sole reliance on the agreements entered into with the JVCs.FIA have stated that it is pertinent to note that under section 13(1)(a)(ii) of the Act, the Authority can very well enunciate such rebate mechanisms while determining the tariff for aeronautical services on the basis of its quality of the service provided. Further, they have stated that the Authority has proposed in para nos. 453 to 456 of the CP No. 32 of 2011-12 to introduce rebate mechanism which will be in the nature of regulatory supervisory power of the Authority and not solely on the concession agreements between parties. FIA has relied on the judgment of Supreme Court in the case of **Cellular Operators Association & Others vs. Union of India & Others** reported as **(2003) 3 SCC 186.** Relevant para of the judgment is as following:

"33. The regulatory bodies exercise wide jurisdiction. They lay down the law. They may prosecute. They may punish. Intrinsically, they act like an internal audit. They may fix the price, they may fix the area of operation and so on and so forth. While doing so, they may, as in the present case, interfere with the existing rights of the licensees."

In this context, the relevant portions of the 'Statement of Objects & Reason' of the Act itself are noteworthy, which makes it abundantly clear that the Authority is inter alia clothed with the power to monitor performance standards of airports. Relevant portion of the 'Statement of Objects & Reason' have been reproduced below for ease of reference:

"3. In the above background, it is felt that an independent economic regulator, namely, the Airports Economic Regulatory Authority (the Regulatory Authority], may be established so as to create a level playing field and foster healthy competition amongst all major

airports to encourage investment in airport facilities to regulate tariffs for aeronautical services ,etc. It is, therefore, considered necessary to enact a law for the establishment of the Regulatory Authority to regulate tariff and other charges for the aeronautical services rendered at airports and ***to monitor performance standards of airports***"

Authority's Examination

30.13. The Authority had proposed a rebate mechanism in the Consultation Paper, if DIAL was in default of performance / quality parameters indicated therein. It was aware of the separate quality of service parameters and attendant liquidated damages indicated in OMDA. Essentially, the Authority had read the requirements of taking into account the service provided, its quality and other relevant factors (Section 13(1)(a)(ii) of the AERA Act) as separate and distinct from another provision, namely, Section 13(1)(d) of the same Act. Section 13 (1)(a)(ii) requires the Authority to determine the tariff for aeronautical services taking into consideration, inter alia, "*the service provided, its quality and other relevant factors*". The other mandate of the Authority is under Section 13(1)(d), namely, "*to monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf.*"

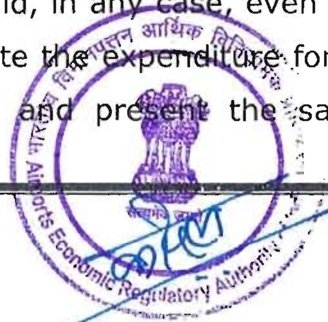
30.14. DIAL's position has been that the Section 13(1)(a)(ii) and Section 13 (1)(d) need to be read together and not separately. The Authority, on the other hand, does not find any warrant in such an interpretation and feels that the legislative mandate under these two sections is distinct and separate. That is why it had stipulated a separate rebate mechanism for the quality of service provided under Section 13(1)(a)(ii) in addition to any monitoring that it may be required to do under Section 13 (1)(d).

30.15. The Authority is also aware that stipulating any rebate mechanism or for that matter quality of service parameters requires certain expenditure, if the required quality is to be maintained. It has already decided to commission a benchmarking study for operating costs. Such a study would take into account, inter alia, the requirements for efficient operation leading to the achievement of quality of service parameters or standards as may be required of the airport operator.

30.16. The Authority has gone through the submissions of the stakeholders and in particular those of DIAL giving details of the provisions of OMDA. The Authority has also gone into the submissions of stakeholders like CII and APAO. CII recognizes that "penalizing by AERA is a statutory arrangement", but feels that "no such caution was provided by either OMDA or SSA to the airport operator during the signing of the agreements". According to CII, it is unfair for the investor who had based its cost estimates on the compliance requirements with prescribed quality standards.

30.17. The Authority would like to point out that the SSA itself contains provision for establishing of an independent economic regulator. In fact, the heading of Clause 3.1 is "Airport Economic Regulatory Authority". SSA also stipulated that *"GoI's intention is to establish an independent economic regulatory authority (the "**Economic Regulatory Authority**"), which will be responsible for certain aspects of regulation (including regulation of Aeronautical Charges) of certain airports in India."* It is also stipulated clearly that *"GoI further confirms, subject to Applicable Law, it shall make reasonable endeavours to procure that the Economic Regulatory Authority shall regulate and set/re-set Aeronautical Charges in accordance with the broad principles set out in Schedule-I appended hereto."* Under the definition of "Change in Law", it is also expressly provided that the creation or introduction of a Regulatory Authority having jurisdiction over the airport shall not constitute a Change in Law. Hence to say that DIAL was not aware of the likely creation of AERA is not in conformity with the provisions of SSA.

30.18. As regards the other observation of CII about the unfairness part, the Authority is required to determine the tariffs for aeronautical services taking into account the service provided, its quality and other relevant factors clearly by determining the revenue and expenditure streams pertaining to aeronautical services, and hence the expenditure to be incurred on required quality naturally forms part of the calculations. Secondly, even under SSA (Schedule-1) , there is no specific mention of the cost related to the quality of service as distinct and apart from the operation and maintenance cost pertaining to aeronautical services. The airport operator would, in any case, even without establishment of a regulatory body, have to estimate the expenditure for achieving the quality of service parameters under OMDA and present the same to the regulator in



question. It is not as if the operating cost were frozen in SSA/OMDA and thereafter some extra burden is now sought to be put on DIAL on account of quality of service parameters (under OMDA or for that matter, by rebate mechanism as proposed under Consultation paper).

30.19. The Authority has also noted that ACI's comments are about higher standards in Delhi airport as compared to international airports and putting in place a separate rebate mechanism would increase compliance cost. As has been made clear, all costs associated with quality of service parameters would be factored in by the Authority while determining the aeronautical tariffs.

30.20. The Authority would like to highlight that the rebate mechanism proposed by the Authority is to compensate the user for lower quality of service compared to that contemplated at the time of determination of tariffs. On the other hand, the liquidated damages provided for in the OMDA are the compensation to AAI (i.e., lessor) for default of DIAL (lessee) in maintaining the quality of service contracted between them. The nature, purpose and objective of these two instruments is thus quite different. Therefore, the Authority regrets to note that the submissions of "double jeopardy" etc., have been unfairly laid at the door of the Authority.

30.21. The Authority has also noted and carefully considered the views of MoCA in the matter. The issues raised therein have been addressed hereinabove. As regards the scope of Authority's functions under Section 13 (1) (d) and requirement of specifying standards therefor, the Authority would separately interact with the Ministry.

30.22. Having regard to the nature of the various comments and observations as well as particularly the views of the Government and noting the fact that this is the first regulatory period, three years of which have already elapsed, the Authority, on the balance, feels that the liquidated damages provided in OMDA for not adhering to the standard as prescribed therein can be considered to be reasonably adequate deterrent for the current control period. Hence, it has decided that it may not be necessary to operationalise the additional rebate mechanism for the current control period. This is without prejudice to the fact that in principle the rebate mechanism proposed by the Authority and the liquidated damages contemplated under the OMDA are mutually exclusive.

Decision No. 33. Decision on Quality Of Service

33.a. The Authority decided, as specified by the Government, to monitor the performance standards as laid down in the OMDA. Since OMDA provisions have a provision of liquidated damages to be paid to AAI, should the quality service not be achieved, the Authority decided that for the current control period it will not impose rebate mechanism in addition to the liquidated damages mechanism in OMDA.

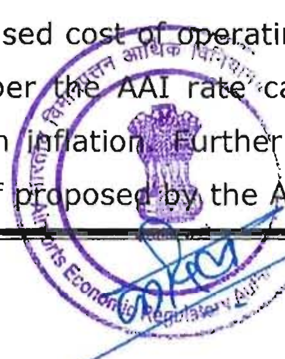
31. General Observations

31.1. Viability

31.1.1. ACI have, in their submissions also stated that the operating viability is paramount to ensure healthy inflow of private funds in future PPPs in infrastructure sector in India. They have stated that it is public information that the Delhi airport operator is making heavy losses due to the increased cost of operating a huge facility while being able to charge the tariff as per the AAI rate card common for all airports, which they understand is not even in line with inflation. Even with the current increase in tariff as proposed by AERA, DIAL is expected to face liquidity issues in FY13 and FY14, which will jeopardize the viability of operations.

31.1.2. Further, on the issue of an upfront increase vs two step increase, ACI have submitted that a two-step increase has a very high tariff impact in the second year as this is not in the best interests of the airlines/passengers nor desirable for DIAL from a liquidity and viability perspective. ACI have suggested that it will be better to adopt a one-time increase which will be smoother for the airlines and passengers and will also improve the liquidity and viability of DIAL.

31.1.3. ASSOCHAM have submitted that Operating viability is paramount to ensure healthy inflow of private funds in future PPPs in infrastructure sector in India and that it is public information that the Delhi airport operator is making heavy losses due to the increased cost of operating a huge facility while being able to charge the tariff as per the AAI rate card common for all airports, which is not even in line with inflation. Further, they have also stated that even with the increase in tariff proposed by the Authority, DIAL is expected to



face liquidity issues in FY13 and FY14, which will jeopardize the viability of operations.

31.1.4. FICCI have submitted that it is observed through various articles appeared in the media that Delhi International Airport Limited has been incurring losses for the last two years. The financial viability of the project is of prime importance to showcase the role that PPP is playing in the development of Airport sector in particular and Infrastructure sector in general. Also, T-3/DIAL being the first major world-class airport of its kind in the country, potential investors may see its performance as a leading indicator for the sector's performance. A lot is at stake here as investors may use the regulatory decisions taken in this project as a signal for future decisions on other PPP projects in the infrastructure sector and more specifically the airport sector. Hence, FICCI have reiterated that the financial viability of the project, both short-term and long-term, may be kept in mind while finalizing the tariff at IGIA.

31.1.5. CII in their submissions have stated that DIAL has been reporting losses in the last five years. With the revision in tariff proposed as per the consultation paper, DIAL will continue to face losses. Therefore, tariff revision should be revisited to allow for healthy cash flows so as to maintain a healthy debt-service ratio within the industry norms. They have stated that caution should be taken that any changes in regulation should not induce financial sickness and it should be noted here that a sick airport will have repercussions on the airlines as well as on the economy as a whole.

31.1.6. DIAL have based on their earlier submission to the Authority, requested the Authority to ensure and maintain IGI Airport's viability as has been enunciated in the AERA Act. They have submitted their cash flow position for the Authority perusal and have stated that even with the proposed increase by the Authority (at 33.63% upfront) , Delhi Airport would still be in cash deficit. Further, DIAL would face serious hardships in meeting its covenants under the financing agreement, which require a minimum DSCR of 1.20 to be maintained.

31.1.7. In respect of the annual equated increase of 148 % (which has been proposed by the Authority), DIAL have submitted that they would not be able to even manage to run its day-to-day operations and the debt servicing

ability of DIAL, during 2012-13 is seriously impaired wherein the DSCR drops to 0.41 against the covenant under the financing agreement, which require a minimum DSCR of 1.20 to be maintained.

31.1.8. In addition DIAL have also stated that the Lenders have raised their concerns against the proposed equated annual increase and have enclosed a copy of letter received from M/s Canara Bank (lead consortium Rupee lender) in this respect which states:

> *"Based on step up increase by in tariff proposed by AERA with effect from 1st April 2012, its impact on business plan will be as under:*
>
> *Delhi International Airport Pvt Ltd (DIAL) will not have adequate profits to meet the financial covenants and debt servicing requirements as per the financing documents"*

31.1.9. Further, DIAL have submitted that it has incurred losses due to pending revision of aeronautical revenues which are not in line with costs. The losses over the last financial year and also the expected losses in current financial year will eroded the net worth of DIAL by over 50%. Therefore, in light of the aforementioned facts, we request the Authority to consider the upfront increase to ensure the viability of DIAL.

Authority's Examination

31.1.10. The Authority has carefully gone through the submissions made by different stakeholders. It is conscious of the fact that under section 13(1)(a)(iv) of the AERA Act, the Authority is required to take into consideration the economic and viable operation of major airports while determining the tariff for aeronautical services. In case of DIAL, the details of calculations are given in Schedule 1 of the SSA. The Authority has, therefore, presented the calculations in accordance with the broad principles of calculations in Schedule 1. It would be seen from the calculations that the proposed tariff increase would result in DIAL obtaining the required rate of return on equity (determined by the Authority at 16%) for the entire period of 5 years commencing from April, 2009 - March, 2014 on the basis of regulatory accounts.

31.1.11. A concern has also been voiced that even with the current increase in tariff, as proposed by the Authority, DIAL is expected to face liquidity issues in FY-2013 & FY-2014, which will jeopardize viability of operations. The calculations of increase in tariff are based on the requirements of aeronautical revenue, along with 30% share of non-aeronautical revenue in accordance with the SSA/OMDA. The allowance for permissible costs has also been made in the regulatory determination. This ensures that from the perspective of regulatory accounts, DIAL would not face any liquidity issues, nor will its viability of operations be jeopardized. Since this observation is made by the Chambers of Commerce, ACI and some other commentators, what the commentators may be inferring is that if the revenue share at 46% payable to AAI is taken into account, this would result in depleting the cash flows of the airport operator.

31.1.12. The revenue share of 46% payable by the airport operator to AAI is not taken as a cost pass through in the regulatory accounts as per the provisions of Article 3.1.1 of the SSA. Therefore there is no warrant for the Authority to consider the impact of 46% revenue share on the cash flows of the company.

31.1.13. DIAL has also stated that even with the proposed increase of the Authority at 336.3% as a one-time increase, Delhi airport would still be in cash deficit and that they would face serious hardships in meeting their covenants under financing agreements, and the stipulated Debt Service Coverage Ratio (DSCR) requirements of at least 1.20. The Authority has also noted the comments of the Canara Bank (Lead Consortium Rupee Lender), in this regard.

31.1.14. The Authority infers that the problem indicated by DIAL may be arising due to some costs such as the revenue share not being allowed as a pass through. In view of the explicit provisions of the SSA, the Authority is unable to take such costs into account. However, it would like to reiterate that the proposed tariff increase would result in DIAL obtaining the required rate of return on equity (determined by the Authority at 16%) for the entire period of 5 years commencing from April, 2009 – March, 2014 on the basis of regulatory accounts. The Authority has, therefore, addressed the viability issue within the framework of regulatory determination of aeronautical tariffs.

31.2. Smoothening of Price Path

31.2.1. One issue which has been raised by some stakeholders is with respect to smoothing of the price path. The Authority in its Consultation Paper had already given an option of staggering increase over the remaining two years of the current control period rather than giving one-time increase. Some of the commentators have also felt that the smoothing of price path may also spill over into the next control period.

31.2.2. The Authority is conscious that by staggering the increase or by taking the price path into the next control period, the incidence of burden on users (airlines and passengers) will be reduced in the near future. However, it is also conscious of the fact that airport may face liquidity problems in doing so. Secondly, it is legally not permissible for the Authority to determine aeronautical tariffs beyond the five year period. For these considerations, the Authority had decided to effect a one-time increase.

31.3. Comments of FICCI, ASSOCHAM and CII - the Authority has noted that these Chambers have supported DIAL's proposal. The Authority is also informed that airport operators and some of the domestic airlines are members of these chambers. The Authority further notes that the views of the FIA, the representative body of the Indian Domestic Airlines, are at variance with the views expressed by the Chambers.

32. Summary of Decisions and Correction/Truing up

Decision No. 1. Decision on Regulatory Period 27

1.a. The Authority decided to determine tariffs in respect of IGI Airport, New Delhi for the 5 year control period starting from 01.04.2009.. 27

Decision No. 2. Decision on Tariff Determination Methodology 27

2.a. The Authority decided to determine aeronautical tariffs in respect of IGI Airport, Delhi on the basis of Shared Till Inflation – X Price Cap Model, in line with the SSA and as was proposed in the CP-32.. 27

Decision No. 3. Decision on RAB and Project Cost 30

3.a. The Authority decided that it will reckon the project cost of Rs.12502.86 crore as the basis for the determination of RAB. The amount of Rs.3415.35 crore (including both at stage 1 and stage 2, vide Order No.28/2011-12 dated 14.11.2011) collected or to be collected as Development Fee would not be included in RAB......................... 30

Decision No. 4. Decision on Allocation of Assets 33

4.a. The Authority decided to, for the present in the absence of any other relevant basis for allocation, accept the proposal made by DIAL on the basis of the Jacobs' Report and take the aeronautical asset allocation as 89.25% and non-aeronautical asset allocation as 10.75%.. 33

4.b. The Authority also decided that it will commission an independent study in this behalf and would take corrective action, as may be necessary, at the commencement of the next control period from 01.04.2014. 34

Truing Up: 1. Correction / Truing up for Decision No. 4 34

1.a. Upon analysis/examination pursuant to such a study, the Authority may conclude that the allocation of assets considered needs to be changed. In such a case the Authority would consider truing up the allocation mix at the commencement of the next control period.........34

Decision No. 5. Decision on the Asset Allocation Mix (on account of DF Disallowances) 37

5.a. The Authority decided not to alter the asset allocation from what was proposed in the Consultation Paper on account of DF Disallowances and to consider the asset allocation as was proposed in the Consultation Paper i.e., 89.25% for aeronautical assets.. 37

Decision No. 6. Decision on Deposit for Metro Rail 39

6.a. The Authority decided to include the grant of Rs.350 crore by DIAL to DMRC in the RAB for the purpose of tariff determination.. 39

Decision No. 7. Decision on VRS Payments made to AAI 41

7.a. The Authority decided to expense out the actual amount that is paid or will be paid by DIAL during the control period (i.e., Rs.199.35 crore, as may be verified by the Authority) instead of capitalising the same.. 41

Decision No. 8. Decision on Future Capital Expenditure and Future Maintenance Capital Expenditure 45

8.a. The Authority decided not to consider, for the present, any future capital expenditure (from 2011-12 onwards) during the current control period. 45

8.b. As regards the Future Maintenance capital expenditure, the Authority decided not to consider any capex in excess of Rs.48.86 crore (for FY 2011-12) and Rs.78.92 crore (for FY 2012-13) for the present. Further the Authority also decided to reckon these figures for the determination of X factor. 45

Truing Up: 2. Correction/ Truing up for Decision No. 8... 45

2.a. The Authority decided that it may consider the future capital expenditure and future maintenance capital expenditure incurred by DIAL during the balance control period based on the audited figures and evidence of stakeholder consultation as contemplated in the SSA, as well as the review thereof that the Authority may undertake in this behalf. This review will also include the amount of Rs.48.86 crore (for FY 2011-12) and Rs.78.92 crore (for FY 2012-13) which the Authority has, for the present, reckoned for determination of X factor.............45

Decision No. 9. Decision on Methodology for Calculating Average RAB and Depreciation of RAB: 49

9.a. The Authority decided to calculate the RAB for each year as the average of the opening and the closing RAB and calculate the return for each year on the average RAB. 49

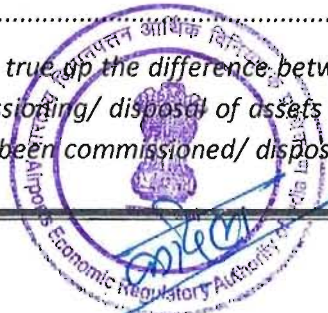
9.b. In respect of Depreciation, the Authority decided that difference between the amount of depreciation calculated based on actual date of commissioning/ disposal of assets and the amount of depreciation calculated considering such asset has been commissioned/ disposed half way through the Tariff Year will be adjusted at the end of the Control Period considering Future Value of the differences for each year in the Control Period.. 49

9.c. Furthermore, the Authority decided that the difference between the value of Return on RAB calculated based on actual date of commissioning/ disposal of assets and that calculated considering such asset has been commissioned/ disposed half way through the Tariff Year will also be adjusted at the end of the Control Period considering Future Value of the differences for each year in the Control Period. 49

Truing Up: 3. Correction /Truing up for Decision No. 9.. 49

3.a. The Authority decided to true up the difference between the depreciation calculated based on actual date of commissioning/ disposal of assets and the amount of depreciation calculated considering that such asset has been commissioned/ disposed off half way through the Tariff Year by adjusting at the end of the Control Period the Future Value of such difference...49

3.b. The Authority decided to true up the difference between the return on RAB calculated based on actual date of commissioning/ disposal of assets and the return on RAB calculated considering that such asset has been commissioned/ disposed off half way through the Tariff



Year by adjusting at the end of the Control Period Considering Future Value of the differences for each year in the Control Period. 50

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12.a. The Authority decided to consider the actual cost of Rupee Term Loan, paid by DIAL for the years 2009-10 and 2010-11 for the period 2011-12 to 2013-14. The cost of debt is taken at 12.17% pa. The Authority decided not to agree to the upward revision of 0.5%p.a. claimed by DIAL in the interest rates; 69

12.b. The Authority also decided to consider the Rupee value of the ECB loan at Rs.1591.79 crore based on the Rupee - US Dollar exchange rate prevalent on the date of drawal... 69

12.c. The Authority decided not to consider any adjustments related to currency fluctuations on capital or interest payments or any other charges in respect of the ECB Loan, the rupee value of which, is reckoned at Rs. 1591.79 crore. 69

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4.a. The Authority decided that, if the costs of efficient operation and maintenance, assessed in the independent study are lower than the values used by the Authority, then it will claw back this difference in the next control period commencing from 01.04.2014. ....*88*

4.b. The Authority decided that the following factors be reviewed for the purpose of corrections (adjustments) to tariffs on a Tariff year basis *88*

i) Mandated costs incurred due to directions issued by regulatory agencies like DGCA;.88

ii) Change in per unit rate of costs related to electricity and water charges as determined by the respective regulatory agencies;..*89*

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

for by DIAL on final product/ service provided by DIAL, may be reviewed by the Authority for the purpose of corrections (adjustments) to tariffs on a Tariff year basis. Furthermore, any additional payment by way of interest payments, penalty, fines and other such penal levies associated with such statutory levies, which DIAL has to pay for either any delay or non-compliance, the same would not be trued up. On the input side if DIAL has to pay higher input costs even on account of change in levies/ taxes on any procurement of goods and services, the same would not be trued up. 89

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18.a. The Authority decided to take in to account the actual corporate tax paid by DIAL (apportioned on operations from aeronautical services) for the year 2009-10, 2010-11 and 2011-12. For the balance period i.e., 2012-13 and 2013-14 the forecast of Corporate tax payable on aeronautical services has been used for tariff determination. 95

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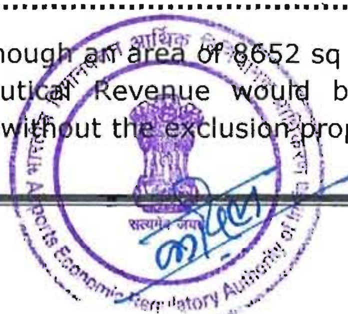
21.a. The Authority decided that though an area of 8652 sq mts was disallowed in the DF Order, the total Non Aeronautical Revenue would be reckoned towards the determination of aeronautical tariff without the exclusion proposed by DIAL. 116



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24.a. if the service provider of these aeronautical services is the airport operator himself, then revenues accruing from these services to the airport operator would be treated as aeronautical revenue and in such a case, the costs incurred by the service provider, namely the airport operator would also be taken into account while determining the aeronautical tariffs; 135

24.b. If the provision of these services is outsourced to a third party including, as in the case of DIAL a JV, the third party becomes the service provider and comes within the ambit of regulation, including tariff determination. The airport operator, namely, DIAL would receive revenues from such third party concessionaire in the form such as revenue share, rent, dividend or royalties, etc. These revenues obtained from the third party by the airport operator (in the instant case DIAL), would be regarded as non-aero revenues at the hands of the airport operator, however, the costs, if any, in obtaining these revenues from the concessionaire would not be taken into account as a cost pass through as per the provisions of SSA/OMDA.................................... 136

24.c. The Authority decided to treat the Cargo revenue for the period 01.04.2009 to 24.11.2009 as aeronautical, during which DIAL was carrying out the service itself. For the balance period of the Control Period the same has been considered as Non-Aeronautical. 136

24.d. The Authority decided to treat the Fuel Throughput revenue as aeronautical revenue. Further, the Authority decided to consider the revision in Fuel Throughput charges in line with the agreements with the Oil Marketing Companies and consider the escalation at CPI or 7% whichever is less. 136

24.e. Further, the Authority decided to treat the concession revenue received by DIAL from the BME Equipment service provider, In flight Kitchen, ITP service provider(s) as non-aeronautical revenue in the hands of DIAL. 136

24.f. The Authority infers from the Ministry of Civil Aviation's letter No.AV.24032/4/2012-AD, dated 09.03.2012, that according to its interpretation revenues from Cargo and Ground Handling services accruing to the airport operator should be regarded as non-aeronautical revenues, regardless and irrespective of whether these services are provided by the airport operator himself or concessionaire (including JV) appointed by the airport operator. This inference is being brought to the notice of the Government for confirmation 136

Truing Up: 6. Correction / Truing up for Decision No. 23 137

6.a. Depending on the confirmation of the Government on the treatment of revenues from Cargo and Ground Handling services, the Authority would duly consider the matter and the correction/truing up as appropriate would be considered in the next control period commencing from 1st April, 2014. 137

6.b. As per the contractual agreements with the Oil Marketing Companies, the rate of FTC is liable for an annual increase of CPI or 7% whichever is lower. In the revenue forecast, the FTC is factored with a 7% increase year on year. If the CPI figure for the year is lower than 7%, the difference would be clawed back in the next control period. 137

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26.a. The Authority decided to use the actuals for FY 2009-10 and 2010-11 and to use the 10 year CAGR for forecasting Passenger, ATM and Cargo traffic for the years 2011-12, 2012-13 and 2013-14 [with the year 2010-11 as the base year]. 150

26.b. The Authority will make 100% correction (truing up), of the traffic. 151

26.c. The Authority decided not to have any symmetrical band around the forecast number for the purpose of truing up... 151

Truing Up: 7. Correction/Truing up for Decision No. 26.. 151

7.a. The Authority will make 100% correction (truing up), of the traffic, the effect of which would be given in the next control period commencing from 1st April, 2014. 151

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29.b. The re-levering of the asset beta of DIAL will be at the notional DER of 1.5:1 (as indicated by SBI Caps).. 205

29.c. RoE will be calculated based on the actual book value of debt and equity of DIAL. 205

29.d. The Authority decided to adopt Return on Equity (post tax Cost of Equity) as 16% in the WACC calculation.. 205

29.e. The Authority determined the WACC at 10.33% for the Control Period......... 205

29.f. The Authority also decided that WACC will not be trued up........................ 205

Decision No. 30. Decision on the Tariff Structure & Rate Card 210

30.a. The Authority determined the X factor for the tariff determination w.e.f 15.05.2012 at -345.92% on a one time basis during the Control Period. Hence the X factor for the tariff year 2013-14 is zero. 210

30.b. The Authority approved the tariff structure and rate cards for the tariff years 2012-13 and 2013-14 as appended hereto. The rates for 2012-13 would be effective from 15.05.2012 and the rates for 2013-14 will be effective from 01.04.2013;...... 210

30.c. DIAL should endeavour to implement the rate card for the tariff year 2012-13 by the effective date, i.e., 15.05.2012 but in no case beyond 30.06.2012. 210

30.d. In case of any delay in implementation of the approved tariff structure and rate card beyond 30.06.2012, the Authority will not allow any adjustments on account of such non-implementation. 211

30.e. The rates approved are the maximum rates allowed to be charged. 211

Truing Up: 8. Correction/Truing up for Decision No. 30.. 211

8.a. Any shortfall in actual revenue on account of the delay in implementation of the revised tariff beyond 15.05.2012 and upto 30.06.2012 would be adjusted (trued up) at the commencement of the next control period. 211

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31.a. The Authority decided not to consider any adjustments on account of discount. 212

Decision No. 32. Decision on collections charges on DF, PSF and UDF 214

32.a. The Authority decided not to allow any collection charges on DF to be defrayed as operating expenditure. 214

32.b. The Authority decided to delink the Facilitation Component from the existing PSF at IGI Airport, New Delhi and consider it as part of the UDF proposed by DIAL in the rate card. As the total collection charge for both PSF and UDF, the Authority decided to consider an amount of Rs.2.5 per departing passenger and Rs.3/- per arriving passenger as a ceiling on the collection charges. This is in accordance with DIAL's request to keep differential collection charges for arriving and departing passengers. 214

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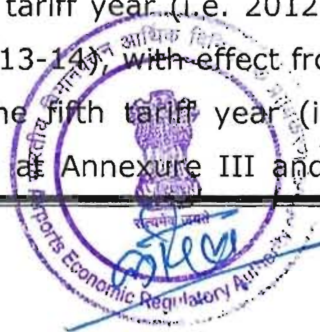
33.a. The Authority decided, as specified by the Government, to monitor the performance standards as laid down in the OMDA. Since OMDA provisions have a provision of liquidated damages to be paid to AAI, should the quality service not be achieved, the Authority decided that for the current control period it will not impose rebate mechanism in addition to the liquidated damages mechanism in OMDA....... 227

33. ORDER

33.1. In exercise of powers conferred by Section 13(1)(a) of the AERA Act, 2008, the Authority hereby determines the aeronautical tariffs to be levied at IGI Airport, New Delhi for the fourth tariff year (i.e. 2012-13) of the first five year control period (i.e. 2009-10 to 2013-14), with effect from 15.05.2012, as placed at Annexure II. The rates for the fifth tariff year (i.e. 2013-14) of the first control period are determined as at Annexure III and would be effective from



01.04.2013. The rates of UDF as indicated in the rate cards at Annexure II and Annexure III are also approved in terms of the provisions of Section 13(1)(b) of the AERA Act read with Rule 89 of the Aircraft Rules 1937. The rates approved herein are ceiling rates, exclusive of taxes, if any.

By the Order of and in the Name of the Authority

(Capt.Kapil Chaudhary)

To,

Delhi International Airport (P) Limited
New Udaan Bhawan,
Opp. Terminal 3, IGI Airport,
New Delhi 110037
(Through: Shri. Srinivas Bommidala, Managing Director)

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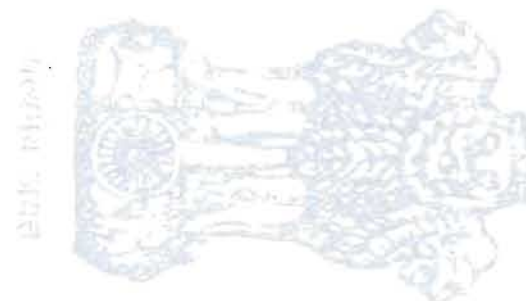
35. Tables pertaining to Regulatory Building Blocks

1. Hypothetical RAB

Hypothetical RAB as decided by the Authority	**Rs in crore**
Revenues at prevailing tariffs in the year 2008-09 [A]	**433.51**
Landing Charges	243.51
Parking & Housing Charges	13.40
Passenger Service Fees	85.16
Baggage X- Ray Revenue	3.63
In-Line X-Ray Revenue	15.34
Fuel Throughput Revenue	72.47
Aeronautical Expenses [B]	**385.23**
Operation and Maintenance Cost	385.23
Corporate Tax pertaining to aeronautical services at the airport	0.00
Eligible Target Revenue C= (A-B)	48.28
Capitalisation Factor (@ WACC) **[D]**	10.33%
Hypothetical Asset Base = C /D	**467**



2. RAB Calculation

		2007	2008	2009	2010	2011	2012	2013	2014
Opening Regulatory Asset Base	*[RBo]*	0.00	61.34	108.40	2394.29	2812.93	8965.75	7917.72	7626.33
Investment	*[I]*	62.46	50.52	1866.37	540.01	8230.75	550.41	78.92	-
Deletion/Disallowance	*[J]*	-	-	-	-	-	-	-	-
Depreciation & Amortization	*[D]*	1.12	3.46	47.48	121.38	250.92	375.09	362.81	364.25
Assets funded out of DF	*[S]*	-	-	-	-	1827.00	1223.35	7.50	7.50
Financing Allowance During Construction [F]		-	-	-	-	-	-	-	-
Hypothetical Asset Base	*[H]*	-	-	467.00	-	-	-	-	-
Closing Regulatory Asset Base	*RBi = [RBo + I - J- D - S + F + H]*	61.34	108.40	2394.29	2812.93	8965.75	7917.72	7626.33	7254.58
Net Regulatory Asset Base		**30.67**	**84.87**	**1251.35**	**2603.61**	**5889.34**	**8441.73**	**7772.02**	**7440.45**

3. Building Blocks Calculation

	2010	2011	2012	2013	2014
Return on Capital Employed	269.03	608.54	872.28	803.08	768.82
Total Expenses	567.11	631.04	701.94	820.96	953.24
Staff Cost	*87.87*	*116.82*	*135.26*	*154.84*	*173.96*
Administrative & General Expenses	*60.04*	*101.96*	*87.77*	*153.10*	*172.01*
Electricity & Water Charges	*31.21*	*60.82*	*98.15*	*150.79*	*155.32*
Operating Expenses	*362.83*	*320.00*	*331.62*	*296.85*	*328.65*
Airport Operator Fee	*25.16*	*31.44*	*36.00*	*43.49*	*101.42*
Property Tax	-	-	*13.13*	*21.89*	*21.89*
Depreciation & Amortization	121.38	250.92	375.09	362.81	364.25
Taxes	-	-	-	196.08	345.54
Gross Target Revenue	**957.52**	**1490.50**	**1949.31**	**2182.93**	**2431.85**
Cross Subsidisation	148.39	206.07	264.02	328.81	403.92
Net Target Aero Revenue	**809.13**	**1284.44**	**1685.29**	**1854.12**	**2027.93**
Actual/Projected Aero Revenue	**648.17**	**586.35**	**684.89**	**2662.91**	**3531.31**

4. Determination of X

	2010	2011	2012	2013	2014	Total
Net Target Aero Revenue	809.13	1284.44	1685.29	1854.12	2027.93	7660.90
Actual/Projected Aero Revenue	648.17	586.35	684.89	2662.91	3531.31	8113.62
Discounting Factor@10.33%	1.23	1.11	1.01	0.91	0.83	
Net target Revenue (NPV)	993.46	1429.36	1699.80	1693.69	1678.98	7495.29
Actual/Projected Revenues (NPV)	795.83	652.51	690.79	2432.50	2923.67	7495.29
Increase Percentage 'X'		-345.92%				

5. Tax Calculation

	2010	2011	2012	2013	2014
Aero Revenue	648.17	586.35	684.89	2,662.91	3,531.31
Aero Expenses	567.11	631.04	701.94	820.96	953.24
Aero EBITDA	81.06	(44.69)	(17.05)	1,841.95	2,578.07
Depreciation & Amortization	104.18	238.44	354.88	343.25	344.59
Finance Cost	116.36	298.56	530.22	518.67	506,45
Aero PBT	(139.49)	(581.69)	(902.15)	980.03	1,727.02
Add: Tax depreciation & Amortization during the year-aero	255.62	799.14	853.69	748.71	659.42
Less: Depreciation & Amortization	104.18	238.44	354.88	343.25	344.59
Income/(Loss) as per Income Tax	(290.92)	(1,142.39)	(1,400.96)	574.57	1,412.20
Net Total Tax Payable	0.00	0.00	0.00	196.08	345.54

Annexure-I

Cost of Equity for Private Airports in India - Comments on DIAL's response to AERA Consultation Paper No. 32, and the report by SBI Caps

NIPFP Research Team

April 19, 2012

Abstract

In this document we present our comments on the SBI Caps reports on cost of equity for DIAL, and DIAL's response to parts of AERA Consultation Paper No. 32 that refer to the Cost of Equity Report submitted by NIPFP to AERA. This should be read along with the report submitted to AERA.

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AERA

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1 Background

Airports Economic Regulatory Authority of India has asked the National Institute of Public Finance and Policy to estimate the expected cost of equity for the private airports at Delhi, Mumbai, Hyderabad, Bangalore and Cochin.

NIPFP submitted its report on cost of equity for private airports in India to AERA on December 13, 2011. On January 3, 2012, AERA issued a Consultation Paper (No. 32) on *Determination of Aeronautical Tariff in respect of IGI Airport, New Delhi for the 1st Regulatory Period (01.04.2009 to 31.03.2014)*, which referenced, among other reports, the report submitted by NIPFP on Cost of Equity for Private Airports in India.

The Delhi International Airport Limited (DIAL) has now submitted a response, with comments on certain sections of the consultation paper mentioned above. Some of the comments submitted by DIAL refer to the report submitted by NIPFP. NIPFP has considered these comments, and accepted some of them. In this document, we present the revised version of the cost of equity estimates, based on the latest data (to reflect the changes in these 4 months since December 13, 2011) and some changes in methodology accepted from DIAL's comments. We also present arguments for rejecting some changes suggested in the DIAL response.

SBI Caps submitted a report to the Ministry of Civil Aviation, presenting its analysis of what the cost of equity for DIAL should be. We present our comments on the analysis done by SBI Caps.

2 Introduction

The exercise of estimating cost of equity for airports is being conducted in a context where

- an early regulatory cycle is being implemented, and the general regulatory approach (including the methodology of tariff determination) is evolving and is almost unique in certain measures it has taken (especially for de-risking the airports)
- most of the airports are either new or have gone through signification upgradation
- there is very limited market information available about the airport companies, on variables such as *beta, value of equity*, etc.

These are important factors to consider for this exercise. Over a period of time, the regulator will learn more about the regulated markets, regulatory approach will become stable, and this will create a clear understanding about the method and process between the regulated entities and the regulator. In due time, some airport companies will get listed, providing more market information for regulatory decision making process. As the airport businesses mature further, we will learn more about the nature of airport businesses in India, and this will help with the process of estimating cost of equity. For example, it will be easier to identify a set of comparator airport companies.

One could argue that since sufficient information for estimating some variables is not available, we should take the upper bound of all ranges, and come up with an estimate of cost of equity that is on the higher end of the estimated range, allowing the airports to charge a tariff that is at the higher end of estimated range.[1]. But this is not appropriate, because every increase in cost of equity directly increases the tariff, which puts undue burden on the customers. It is important to use the available information and a fair method, and arrive at a reasonable estimate. It is also important to develop a method and process that is transparent and gives a sense of stability and predictability to all the stakeholders, including the airport companies, the airlines and the customers.

The exercise to estimate the cost of equity for the airports is being conducted keeping the above considerations in mind. The objective is to use a process and method for estimation that is clear, stable and predictable, and uses the available sources of information.

3 The Capital Asset Pricing Model

AERA indicated to NIPFP that it has decided to use CAPM, which is the most commonly used method, for estimating cost of equity. Therefore, we used this method.

The CAPM formula:

$R_e = R_f + \beta^*(R_m - R_f)$

R_e: Cost of equity

[1]For example, on equity risk premium, one could choose the method giving the highest risk premium. Similarly, on beta values, instead of taking the mean or median, one could choose the beta value at the 25th percentile, or select a comparator set with higher beta values

R_f: Risk free rate

β: a measure of systematic risk i.e. the sensitivity of the expected return of the particular asset to the expected market return. This measure in essence captures the relationship between the market movements and the movements of the respective asset/company's returns.

R_m: Expected return of the market

(R_m-R_f) is typically referred to as the "equity risk premium"

It is crucial to note that this method assumes that the idiosyncratic risks of the firm have been diversified away, and the only risk still held by the investor is the systematic risk (or β), which is the additional risk the firm contributes to an otherwise fully diversified portfolio. The exercise is done from the point of view of an investor with a fully diversified portfolio.

4 Risk-free rate

To estimate the risk free rate, we took the arithmetic average of daily yields on 10-year Government of India bonds over the period from Jan 01, 2001 to December 31, 2010. 10-year Government of India bonds were considered because they are the appropriate benchmarks for the longer-term horizon of investments expected for the airports. This approach has been criticised in the DIAL submission:

- Taking the average of yields for last 10 years may not correctly reflect the risk free rate at present, and the input should be based on the present risk free rate.
- A better methodology would be to compute the real risk free rate for last few years and add to that the present inflation rate.

Overall the recommendation from DIAL's response is to rely more on current values of the variables (inflation rate or bond yields) for estimating risk free rate, rather than on historical averages.

The context of this exercise is important for this decision. The exercise is to set tariffs for this regulatory cycle, which will apply for the entire regulatory cycle. This is being done in a context of a new regulatory framework and regulatory agency. The regulator, the regulated entities, the consumers and the investors are yet to understand each other well. Stability and predictability of estimates should be important concerns for the next few regulatory cycles.

The approaches proposed in the DIAL response are based on the assumption that there is very high information content in the current values of the relevant variables, and that this information is sufficient to arrive at the relevant estimate of risk free rate for the next few years. These assumptions are not as valid in India's context as they could be in the context of some mature market (eg. US). Though there is good liquidity in the market for long-term government bonds in India, much of this is due to financial repression - institutions are mandated to hold these bonds.[2] This means that the current information from these instruments does not necessarily reflect true market expectation for the components of risk free rate.

The problem of financial repression does not exist to this extent in most mature markets, but even then some of them do not just take the current rate as predictive of the next few years. This is because of reliance on current rates can lead to excessive volatility for the consumers as well as the investors.[3] Some recent event may have pushed the rates too high or too low, leading to very high or low risk free rate projection.[4] This kind of volatility introduces significant uncertainty in the regulatory environment, making it difficult for the regulated entity, consumers and investors to foresee what the view in the next regulatory cycle would be. If stability and predictability of the estimates are concerns for this exercise, as we think they should be, the only reasonable way of achieving this in the context of Indian markets is to rely on historical averages.

Considering historical averages gives the regulated entity, consumers and potential investors a sense of what to expect. Eventually, when things change in the markets, AERA can take a view to change the approach accordingly.

Prof. Varma has recommended (with the DIAL's response) that we should add 0.25% to the yield of the 10-year GOI bond, to reflect the yield on a bond with longer maturity. This argument is based on the assumption that the average life of the assets is longer than ten years. In our opinion, the ten year bond is optimal period for considering the risk free rate. Even though the airport lease itself is for almost 30 years, the average tenure of the debt DIAL has raised is below ten years (maximum tenure is 12 years), and this

[2]See Page 83-84, Chapter 5 of "Ajay Shah, Susan Thomas, and Michael Gorham. India's Financial Markets: An Insider's Guide to How the Markets Work. Elsevier, October 2008."

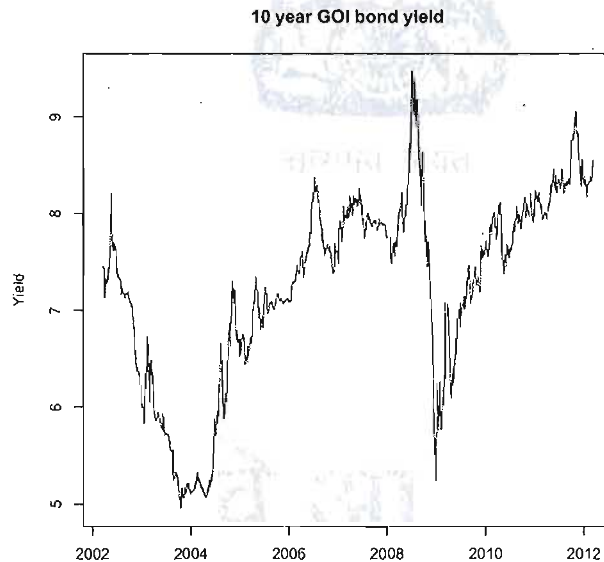
[3]This issue is discussed by the Input methodologies document (2010) of New Zealand's Commerce Commission, as well as the report on economic regulation of the London airports companies (2007) by UK's Competition Commission.

[4]If this exercise was being done in April 2004, the yield on 10 year GOI bond was 5%. It then climbed to well over 7% in a few months the same year

indicates the duration for which the investments are being made. Even for equity investments, it is not clear that the average tenure is likely to be more than 10 years. So, we recommend not adding any term structure spread to the average yield.

The SBI Caps report has recommended the same approach as NIPFP for calculating risk free rate.

We have updated the estimate, by taking into account the latest information. The following graph plots the yields on 10-year Government of India bonds from March 21, 2002 to March 21 2012.



The average yield of 10 year Government of India bonds during this time period was **7.23%**. We recommend taking this as the risk free rate for Indian investors.

The corresponding estimate for the last 3 years is **7.8%**, and for 5 years is **7.78%**.

5 Equity risk premium

We estimated the equity risk premium (ERP) for India by taking observed historical equity risk premium in US markets (4.31% as per estimates when

the report was being prepared[5]) and adding the default spread implicit in India's country rating (2.4%, based on the local currency sovereign rating of Ba1 at that time). This gives 6.71% as the ERP for India. Since then, India's local currency sovereign rating has improved to Baa3, which translates to a default spread of 2%, and the historical equity risk premium in US markets has been revised downwards to 4.10%[6]. So, using this method, equity risk premium in India is now **6.10%**.

Though the SBI Caps report has recommended estimating ERP for India based on returns on BSE Sensex for the last 21 years, the report also discusse this approach of using ERP for mature markets. But instead of taking the historical average in US markets, it considers the *implied equity premium* at present. Prof. Damodaran discusses several approaches for estimating the equity risk premium in US, including those involving implied risk premium and risk premium based on historical averages. These are listed and outlined below (along with estimates given in the March, 2012 version of the paper):

- Historical - US (geometric average - stocks over treasury bonds for 1928-2011): 4.10%
- Historical - 19 mature equity markets (from Dimson, Marsh and Staunton): 3.50%
- Current Implied premium (from S&P 500 January 1, 2012): 6.01%
- Average Implied premium (Average of implied equity risk premium: 1960-2011): 3.99%
- Implied premium adjusted for Treasury Bond rate and term structure (using regression of implied premium on Treasury Bond rate): 3.50%

The current implied risk premium is quite volatile, changing significantly every month. Implied equity risk premium on March 1, 2012 was 5.52%, and on April 1, 2012 it climbed to 6.19%, which is an increase of more than 12% over the previous month's value. This estimate typically responds to any ongoing events in the markets. For example, as Prof. Damodaran discusses in his paper, In a period of a month, the implied equity risk premium rose from 4.20% on September 12 (2008) to 6.39% at the close of trading of October 10 (2008). Since the global financial crisis, the volatility of the implied risk premium has increased, and it is likely that due to the ongoing Euro-zone crisis and other events, the current implied premium may be climbing up. Things could get better and that would reflect in the estimate then.

[5]This was for period 1928 to 2010

[6]The revised estimate of historical average is for the period 1928 to 2011

The context of this exercise is important to consider here. As Prof. Damodaran discusses in his paper, where the equity risk premium is used to come up with a cost of capital, it may be more prudent to build in a long-term average (historical or implied) premium. If the exercise we are conducting for calculating Cost of Equity, which is supposed to be used for calculating tariffs for the airport, was to be done on a monthly (or quarterly) basis, we would probably recommend using this measure, because it would, over a period of time, smooth out the impact of some short-term sentiments in the markets. But this exercise is to get estimates for the next few years, and therefore using this approach is not reasonable, because the current implied premium may not hold even for a month, and in a year it could very well increase or decrease by several percentage points. The alternative is to consider either the average implied risk premium (3.99%), which is almost as good as current implied premium in terms of its predictive power, or the historical premium (4.10%). We decided to use the historical premium mainly because the estimates for this are available for a longer period of time, and for the time period for which these two data sets are available (1960-2011 for implied premium and 1928-2011 for historical premium), the values do seem to converge. It would also be reasonable to take average implied risk premium.

DIAL's response criticises the decision to simply add the default spread, instead of adjusting it for relative risk of country equity and country debt, and then adding it to historical equity risk premium. The response cites Prof. Damodaran's paper, which is also cited by NIPFP in its report.

Prof. Damodaran's paper discusses three approaches:

1. *Adding default spread to mature market equity risk premium:* As discussed above, this approach yields an equity risk premium of 6.10% for India.

2. *Adjusting the mature market equity risk premium for relative equity market standard deviations for the mature market and the country for which the estimation is being done:* The formula, if we take US as a benchmark mature market, is:

   Equity Risk Premium (India) = Equity Risk Premium(US)*(Standard deviation in equities (India)/Standard deviation in equities(US)).

   Based on the current relative standard deviation of equities in India (19.87%) against those in the US (19.55%), this approach yields a equity risk premium of 4.17% for India.

3. *Adjusting the default spread for the relative risk of country equity and*

country debt, and adding this adjusted default spread to mature market equity risk premium: In this approach, country risk premium is not just the default spread, but the adjusted default spread. Assuming US as a benchmark mature market, the formula is:

Equity Risk Premium (India) = Equity Risk Premium (US) + Default Spread (India)*(Standard deviation of Indian equities/Standard deviation of Indian bonds)

Based on the current Default Spread for India, and Standard deviations of Indian equity index (19.87%) and Indian ten-year bonds (8.01%), this approach yields equity risk premium of 9.06%.

Each of these approaches can be acceptable, depending on the purpose and the context. As Prof. Damodaran recommends in his paper, the first and second approaches are suitable for a longer-term perspective on equity risk premium. For this exercise, we have to take a long-term perspective of equity risk premium in India, given the nature of the asset (long-term infrastructure asset), and the length of regulatory cycles. Prof. Damodaran clearly states that the third approach is only relevant for the near future (up to a year), and in the long run, the first or second approaches should yield suitable estimates of the equity risk premium in a country.

We closely considered the third approach. We found that the volatility of relative standard deviation of equities and bonds (in the third approach) is quite high, and it can vary from less than 1 to well above 2 within the same year, translating into an increase of multiple percentages. Interestingly, at present, India has the highest relative standard deviation in the world (2.48), which translates to a very high default spread adjusted for relative standard deviation. In our opinion, this is not representative of a real increase in risks. Conceptually, the arguments we made for using a historical basis for risk free rate are relevant here as well. Making the regulatory decision highly dependent on the current values of such a volatile variable is not a good idea, because this measure is supposed to help estimate the equity risk premium, but the level of volatility seen in the measure doesn't seem to indicate that the measure adequately captures the adjustment to be made to default spread.

If the third approach is to be considered, the equity risk premium should not be simply taken on the basis of the present estimate of relative standard deviation. This should be adjusted to reflect the expected decline in ERP over longer periods of time. So, even though the adjusted default spread may useful for estimating for short term (a year), in longer run, the equity risk premium would be much lower. One way to do this is to consider the a lower

relative standard deviation for adjusting the default spread. It is difficult to estimate this, but an approximation can be obtained by the median relative standard deviation from the sample of countries listed in Prof. Damodaran's paper (1.63). SBI Caps report use 1.5 as the relative standard deviation. This would result in an Equity Risk Premium: 4.1 + 2 X 1.63 = **7.36%**. This is likely to be an over-estimation of ERP over a period of time extending beyond a year.

Considering this issue in another way, since over a longer period of time the ERP is expected to converge around estimates provided by either the first or the second approach, but the short-term ERP may be higher, AERA could consider adjusting the default spread upwards by a small factor, to reflect the higher expected ERP in the near future. We are not aware of a methodology of doing this adjustment, but it is likely to be less than or equal to the estimate discussed in the previous paragraph.

The ERP calculation in the SBI Caps report is based on the returns on the BSE-Sensex Index from Feb 1, 1991 to Jan 31, 2012. In our view, this is not the correct approach to take for calculating equity risk premium for the Indian market, and the reasons for this have been presented in detail in the NIPFP report to AERA. Following is an excerpt from the NIPFP report on this issue:

> *Even though typically the return on an Indian Index (say, Sensex, BSE100 or Nifty) is considered for estimating the equity risk premium, this approach, in our considered view, is not appropriate for India. This is because the statistical precision of estimation of the equity risk premium based on historical data significantly hinge on the time horizon of the data.*
>
> *Even if we take observations with higher frequency (say daily, or even intra-day), it will not help because the larger number of observations will still be capturing the effects of the same overall events. For example, if we take the returns on Sensex from January 02, 1991 (BSE Sensex: 999) to January 02, 2008 (BSE Sensex: 20465), we see that the index climbed almost twenty times during this period. But after one year from January 2008, on January 02, 2009, the index had crashed to less than half of its closing value a year ago (BSE Sensex closed at 9958). So, the Compounded Annual Growth Rate (CAGR) from January 02, 1991 to January 02, 2008 was 19.44%, but that from January 02, 1991 to January 02, 2009 was just 13.63%. With just one year's difference in reference point, the change in CAGR is almost 6%.*

This kind of volatility affects the average returns significantly, biasing them due to some events. Taking a longer time horizon can minimise this problem. So, the standard sources use very long time-series.[7] *In India, the time-series for equity index returns only starts in April 1979 (BSE Sensex, excluding dividends), but at that time, interest rates are not observed. Until recently, most interest rates were not deregulated, so what we're seeing as observed interest rates is untrustworthy. Another important factor for India is that the liberalisation of 1991/1992 was a one off event which resulted in a doubling of stock prices and such an event is not expected to get repeated in the foreseeable future. This would tend to bias historical returns over a short span upwards. Hence, we need to find an alternative approach.*

In summary, the approach recommended by NIPFP provides more realistic and stable estimates of equity risk premium over a period of time, and therefore we recommend 6.1% as Equity Risk Premium.

6 Beta

Beta is a measure of volatility in an asset's price vis-a-vis the volatility in the market. It is not a measure of the asset's volatility or risk as such, but only that relative to the market. Since none of the airports in India are listed on stock markets, we do not have access to readily available historical estimates of Beta. So, we had to turn to data from other comparable companies. In this context, we made the following key choices:

1. We decided to consider the asset Beta for foreign airport companies as comparators
2. We decided to consider a large sample of airport companies, and not just emerging market companies
3. We decided to extract the asset beta values from a report by Strategic Finance Group, submitted to New Zealand Commerce Commission.
4. We adjusted the asset Beta estimates to reflect the unique factors in the environment faced by the Indian airports.

[7] Dimson, Elroy, Marsh, Paul and Staunton, Mike. "Global Evidence on the Equity Risk Premium". Journal of Applied Corporate Finance, Vol. 15, No. 4, Summer 2003

DIAL's response has criticised the quality of beta estimates extracted from the SFG report.

After carefully considering DIAL's response, we decided to reconsider the list of airport companies, and calculate betas for these companies on our own, rather than extracting from the SFG report. We have decided to drop Dynacorp (USA) and Multiplus SA (Brazil) from the list, and to include Australian Infrastructure Fund, Airports of Thailand, Aeroporto Di Firenze, and Sydney Airport. DIAL's response states that some of the companies should be excluded from the NIPFP report because they are not in the business of owning or operating airports. We have included some such companies if it seems that their businesses are directly and highly airport-dependent (these are: Beijing Airport High-Tech Park Co., Derichebourg, and Infratil).

We have calculated the beta values for all the companies we finally decided to include in the list. The asset beta estimates were obtained by the following process:

1. We calculated the equity beta for the companies based on weekly data for the last three years, using the formula: $\beta_e = \text{Cov}(r_s,r_m)/\text{Var}(r_m)$; where r_s measures the rate of return of the company's stock, r_m measures the rate of return of the stock market (index), $\text{Cov}(r_s,r_m)$ is the covariance between the rates of return, and $\text{Var}(r_m)$ is the variance of the stock market.
2. We then delevered the equity beta to obtain the asset beta values for each of the companies, using the formula: $\beta_a = \beta_e/(1+(1\text{-tax rate})*(D/E))$; where *tax rate* is the corporate tax rate for the airport company, D/E is the average debt/equity ratio for the previous five years, with D being total debt and E being market value of total equity.

It is useful to note that the beta estimates in this report are not adjusted for any factor. SBI Caps report uses adjusted equity beta estimates. Table 1 contains the revised list of 29 airport companies, and the relevant information about them. We have calculated the asset betas using Debt/Equity Ratios with book value of equity as well as market value of equity.

After de-levering and calculating asset beta for these airport companies, we have estimated a weighted average of these asset betas. We have assumed weights to be inversely proportional to the standard error of individual betas and sum of the weights equal to one as the constraint. Please note that we did not consider an outlier value (0.08 equity beta for Aeroporto di Firenze). This gives us the asset beta value of **0.61** if we use DER with market value

Table 1 Asset Beta Calculation

Company	Country	β_e	$D/E(m)$ [1]	$D/E(b)$ [2]	Tax	$\beta_a(m)$ [3]	$\beta_a(b)$ [4]
Aeroporto di Firenze	Italy	0.08	0.08	0.28	31.4	0.08	0.07
Aeroports de Paris	France	0.77	0.53	0.89	33.33	0.57	0.48
Airport Facilities Co. Ltd.	Japan	0.74	0.70	0.41	40.87	0.52	0.59
Airports of Thailand	Thailand	1.28	1.10	0.85	30	0.72	0.80
Auckland International Airport	New Zealand	0.82	0.44	0.53	30	0.63	0.60
Australian Infrastructure	Australia	1.17	0.11	0.06	30	1.09	1.12
Beijing Airport High-Tech Park	China	1.27	0.40	1.16	25	0.98	0.68
Beijing Capital International Airport	HK	1.08	0.77	1.00	16.5	0.66	0.59
Derichebourg SA	France	1.52	1.59	3.01	33.33	0.74	0.50
Flughafen Wien AG	Austria	0.97	0.90	0.82	25	0.58	0.60
Flughafen Zuerich	Switzerland	0.88	0.60	0.78	20	0.60	0.54
Frankfurt International Airport	Germany	0.92	0.92	1.28	33.33	0.57	0.50
Gemina S.p.A. (GEM)	Italy	0.88	1.78	0.87	31.4	0.40	0.55
Grupo Aeroportuario Del Centro Norte	Mexico	0.68	0.08	0.11	30	0.64	0.63
Grupo Aeroportuario del Pacifico	Mexico	0.62	0.05	0.04	30	0.60	0.61
Grupo Aeroportuario del Sureste	Mexico	0.52	0.02	0.03	30	0.51	0.51
Guangzhou Baiyun International Airport	China	0.91	0.17	0.27	25	0.81	0.75
Infratil Limited	New Zealand	0.71	2.30	2.66	30	0.27	0.25
Japan Airport Terminal Company	Japan	0.60	0.47	0.46	40.87	0.47	0.47
Kobenhavns Lufthavne	Denmark	0.29	0.29	1.04	25	0.24	0.16
Korea Airport Service Co. Ltd.	Korea	0.73	0.36	0.15	24.2	0.57	0.65
Malaysia Airport Holdings BHD	Malaysia	0.61	0.23	0.39	25	0.52	0.47
SAVE	Italy	0.54	0.29	0.35	31.4	0.45	0.43
Shanghai International Airport	China	1.00	0.10	0.22	25	0.93	0.86
Shenzhen Airport Co., Ltd	China	0.68	0.05	0.01	25	0.66	0.68
Singapore Airport Trml Svcs	Singapore	0.76	0.09	0.12	17	0.71	0.69
Sydney Airport	Australia	1.01	1.42	1.80	30	0.51	0.45
TAV Havalimanlari Holding	Turkey	0.70	1.49	3.17	20	0.32	0.20
Xiamen International AIR-A	China	0.80	0.01	0.02	25	0.79	0.79
	Wt. Ave.		0.43	0.37		0.61	0.58
	Median					0.59	0.59

[1] Debt Equity Ratio with market value of equity
[2] Debt Equity Ratio with book value of equity
[3] Asset value delevered using Debt Equity Ratio with market value of equity
[4] Asset value delevered using Debt Equity Ratio with book value of equity

of equity, and **0.58** if we use DER with book value of equity for the airport companies. The difference between these values is negligible, but we recommend using the market value of equity for this exercise.

This can be further adjusted for the mitigating factors discussed in the original report. After adjusting, the asset beta should be around **0.55** range. AERA may consider any value in the range of 0.45 to 0.65, because this is the range in which the asset beta value of DIAL is likely to be.

The other argument from DIAL was that there is a strong case to include only emerging market airports in the estimation, because their beta values are likely to be more representative of those for airports in India. The SBI Caps report considers only airport companies from emerging markets as comparators for Indian airport companies. We considered these arguments and do not agree with them, because of the following reasons:

- It is not obvious from the arguments listed in the DIAL response and SBI Caps report how the developed or emerging nature of an airport's market would affect the volatility of its business vis-a-vis the market volatility, or, in the language of portfolio management, the risk it would add to a fully diversified portfolio. Beta is essentially a measure of this *systematic risk* or risk that cannot be diversified away in the portfolio. It is not a measure of the individual risk of the company or the asset. It is possible that even in a mature market, if measures to manage systematic risk are not in place, an economic downturn can have a significant impact on the returns for an airport asset, in some cases more than the change in the market due to economic downturn.
- *Stage of the economy (emerging/developed)* is just one way to divide the sample into subsets, and there can be many other such variables along which this could be done. Since the private airport business in general, and these new mega-airports (like DIAL) in particular are relatively new, and AERA has a unique regulatory approach (discussed later), it is not possible to say at this stage which subset of airport companies would be the best comparators for DIAL. So, it seems more reasonable to us that, for this regulatory cycle, we take a large sample set that takes care of the uninformed biases in selecting a subset of airports (based on factors such as stage of the economy (emerging/developed), size of the airport, region (Asia/Rest of the world), type of traffic (business/leisure), and so on). As we come to understand more, it could be reasonable to take a bottom-up approach to constructing the beta, or take a smaller sample of comparable airport companies. In our view, at this stage, neither of these approaches is feasible.

- Though this is not the reason we decided to include developed as well as emerging market airport companies, we must point out that accepting the argument of considering only emerging market airport companies would come with its own problems, such as too much dependence on beta values of Chinese airport companies (6 out of 10 included in the list in DIAL response[8]), which may not be comparable to Indian airport companies in many ways.

We also do not accept the *sense check argument* as submitted in DIAL's response - that the beta for India's airports cannot be lower than that for developed market airports. Conceptually, the systematic risk faced by a company depends on many factors, including the regulatory environment faced by it. None of the reasons cited in the DIAL response for including only emerging market airports consider the factors specific to Indian airports, and why they may be comparable only to emerging market airports. For example, the de-risking measures (granting monopoly for a certain area, UDF to cover shortfall in revenues) by AERA are unique to India[9]. These could work as mitigants against systematic risk. The DIAL response gives example of airports from UK (Heathrow and Gatwick) whose beta values are higher than what we estimate for DIAL. These airports in UK do not enjoy the regulatory protections listed above.[10] In this sense, Prof. Martin Cave's submission is useful to consider, because he explains *sense check* in the sense that the methodology should not give an estimate that is clearly not reflecting the context of the industry and the country. Given the de-risking measures put in place for airport companies in India, the asset beta estimate seems reasonable.

Another important factor to consider in DIAL's case is that a significant part of its revenue is expected to come from non-aeronautical sources, such as monetisation of the land it has been given on lease. Many of these revenue sources may not move with the overall market, because DIAL would typically earn rent or lease income, and if there is a downturn, the organisation taking the lease would usually absorb the losses, ring-fencing DIAL from such a shock.

Empirically, as can be seen in Table 1, many of the emerging market airports have betas well below those of developed market airports.

[8] 9 out of 10 airport companies included in the DIAL list are Chinese or Mexican
[9] As told by AERA
[10] Heathrow, for example, has to compete with two other airports in London

We accept the argument that it is possible that typically the macro-economic shocks would be likely to be strongly transmitted to the airport sector in a period of high traffic growth, but it is not clear to what extent this can be expected to happen in India's airports, given the mitigants in place and the revenue sources. It is possible that the beta estimates we have arrived at should be sufficient to cover for such risks.

7 Relevering

For relevering the asset beta, NIPFP had recommended using an estimate of market value of DIAL's equity. The estimate was based on a recent report by Bank of America on GMR's valuation, which had provided an estimate of market value of equity for DIAL. This approach has been criticised by DIAL on the following counts:

- Since the analyst would have estimated a probable regulatory outcome to determine the market value, there is circularity in this approach.
- Estimates of market value of equity by analysts can have a wide range, and can therefore not serve as a reliable basis for tariff determination.

DIAL response recommends using the book value for this purpose, because market value is not available.

The SBI Caps report considers an normative Debt Equity Ratio (1.5:1) to relever the asset beta to get equity beta for the airports.

In our opinion, using book value of equity is not appropriate, because book value does not indicate any significant economic information (Prof. Varma's response also indicates this), and the difference between book value and market value can be enormous. In India's context, this approach would yield some absurd estimates of cost of equity, because there are airports with DER of more than 4 (Bangalore) and 6 (Hyderabad). There is no evidence that the risk for equity holders in airport companies increases to this extent by financial leverage, especially in the context of India, where the risks to equity holders have been significantly mitigated, giving assured returns to them. The process of relevering should therefore ideally be based on a realistic value of equity and debt, because then the Debt Equity Ratio truly indicates the true level of leverage in a company. If AERA decides that this approach of estimating market value of equity for relevering is not appropriate from a regulatory point of view, it may consider the normative approach to estimate DER.

So, there are two alternatives:

- To estimate a normative Debt Equity Ratio: As suggested in the SBI Caps, we can estimate a normative Debt Equity Ratio (DER) that is likely to be observed in steady state for airport companies in India.
- To estimate market value of equity: In the absence of any market information on the value of equity, we can estimate the value of equity using some standard method (Discounted Cash Flow Method, Relative Valuation Method, etc).

7.1 Using a Normative Approach

The normative approach is better than relevering on the basis of current book value of debt and equity, and can be a reasonable option in the absence of any reliable estimate of market value of equity. AERA may want to consider using this approach, if it does not want to use our estimate of market value of equity (discussed in the next sub-section). In our sample set of foreign airport companies, the weighted average DER for the airport companies is 0.37 (using book value of equity) and 0.43 (using market value of equity).

We have estimated the DER for infrastructure companies in India. Using a sample of 109 companies with total assets worth more than Rs. 100 crore (from CMIE Prowess database), and after leaving out extreme outliers, we found the average DER of 1.56. This can be taken as an indicator of the level of leverage in infrastructure companies in India. The SBI Caps report also indicates that the infrastructure projects in India are usually financed with DER ranging from 1 to 2. The DER for airport companies in India at present has a wide range (from 0 to more than 6), with the average of DER of 1.17.[11]

The normative DER of airport companies in India is likely to be somewhere between the estimates from foreign airport companies and the Indian infrastructure companies, because the normative DER is dependent on both the nature of the airport business as well as the practice of infrastructure financing in India. We recommend AERA to consider a normative DER somewhere in this range. AERA can consider 1.2 as the normative DER.

SBI Caps report argues that this choice of normative DER is on the basis of observed norms in the field of Indian infrastructure companies. It is not clear if these companies are indeed directly and exclusively comparable with

[11] Information received from AERA

airport companies. SBI Caps itself has considered only foreign airport companies for computing the beta values. In our view, the normative approach should use information about DER in foreign airport companies as well as that in Indian infrastructure companies.

7.2 Estimating Market Value of Equity

In our view, if a reasonable estimate of market value of equity can be obtained, it would provide the best input for relevering purposes. Having rejected the idea of using book value of equity for relevering, we sought to find a good estimate of market value of equity, from an objective source. Bank of America is a reputed institution, and its report was likely to be credible.

The issue of *circularity* is unavoidable, whether we use analyst reports or any other source for estimating market value of equity. Even for listed airport companies, the valuation assumes some regulatory outcomes, and the market assigns certain value to the companies' equity. Therefore, this issue cannot be avoided.

Though there is still no reason to believe that the analyst's report was biased in any way, we do accept the limitation of an approach based only on one analyst's report. So, as an alternative, we have also done valuation of DIAL's equity based on: a *Discounted Cash Flow* method, and *Relative Valuation* using the information from recent equity transactions for airport companies. This exercise is summarised below.

7.2.1 Valuation of DIAL Equity

The two approaches to valuation most commonly for the purpose of valuing a business are:

- Discounted Cash Flow - measures the value of an asset as the present value of the expected future cash flows to be realised from that asset
- Relative Valuation - estimates the value of an asset by looking at the pricing of assets which can be considered comparable to the one under consideration in terms of the growth, risks and cash flow characteristics. The pricing in this approach needs to be decided by transactions in the market.

We have used for both methods for valuing the equity of DIAL, so that we can get a reasonable estimate of the range of likely valuations. While the relative valuation method is based on the benchmark of market value as

revealed in other transactions, the discounted cash flow approach is based on an analyst's research and view of the future of the business in terms of revenues, expenses, growth rates, discount rates, etc. So, both methods are somewhat different, but they can complement each other, in the absence of any information from market transactions of the concerned firm's equity.

The details of the methods are outlined in Annexure 1. In summary, the DCF valuation puts the value of DIAL's equity at Rs. 11,530 crore (in the most likely scenario). The relative valuation approach provides an estimate of Rs. 11,451 crore. As is obvious, these estimates are very in the same ballpark.

Several analysts have been attempting to carry out a valuation exercise of GMR Infrastructure Limited through a Sum of the Parts (SOTP) DCF approach for various purposes. The SoTP DCF approach involves estimating value of equity investments in large projects of the company. Given that GMR Infrastructure Limited has a 54% stake in DIAL, the value of equity of DIAL can be deducted from these reports. Two such reports by Espirito Santo Securities - Indian Equities and Bank of America Merrill Lynch put the value of equity of DIAL at Rs. 11605 crore. This estimate is in the same ballpark as those from the relative valuation (price to book value) method and the DCF method.

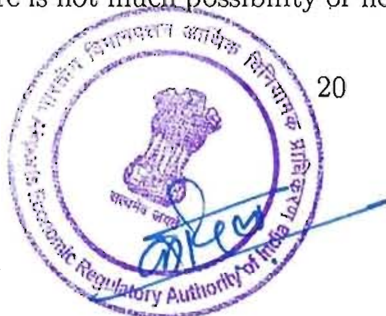
We recommend considering Rs.**11,500 crore** as the value of equity for DIAL.

Considering that total debt is Rs. 5420 crore, this gives the DER of **0.47**. Please note that this is close to the average DER (using market value of equity) in our sample set of comparator airport companies, which comes to 0.43.

8 Cost of Equity for Delhi International Airport Limited

Based on the estimates discussed in the previous section, we now provide certain scenarios to compute the cost of equity for DIAL.

We recommend taking 7.23% as the risk free rate, 0.55 as the asset beta, ERP of 6.1% and 33% as the tax rate. If AERA wants to consider more scenarios for risk free rate, beta, and ERP, the number of scenarios would increase and the range of potential values would widen. On risk free rate and tax rate, there is not much possibility or need to consider more scenarios. On



the value of asset beta, more scenarios could be considered. For instance, if AERA decides not to adjust the value of asset beta for regulatory mitigants, the asset beta value would be slightly higher. Similarly, if AERA decides to include only emerging market airports the asset beta would be about 0.1 higher than the presented estimate. We do not recommend considering these scenarios, because we think the asset beta value recommended here is appropriate. Similarly, on ERP, it is possible to adjust the default spread for relative standard deviation of equities with bonds, but we do not recommend doing so.

As discussed in this report, we do see the possibility of considering multiple approaches to estimating DER. We have presented the cost of equity on the basis of alternatives of estimating DER below.

Based on the two approaches for estimating DER we discussed earlier, the equity beta values for DIAL are computed below.

$\beta_e = \beta_a$ X (1 + (1-tax rate) X DER)

β_e for DIAL (using the normative DER) = 0.55*(1+(1-0.33)*1.2) = 0.99

β_e for DIAL (using the DER based on market value of equity) = 0.55*(1+(1-0.33)*0.47) = 0.72

So, these two values of equity beta, give the following estimates of cost of equity:

1. DER based on normative approach (1.2).

   This would provide the cost of equity = 7.23 + 6.1*0.99 = **13.30%**

2. DER based on estimate of market value of equity (0.47).

   This would provide the cost of equity = 7.23 + 6.1*0.72 = **11.6%**

So, the range of cost of equity, based on these combinations of scenarios is **11.6% to 13.30%**. Considering possibility of errors in some of the estimates, we can consider this range to be from 11% to 14%. AERA can consider a value within this range. A key decision AERA whether it wants to consider the estimation of market value of equity provided by NIPFP in this report, or consider a normative approach for estimating DER.

9 Data Sources

For the calculation of Asset Beta following sources have been used:

- Datastream
- Website on World Tax Rates 2010 and 2011

Datastream is a comprehensive on-line historical database service provided by Thomson Financial that encompasses a broad range of financial entities and instruments with global geographical coverage. Datastream includes data on daily prices, return indices, bonds, market indices, exchange rates and macroeconomic variables.

To delever equity beta, to obtain asset beta, the total debt and value of total equity (book value as well as market value) were taken from Datastream and tax rate which is the corporate tax rate for each airport company was taken from a website giving world tax rates for select countries for 2010 and 2011.[12]

Datastream defines the above mentioned variables as:

- Company's stock price- Represents closing stock price for a company. For each of the 29 airports stock prices were extracted individually in the currency of the market in which they operate.
- Local market price index- This datatype returns time series data for the benchmark local price index for a given equity. This index gives the stock market index for the market in which each of the 29 airports taken operate.
- Total Debt- Represents all interest bearing and capitalized lease obligations. It is the sum of long and short term debt.This data is available annually on Datastream.
- Market value of total equity- Market Price-Year End * Common Shares Outstanding. If Common Shares Outstanding is not available for the current year or prior year, then Common Shares Outstanding-Current is used. For companies with more than one type of common/ordinary share, market capitalization represents the total market value of the company. This data is also available annually.

[12]ttp://www.taxrates.cc/Historical-Tax-Rates/historical-tax-rates.html

10 Annexure 1: Valuation of DIAL's Equity

The valuation process based on the two methods are described in the subsections of this Annexure.

10.1 Relative Valuation Approach for Valuing DIAL's Equity

For using the Relative Valuation approach, we need to select firms that can be considered as comparable to DIAL. Given the nature of private airports business in India, a natural choice as comparable firms for the purpose of this exercise is other privately owned airports.

Privatisation of airport operations in India is a fairly recent occurrence, with most airport concession agreements being signed after 2005. Since this time, India has developed three brownfield airports and two green field airports, through the Public Private Partnership (PPP) model. Financial transactions such as a stake sale or swap serve as indicators of the market value of the companies under consideration. Between March 2009 and October 2011, there have been four equity transactions across three private airport operator companies in India. These firms are Bangalore International Airport Limited (BIAL), Mumbai International Airport Limited (MIAL) and the Delhi International Airport Limited (DIAL) itself.

10.1.1 Background and Analysis of Transactions

Factual snapshots of the four transactions referred to above have been presented in detail in Appendix1 to this report. A summary of the context in which these transactions were concluded is presented here in order to understand the level of comparability to the circumstances under which the valuation is being undertaken.

- Transaction 1 was essentially a swap between shares of DIAL and shares of GMR Infra, with shares of GMR Infra being issued at the rate of Rs. 57.5 per share. While the transaction took place due to the requirement of liquidity by the seller (Infrastructure Development Fund) and resulted in greater controlling stake for GMR Infra, the transaction took place at a time when the Terminal 3 at IGI airport was not complete and hence the price can be presumed to have significantly

factored in execution risk. Terminal 3 was opened for usage in July 2010, 14 months after the conclusion of this transaction.

- Transaction 2, which concluded in December 2009, involved transfer of shares in Bangalore international airport was concluded in 2 phases with 2 separate sellers L&T Infra and Zurich Airport. The reason they have been classified as a single transaction is that the buyer (GVK Power and Infra) and the price were same. GVK which had a small stake prior to the buy became the largest shareholder along with Siemens. As per media reports, through this transaction GVK established a longer term collaboration with the counter parties in this transaction, to partner on future airport works and hence it appears that the price in this particular transaction had extraneous considerations driving up the price.
- Transaction 3 concluded in August 2011, involving transfer of shares in Bangalore International Airport Limited. The buyer was GVK Infra and the seller was Siemens. The shares were purchased at a price of 105 per share in exercise of GVK's right of first refusal after Siemens received an offer for that amount from Changi International Airport.
- Transaction 4 concluded in October 2011, involved a transfer of shares in Mumbai International Airport, with GVK buying 13.5% shares that resulted in them securing a controlling stake in the airport operations. The stake sale happened at a time when the modernisation of existing infrastructure at the airport was nearly complete with only works in terminal 2A underway.

Transaction details are listed in Table 2.

10.1.2 Ratios

In order to arrive at the market value of equity in DIAL by comparison with the value of equity of other private airports, we need to standardise these values by scaling them to a common variable. This is generally achieved by standardising the values relative to the firms earnings, book value of equity, revenues or other measures that may be specific to the particular sector. The commonly used ratios are[13]:

[13] Aswath Damodaran. November 2006. Valuation Approaches and Metrics: A Survey of the Theory and Evidence.

Table 2 Transaction Details

Details	Transaction 1	Transaction 2	Transaction 3	Transaction 4
Date of Transaction	May 10, 2009	Dec 5, 2009	Aug 23, 2011	Oct 18, 2011
Name of Entity	DIAL	BIAL	BIAL	MIAL
Buyer	GMR Infra	GVK Power & Infra	GVK Power & Infra	GVK Airport Holdings
Seller	India Development Fund	L&T & Zurich Airports	Siemens	Bid Services
Transaction Value [1]	149.72	1170	614	1141.371
Stake Size	3.90%	29.00%	14%	13.50%
Implied Market Value of Co.	3838.97	4034.48	4385.71	8454.60
Book Value [1]	2513	234.29	443.4	1585
Debt [1]	8573	1743.12	1619.2	3843
Balance Sheet Size [1]	10870	1977.41	2062.6	5428
EBITDA	122	160.00	362.12	255.4
Sales	958	309.50	875.7	1179.35
Net Sales [2]	517	297.12	840.67	742.99
Market Value/Book Value	1.53	17.22	9.89	5.33
EV/EBITDA	101.74	36.11	16.58	48.15
EV/Sales	15.35	19.42	7.36	11.77
EV/Net Sales	23.99	19.45	7.14	16.55
GOI/AAI Revenue Share	45.99%	4%	4%	37%

[1] Value in Rupees Crore
[2] After Revenue Share

- Price/Book value: This is one of the most commonly used ratios for the purpose of relative valuation. Since the market value of the equity deployed in a business reflects the markets expectation of the firms earnings, this ratio should ideally converge for comparable firms.
- Enterprise Value/Total Sales: Another ratio commonly used is the value of the business to the revenues that it generates. Enterprise value is the value of the assets of the firm. This ratio essentially indicates the ability of the business to generate revenues by deploying the assets.
- Enterprise Value/Net Sales: Airport Operators in India are required to pay a significant revenue share to Airports Authority of India. For the purpose of valuation of DIAL based on comparisons with deals as mentioned above, we have modified the traditional approach to reflect *Net Sales* which is the sales adjusted for the revenue share payable by the airport operators to the Airport Authority of India.
- Enterprise Value/EBITDA: This ratio is similar to EV/Total Sales, however this takes into account the operating expenses of the firm as well. So this can be considered as a measure of the cash flows generated

by the operating assets of the firm, before deducting for taxes, finance cost and depreciation. A limitation to using this for an airport that has recently incurred huge capital expenditure is that the EBITDA wont be a normal number. A work around could be projecting EBITDA into a future time where EBITDA would normalise. This would however require building a DCF projection model which is beyond the scope of this report.

Prof. Damodaran notes that the usage of appropriate multiples varies from sector to sector, with ratios like Enterprise Value/EBITDA and Enterprise Value/Total Sales being more relevant to heavy infrastructure businesses, and price to book multiples being more common in financial services businesses. We have therefore used all the approaches as suggested to arrive at a range of valuations.

10.1.3 Estimating Valuation of Equity for DIAL

A limitation we face in arriving at the result using the relative valuation method is the relatively small number of precedent transactions. Also, since the privatisation of airports is a fairly recent occurrence, relative to the concession periods and the long gestation periods of large infrastructure projects, the ratios arrived at from the transaction data provide us with a wide range of numbers for the various multiples.

Transactions 1 and 2 took place in circumstances that were extraordinary and thus incomparable for the purpose of valuation of DIAL in current circumstances without significant and potentially very subjective adjustments. Transaction 1 to be useful would need to be adjusted for execution risks that would have presumably driven down the price and transaction 2 would have to be adjusted for considerations that represent the premium paid to Zurich Airport and L&T Infra to enlist their collaboration for future airport projects that GVK would bid for and secure. Also, given the significant changes in the airport sector during the last few years, these two transactions are somewhat dated.

The information content of transactions 3 and 4 is therefore much more useful for relative valuation of DIAL.

Adopting the enterprise value to net sales multiple would require a similar kind of weighted multiple to be adopted to arrive at the valuation number. Sales as at March 2011 for DIAL are non-representative, because of a robust growth given the opening of the T3 terminal only in that year. Because of

Airports Economic Regulatory Authority of India

this, the approaches of using ratios of Economic Value to Sales (or EBITDA) are not likely to work.

Taking a price to book approach, the combined price to book ratio of transactions 3 and 4 weighted by their balance sheet size comes to 6.6. The transactions being in the second half of 2011, this number can be directly applied to arrive at a DIAL valuation. The book value of DIAL on March 31, 2011 was Rs. 2082 crore. Applying a 6.6 multiple to this, the value of equity on that date would be Rs. 13,740 crore. It can be argued that the multiple for DIAL may be somewhat lower than this multiple, because DIAL is in early stages compared to the other two airports and faces risks related to future growth. So, we recommend taking a multiple of 5.5 for DIAL, which gives the equity valuation of Rs. 11,451 crore.

10.2 Discounted Cash Flow Valuation of DIAL's Equity

10.2.1 Approach to DCF Valuation of DIAL's Equity

An appropriate discounted cash flow (DCF) model is one that can yield a value that reflects intrinsic value given access to the right information and projection ability and require minimum model level adjustments on a per decision basis. While carrying out a DCF valuation requires the simulation of the entire business model, if done well, it is also one that can capture detailed assumptions sets based on which the business is being modelled for a valuation.

The Delhi International Airport Limited is the first private airport operator whose equity requires valuation. The available information set at this point in time is primarily

1. Charter Documents of DIAL
2. Annual reports of DIAL between 2006-2011
3. Concession Agreements
4. Few studies on Traffic and operating expenses
5. DIAL filings with AERA
6. AERA Consultation Papers and Orders

Capital assets form most of the assets side of an airport (usually greater than 90%). DIAL has recently commissioned Terminal-3 (T3) and nearly all of the projected capital expenditure has already been incurred. Projecting fixed asset positions into the future will involve understanding reinvestments where necessary and including such reinvestments in relevant years. DIAL proposes to undertake another round of expansion to increase terminal capacity from 60 million passengers per year to 100 million passengers per year.

Revenues are primarily aeronautical and non-aeronautical. Tariff structures are available to us. Some studies have been carried out to estimate traffic at DIAL in the coming decade, which can be used with some modifications. Non-aeronautical revenues however represent multiple business lines. While traffic would represent the universe for each of these businesses, assumptions around revenue are required for each of them. An alternative approach would be to take the historical revenues and apply a suitable growth rate to each line item and arrive at the projections. We have followed the latter.

Operating expenses broadly are personnel, utilities, administrative expenses and financing costs. Each of these can have multiple drivers, especially in a scenario where multiple terminals and runways are added to the existing infrastructure over time. More exploration is necessary to establish these relationships with a higher level of accuracy.

It is important to note that DIAL has invested in multiple companies that either perform support services or are pursuing avenues for non-aeronautic revenues. The revenue rights of DIAL over these joint ventures can be ascertained to achieve a higher level of accuracy in the projected revenues. However, for the current exercise, we have not made a distinction between the JVs and DIAL. The top line for DIAL contains its own share of revenues generated through all its activities.

In going concern valuations, to bring a closure to the exercise, a *terminal value* is used once steady stage is attained. We have projected the financial statements to the end of the current concession period (FY 2036) and applied a terminal value at the end of the stated financial year.

10.2.2 Building Blocks and Business Drivers

The balance sheet of a large infrastructure project is driven by the fixed assets created. For the airport, these are primarily the terminals and the runways. Fixed assets make up approximately 90% of the balance sheet and

the capital expenditure over time is a critical factor to be considered while arriving at the free cash flows over the life of the project.

The various income streams are realised by the utilisation of this infrastructure. These can primarily be classified as aeronautical and non-aeronautical revenue. However, a very important activity which contributes significantly to the top line of this business is commercial property development.

Since this airport, like other private airports in India, is being developed under the public private partnership (PPP) framework, the share of the total revenue payable to the airports regulator in India, the Airports Authority of India (AAI), is an important line item to be kept in mind while arriving at the net revenue from the business.

In terms of the expenses of the airport, personnel, maintenance and power/fuel costs form the bulk of the operating expenses. The airport operator also appoints certain service providers for specific services in the terminals, for which it pays a fee to the service provider. This is shown as airport operator fee in the financial statements. Financing cost and depreciation form the other costs.

With regards to the liability side of the balance sheet, significant capital has to be deployed, especially in the early stage of the project. This is leveraged to raise debt financing. Secured debt forms majority of the debt on the balance sheet of DIAL, however the company has unsecured borrowings on its books as well. A portion of these unsecured borrowings is formed by deposits from trade concessionaires and commercial property development. It may be noted that given their nature as deposits these are assumed to be zero interest sources of funding for the airport operator.

10.2.3 Construct of the Excel Model

- **Assumptions and Basis**
  - *Revenue assumptions:*

    Growth of Income from Services (aeronautical and non-aeronautical) we have taken a three phase model of growth for projecting the revenue. The growth rate suggested in the AERA Consultation Paper is taken as the base for this purpose, and this has been increased by way of an adjustment in the assumption sheet. The base rate of growth is reduced by a factor in the second and third phase. After a one third reduction (33%) in the revenue

growth in phase three over phase one, and a suitable adjustment, the rate of growth for these revenue streams is taken as 1.5 times the long term forecast for GDP growth (5.8%) for India.[14]

Land monetisation similar to the basis of projection for the income from services, a three phase model is applied to the income realised from commercial use of land as well. The assumption made on the rate of utilisation of land is 50% of the available land will be monetised by the year 2020, another 40% of the total land will be monetised by 2030, and the remaining land will be monetised by the end of the concession period. The price per acre of the land is taken as INR 100 crores, as per the guidance received from AERA, based on the market prices of land in the localities adjacent to the airport.

Cargo and Other Income income derived from services and land monetisation is taken as a driver of these streams of revenue, with suitable assumptions taken on their relative proportion, based on the actual figures historically. The formula for the revenue share payable to AAI is relatively straightforward, i.e. 45.99% of the total projected revenue.

- *Expenses assumptions*

  The **operating expenses** are linked to inflation, except for personnel and fuel/power costs which are inflated at 10% p.a.

  Long term outlook on inflation is taken at 6% p.a.

  Linking operating expenses on the basis of revenue structure reports by Jacobs consultancy and Leigh Fisher suggest allocating expenses based on the split of revenues in the aero and non-aero categories. This would be useful if an activity based costing approach is taken for the purpose of pricing of the services. However, this is not the approach being followed at DIAL. Therefore, to factor in the increase in expenses as a result of higher traffic, the expenses have also been linked to the growth of revenue as in AERAs consultation paper. A weightage has been modelled to allocate costs between fixed (inflated on historical costs) and variable (driven by top line growth).

[14]The world in 2050; HSBC Global Research; January 2011— 2- The world in 2050; John Hawksworth and Gordon Cookson, Price waterhouse'Coopers— 3- The world order in 2050; Uri Dadush and Bennett Stancil; Carnegie Endowment for International Peace; April 2010

Cost addition due to addition of a new terminal the increase in expenses due to the addition of a new terminal is modelled on the increase as seen due to the introduction of T3 at the airport. Additionally, a factor has been built in the model to take care of an increasing base of total expenses, which is expected to bring in certain efficiencies at the overall cost levels, that is defraying of costs due to a larger scale of operation.

Cost of Debt the cost of secured debt is assumed based on the historical finance costs experienced by the company, and the low cost of the ECBs on the companys books. The unsecured debt on the companys balance sheet is assumed to be primarily deposits from trade concessionaires and commercial property development, i.e. zero interest liabilities.

- *Balance sheet assumptions*

  The fixed asset schedule is taken as the basis for arriving at the depreciation to be applied on the total stock of fixed assets. The projected fixed asset repurchase/depreciation schedule is modelled in the sheet Workings. The depreciation is the weighted average of the rate arrived at based on the useful life of different asset types.

  Value of infrastructure - the value of a new terminal is taken as INR 6000 crores, and that of a runway is taken as INR 2500 crores. These numbers are based on costs incurred for Terminal 3 as described by DIAL in their tariff filings made to AERA in June 2011[15] under the section project cost.

  Debt schedules are taken based on DIAL management projections until 2017 and projected on an assumed equated yearly instalment basis thereafter. The schedules for this are created in the sheet Workings.

- **Key Linkages and Relationships in the Model**

  - *Profit and Loss Statement*

    Reduction in growth rate for the purpose of revenue projection is done in a linear fashion, by way of a reduction schedule which applies a particular growth rate each year. This approach has been adopted as against a stepped growth model where a particular rate is applied to all years in the growth phase.

[15] aera.gov.in/writereaddata/consultation/120.pdf

For the increase in income realised from commercial property development, the appreciation in land price is factored in. This can also be seen as the increase in rent on an annual basis.

Year on year increase in operating expenses is factored in due to inflation and as well as volume of business. Also, a step up has been built in to take care of the jump in expense levels due to addition of a new terminal. The base assumption around this increase in expense level is based on the historical increase in expenses due to introduction of T3, as is discussed in the section on assumptions.

DIAL OMDA indicates that no tax exemptions are available to the airport operator in this case. Tax MAT is applied on a surplus for a particular year, when the reserves and surplus account shows an accumulated loss. Income tax is applied on an accumulated profit, or the profits for a year, whichever is lower. Deferred tax implications have not been modelled in the projections.

– *Balance Sheet*

The main driver for the balance sheet is the infrastructure planning schedule. The infrastructure plan assumes introduction of a new terminal every 5 years starting FY 2020, till FY 2030. This assumption is based on the information given to the media by the management of the company[16]. The capital work in progress on the balance sheet shows for the three years preceding the introduction of the new terminal. This is based on the analysis of the relevant historical financials before the introduction of T3.

The projected balance sheet is based on the Net Current Assets being the balancing number.

Capital and debt infusion schedules have been modelled.

It may be noted that both the infrastructure planning schedule as well as the fund infusion schedules are driven by the managements outlook and decisions. It is the analysts best estimate based on the information available at the time of modelling.

– *DCF Calculation*

Free Cash Flows to Equity the formula used for arriving at the

[16]http://articles.economictimes.indiatimes.com/2008-04-16/news/28471846_1_runway-third-terminal-passenger-handling-capacity

free cash flows to equity for the company is as per Prof. Aswath Damadaran[17]. The formula has been reproduced below:

Free cash flow to equity = Net income - (Capital expenditure - Depreciation) - Change in non cash working capital + (New debt raised - Debt repayment)

For the terminal value, we have followed the steady growth model. The formula for the terminal value following this approach is:

Terminal Value = Stable Cash flow to Equity / (Cost of Equity-Stable rate of Growth)

The stable rate of growth of the free cash flow for this purpose is taken as the long term GDP growth projection. To arrive at a range of values for the value of equity deployed in the business, weve carried out a sensitivity analysis with a range of Stable Rate of Growth (5.5% to 7% with intervals of 0.5%) and a range of Discount Rates (11%, 12% and 13%).[18]

- **Result**

  With the assumptions and the model design as discussed above, the result in terms of the range of the value of equity is reproduced below:

Table 3 DCF Valuation

		Stable Rate of Growth			
		5.5%	*6.0%*	*6.5%*	*7.0%*
Discount Rate	*11%*	13089	13843	14765	15917
	12%	10922	**11530**	12273	13202
	13%	9155	9647	10247	10998

In our view, the most likely scenario would yield a valuation of Rs. 11,530 crore for DIAL's equity.

[17] Damodaran on Valuation; Second Edition; Aswath Damodaran

[18] This range of discount rates is based on the cost of equity estimate for the Bangalore Airport, for which there is estimate of market value of equity based on a market transaction in 2011.

Indira Gandhi International Airport

Airport Charges-effective FY 2012-13 from May 15th 2012

Contents

Airport Charges

1. Landing, Parking and Housing charges
2. User Development Fee (UDF)
3. CUTE Counter charges
4. Fuel Throughput charges

At Indira Gandhi International Airport (IGIA/DEL/VIDP), Route navigation and facilitation charges 'RNFC' and TNLC charges are payable to Airports Authority of India (AAI). Landing charges, Housing charges, Parking charges, Cute Counter charges, User Development Fee (UDF) and Fuel throughput charges (FTP)are payable to Delhi International Airport Private Limited (DIAL). Airport Development Fee (ADF) is payable in accordance with AERA Order No. 28/2011-12 dated 14.11.2011 in addition to the above stated charges.

1. Landing, Parking & Housing charges

1.1. Landing Fee per single landing

Weight of Aircraft	Rate Per Landing-International Flight	Rate Per Landing-Other than International Flight
Upto 100 MT	Rs. 551.03 per MT	Rs. 281.82 per MT
Above 100 MT	Rs. 55,103/- + Rs 740.52 per MT in excess of 100 MT	Rs. 28,182/- + Rs 378.75 per MT in excess of 100 MT

Note:

a) Charges shall be calculated on the basis of next Metric Tonne (MT) (i.e. 1,000 kgs.) of the aircraft.

b) A surcharge of 25% will be levied on landing charges for supersonic aircraft.

c) A minimum fee of INR 10,000/- shall be charged per single landing for all types of aircraft/helicopter flights, including but not limited to domestic landing, international landing and general aviation landings.

d) Weight of the aircraft means maximum takeoff weight (MToW) as indicated in the Certificate of Airworthiness filed with Director General Civil Aviation (DGCA).

e) All domestic legs of International routes flown by Indian operators will be treated as domestic flights as far as air side airport user charges are concerned, irrespective of the flight number assigned to such flights.

1.2. Housing and Parking Charges

The Housing charges and Parking charges are as under:

Weight of Aircraft	Parking charges Rate per MT per hour	Housing charges Rate per MT per hour
Upto 100 MT	INR 13.23 per MT	INR 26.46 per MT
Above 100 MT	INR 1,323/- +INR 17.52 per MT per hour in excess of 100 MT	INR 2,646/- +INR 35.04 per MT per hour in excess of 100 MT

Note:

a) 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 taxing 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.

b) For calculating chargeable parking time, any part of an hour shall be rounded off to the next hour.

c) Charges shall be calculated on the basis of next MT.

d) Charges for each period parking shall be rounded off to nearest Rupee.

e) Whilst in-contact stands, after free parking, for the next two hours Parking charges shall be levied. After this period, the Housing charges shall be levied.

2. User Development Fee (UDF)

The User Development Fee per passenger shall be payable as under:

Rate per passenger	International flight		
	Short haul (Upto 2,000 Kms)	Medium haul (Above 2,000 upto 5,000 Kms)	Long haul (More than 5,000 Kms)
For ticket issued in Indian Rupee (INR)			
Departing	534.00 INR	845.50 INR	1068.00 INR
Arriving	436.10 INR	699.17 INR	881.10 INR
For ticket issued in foreign currency			
Departing	10.54 USD	16.69 USD	21.08 USD
Arriving	8.61 USD	13.82 USD	17.39 USD

Rate per passenger	Domestic flight	
	Short haul (Upto 500 Kms)	Long haul (More than 500 Kms)
For ticket issued in Indian Rupee (INR)		
Departing	231.40 INR	462.80 INR
Arriving	195.80 INR	391.60 INR
For ticket issued in foreign currency		
Departing	4.57 USD	9.14 USD
Arriving	3.86 USD	7.73 USD

Note:

a) In respect of the tickets issued in foreign currency, the UDF shall be levied in US Dollars.

b) UDF will be charged at the rate based on the origin/final destination for arriving/departing passengers respectively.

c) **Collection charges:** If the payment is made within 15 days of receipt of invoice, then collection charges at INR 3.00 per arriving passenger and Rs. 2.50 per departing passenger shall be paid by DIAL. No collection charges shall be paid in case the airline fails to pay the UDF invoice to DIAL within the credit period of 15 days or in case of any part payment. To be eligible to claim this collection charges, the airlines should have no overdue on any other account with DIAL.

d) **Transit/Transfer passengers:** A passenger is treated in-transit/transfer only if the onward journey is within 24 hrs from the time of arrival into Delhi and the onward

travel is part of same ticket. In case 2 separate tickets are issued (one for arrival and one for departure), the passenger would not be treated as a transfer passenger. Transfer passenger does not include passenger on return journey.

3. CUTE Counter charges

The Cute Counter charges per departing flight shall be payable as under:

Charge per departing flight	
International	Domestic
INR 1,500/-	INR 500/-

4. Fuel Throughput charges (FTP)

The Fuel Throughput charges shall be payable as under:

Charge per Kl of fuel
INR 601.07 w.e.f 1st April, 2011*
INR 643.15 w.e.f 1st April, 2012*

* **The above Fuel Throughput charges will be applicable retrospectively from 1st April, 2011 & 1st April 2012 respectively.**

5. General Condition

For all the above charges, credit period allowed by Airport Operator is 15 days.

Indira Gandhi International Airport

Airport Charges-effective FY 2013-14 from April 1st 2013

Contents

Airport Charges

1. **Landing, Parking and Housing charges**
2. **User Development Fee (UDF)**
3. **CUTE Counter charges**
4. **Fuel Throughput charges**

At Indira Gandhi International Airport (IGIA/DEL/VIDP), Route navigation and facilitation charges 'RNFC' and TNLC charges are payable to Airports Authority of India (AAI). Landing charges, Housing charges, Parking charges, Cute Counter charges, User Development Fee (UDF) and Fuel throughput charges (FTP)are payable to Delhi International Airport Private Limited (DIAL). Airport Development Fee (ADF) is payable in accordance with AERA Order No. 28/2011-12 dated 14.11.2011 in addition to the above stated charges.

1. Landing, Parking & Housing charges

1.1. Landing Fee per single landing

Weight of Aircraft	Rate Per Landing-International Flight	Rate Per Landing-Other than International Flight
Upto 100 MT	Rs. 589.61 per MT	Rs. 301.55 per MT
Above 100 MT	Rs. 58,961/- + Rs 792.36 per MT in excess of 100 MT	Rs. 30,155/- + Rs 405.26 per MT in excess of 100 MT

Note:

a) Charges shall be calculated on the basis of next Metric Tonne (MT) (i.e. 1,000 kgs.) of the aircraft.

b) A surcharge of 25% will be levied on landing charges for supersonic aircraft.

c) A minimum fee of INR 10,700/- shall be charged per single landing for all types of aircraft/helicopter flights, including but not limited to domestic landing, international landing and general aviation landings.

d) Weight of the aircraft means maximum takeoff weight (MToW) as indicated in the Certificate of Airworthiness filed with Director General Civil Aviation (DGCA).

e) All domestic legs of International routes flown by Indian operators will be treated as domestic flights as far as air side airport user charges are concerned, irrespective of the flight number assigned to such flights.

1.2. Housing and Parking Charges

The Housing charges and Parking charges are as under:

Weight of Aircraft	Parking charges Rate per MT per hour	Housing charges Rate per MT per hour
Upto 100 MT	INR 14.15 per MT	INR 28.31 per MT
Above 100 MT	INR 1,415/- +INR 18.74 per MT per hour in excess of 100 MT	INR 2,831/- +INR 37.49 per MT per hour in excess of 100 MT

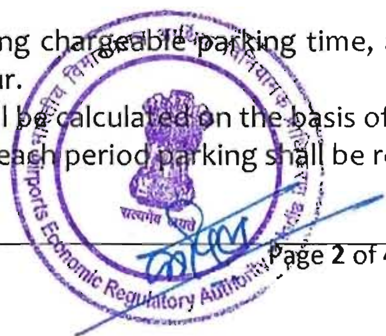
Note:

a) 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 taxing 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.

b) For calculating chargeable parking time, any part of an hour shall be rounded off to the next hour.

c) Charges shall be calculated on the basis of next MT.

d) Charges for each period parking shall be rounded off to nearest Rupee.



e) Whilst in-contact stands, after free parking, for the next two hours Parking charges shall be levied. After this period, the Housing charges shall be levied.

2. User Development Fee (UDF)

The User Development Fee per passenger shall be payable as under:

Rate per passenger	International flight		
	Short haul (Upto 2,000 Kms)	Medium haul (Above 2,000 upto 5,000 Kms)	Long haul (More than 5,000 Kms)
For ticket issued in Indian Rupee (INR)			
Departing	565.43 INR	895.26 INR	1,130.85 INR
Arriving	461.77 INR	741.16 INR	932.95 INR
For ticket issued in foreign currency			
Departing	11.16 USD	17.67 USD	22.32 USD
Arriving	9.11 USD	14.63 USD	18.42 USD

Rate per passenger	Domestic flight	
	Short haul (Upto 500 Kms)	Long haul (More than 500 Kms)
For ticket issued in Indian Rupee (INR)		
Departing	245.02 INR	490.04 INR
Arriving	207.32 INR	414.65 INR
For ticket issued in foreign currency		
Departing	4.84 USD	9.67 USD
Arriving	4.09 USD	8.18 USD

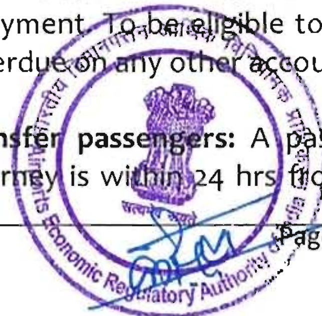
Note:

a) In respect of the tickets issued in foreign currency, the UDF shall be levied in US Dollars.

b) UDF will be charged at the rate based on the origin/final destination for arriving/departing passengers respectively.

c) **Collection charges:** If the payment is made within 15 days of receipt of invoice, then collection charges at INR 3.00 per arriving passenger and Rs. 2.50 per departing passenger shall be paid by DIAL. No collection charges shall be paid in case the airline fails to pay the UDF invoice to DIAL within the credit period of 15 days or in case of any part payment. To be eligible to claim this collection charges, the airlines should have no overdue on any other account with DIAL.

d) **Transit/Transfer passengers:** A passenger is treated in-transit/transfer only if the onward journey is within 24 hrs from the time of arrival into Delhi and the onward



travel is part of same ticket. In case 2 separate tickets are issued (one for arrival and one for departure), the passenger would not be treated as a transfer passenger. Transfer passenger does not include passenger on return journey.

3. CUTE Counter charges

The Cute Counter charges per departing flight shall be payable as under:

Charge per departing flight	
International	Domestic
INR 1,500/-	INR 500/-

4. Fuel Throughput charges (FTP)

The Fuel Throughput charges shall be payable as under:

Charge per Kl of fuel
INR 688.17 w.e.f 1st April, 2013

5. General Condition

For all the above charges, credit period allowed by Airport Operator is 15 days.