

Chapter 3

Operational Area Infrastructure

3.1 The Policy on Airport Infrastructure acknowledged the fact that there was congestion in the international airports as well as in some of the domestic airports due to limited terminal and apron capacity at these airports, bunching of flights etc. Audit conducted a test check of major works executed by the Authority during the period 2001-2005 relating to runways, taxiways, aprons, hangers and parking bays. The results are discussed as under:

3.2 *Airport capacity enhancement - runways, aprons and allied facilities*

3.2.1 At **Delhi** airport, though there are two runways, only one is normally used for operations and the secondary runway is mainly used as a taxiway. Due to capacity constraints on account of a single runway, the aircraft were forced to hover over the sky till the air traffic control cleared the landing. An additional runway would have eased the situation. However the Ministry issued instructions to the Authority in April 2002 and reiterated it in June 2005 that no major construction activities in which execution had not yet commenced at Delhi and Mumbai airports should be initiated while the process of restructuring of the airports was on.

To overcome the problems arising due to the delay in creation of a parallel runway, a proposal for a rapid taxiway at an estimated cost of Rs.4.09 crore was put up to the Board of Directors (May 2004) for approval. As the proposal was not budgeted, it was decided to re appropriate unutilised funds from other works. Bids were received during November 2004 and the work was awarded for Rs.4.77 crore in March 2005. Though the scheduled completion date was in January 2006, the work was still in progress (March 2006). The Management stated (August 2006) that the work could not be completed due to operational constraints and all efforts would be made to complete the work at the earliest.

3.2.2 At **Mumbai** there are two intersecting runways but only one of them was being used at a time for operations because of cross-runway configuration. The designed capacity of both the runways is 24 landings per hour whereas the demand (as of 2005-06) was 40 and the projected demand after 10 years was 70.

3.2.2.1 The last upgradation of the main runway was carried out during November 1995. Even though complaints were received during April 2001, the decision to carry out resurfacing work of the runway was taken only during April 2002. The work was completed in June 2003 at a cost of Rs.10.83 crore (approximately) and the contractor had also made further claims amounting to Rs.9.68 crore. It was observed that as per agreement, the contractor was to use bulk bitumen. However he was paid higher rates for use of modified bitumen, the usage of which was not specified in the agreement and the extra expenditure on this amounted to Rs.86 lakh.

3.2.2.2 Similarly, the Authority failed to indicate soil conditions in the tender which are normally indicated in contracts relating to soil works. On completion of work, the contractor

demanded payment at higher rate on the plea that special efforts had to be put in as drilling was done in rocky strata. The claim had been taken up for arbitration. The Management replied that since the runway was under active operation at the time of award of work, it was not possible to ascertain the soil condition. The reply was not acceptable as it was an old runway and the soil conditions would have been noted when the runway was originally constructed.

3.2.3 For strengthening the Main Runway (MRW) and to provide CAT-II lighting system on the runway at **Kolkata** airport, an estimate for Rs.16.95 crore was approved (April 2002). After inviting bids, order was placed (July 2003) for the work at a value of Rs.14.58 crore. The work was completed in April 2005 after a time overrun of one year. While reviewing the contract and its execution, the following lacunas were noticed in audit.

3.2.3.1 As per the conditions of the agreement, the contractor was supposed to mobilise and install plant and machinery within 25 days from the date of award letter. The contractor, however, did not deploy machinery at site as per the contract provisions. In the absence of any condition in the agreement for levy of penalty for delay in mobilisation of machinery, the Authority could not take any action against the contractor. Audit observed that at Patna airport for similar violation of contract conditions, the contractor was penalised at the rate of Rs.1000 per day. The Management replied (September 2006) that the work had suffered due to non availability of 'Notice to Airman' (NOTAM) that was to be arranged by the Authority. The provision of a penalty clause for short deployment of machinery would have provided a basis to the contractor for making idling claim against the Authority due to non availability of runway. This justification was not tenable as works contract should have a penalty clause for delay caused by either party.

3.2.3.2 The contract also did not have one of the general conditions followed by the NAD, viz, Performance Guarantee equivalent to five *per cent* of the contract value.

3.2.3.3 It was further observed in Audit that the work on the Main Runway (MRW) could be taken up only when the Secondary Runway (SRW) with required visibility was available. Even before the contractor was ready to commence the work and the availability of SRW was ensured, most of the materials (valuing Rs.2.38 crore) required for the work were supplied by the Authority and same valued at Rs.1.14 crore remained unutilised upto February 2005.

3.2.4 The Authority approved (July 1999) a proposal for construction of new hangers, relocation of some existing hangers and other works for an amount of Rs.9.49 crore at **Kolkata** airport to be completed within 24 months from start of the work. Except for the work relating to hanger and annexe, rest of the jobs were awarded after considerable delay. Some of the works of the project had long overshoot their stipulated date of completion. The hanger and annexe work, which was scheduled for completion in October 2001, was completed in March 2003 and the apron work scheduled for completion in August 2002 was completed in May 2004. The road works, which were to be completed during May 2003, were still in progress (March 2006). The delay in completion of the works resulted in idling

of facilities and the hanger and annexe completed at a cost of Rs.2.33 crore were lying idle since April 2003. Due to delay in completion of related works, the hanger and annexe could not be allotted till February 2005 and April 2005 respectively which resulted in a loss of revenue of Rs.96.73 lakh.

3.2.5 At **Chennai** airport, the Authority proposed (1990) extension of parallel taxi track for operation of wide bodied aircraft. It was then informed that the proposed taxi track could not be used unless the adjacent land was acquired from defence authorities. The construction of parallel taxi track was completed during December 1992 at a cost of Rs.3.09 crore in anticipation of acquisition of the defence land. Ministry of Defence (MOD) offered (July 1997) outright sale of land at a cost of Rs.1.17 crore. This was not pursued. As the extended taxi track could not be put to use since December 1992 due to the non availability of the adjacent land, it was then proposed (2002) to shift the centre line of the taxi track to the runway side and the work was completed at a cost of Rs. 6.14 crore during 2004-05. The failure to acquire land when offered by the MOD thus resulted in incurring additional expenditure of Rs.4.97 crore on the shifting work.

3.2.6 Based on a request (April 2002) from Air India to start operation of A-310 type of aircraft from **Gaya**, the Authority approved (February 2003) an estimate amounting to Rs.62.52 crore for development of the existing airport. Audit observed that till March 2006, after three years of sanctioning the development project, work orders valuing Rs.39.66 crore (63.44 *per cent*) were issued only for 30 out of the 40 packages of the project. Time overrun had already occurred ranging from one month to three years in a number of packages. Due to the delay in completion of the project, Rs.14.08 crore spent on procurement of various equipment and on civil and electrical works already completed, remained idle. This included civil and electrical works completed at a cost of Rs.54.54 lakh, which were idle from December 2005 due to non placement of order for aerobridge. The Management stated (September 2006) that certain packages were required to be taken up after completion of the terminal building and a few other packages got delayed due to the prevalent law and order situation in Gaya. The overall progress of the project activities upto March 2006 for the 30 packages valuing Rs.39.66 crore was 86 *per cent* (Rs.34.23 crore).

3.2.7 At **Agartala**, the existing apron was in two parts, one rigid concrete part and the other bitumen part. The apron could accommodate two aircraft at a time. It was proposed (July 1994) to strengthen the bitumen apron and join it with the concrete apron for better manoeuvrability. It was also proposed to widen and strengthen the existing loop taxiway and join it with the main runway. Contract for the above works was awarded (February 1997) to M/s ASTRA Construction (ASTRA) at a cost of Rs.4.98 crore with scheduled date of completion by September 1998. However, due to reasons like failure by the Authority to hand over site in time and poor performance by the contractor, the work suffered and the contract was rescinded in August 2001, three years after the scheduled completion date. The Authority paid an amount of Rs.2.56 crore towards value of work done and Rs.27.06 lakh for escalation to ASTRA. The remaining work was re awarded (September 2002) to another contractor for Rs.3.35 crore and was completed during February 2004 at a cost of Rs.3.09 crore. Simultaneously, the work relating to rectification of defects in the apron work originally executed by ASTRA was also awarded to another contractor and the Authority

incurred extra expenditure of Rs.86.22 lakh rectifying the defects. ASTRA also took up the case for arbitration and based on the arbitration award (June 2004), the Authority had to make further payment of Rs.33.31 lakh to ASTRA. The apron work was taken up to facilitate parking of four AB-320 aircraft at a time. From the statistics verified by Audit, it was found that since June 2004, the maximum number of aircraft parked on the apron at a time was only three including one helicopter. Thus, the expected results of expansion at the cost of Rs.7.11 crore did not materialise.

3.2.8 In order to make **Jaipur** airport fit for operation of wide bodied aircraft, the Authority decided (August 2000) to extend and strengthen the existing runway. Land for this purpose was acquired at a cost of Rs.14.89 crore. However, basic strip of 150 metres on either side of the runway required as per IACO guidelines could not be constructed as a public road was passing through the land acquired. Despite lapse of more than five years, the diversion of public road could not be completed till date (March 2006). Meanwhile the work of extension and strengthening was completed and commissioned in December 2004. The runway was being used for wide bodied aircraft, but the mandatory guidelines were not being followed.

3.2.9 Audit also test checked works undertaken by the Authority in 17 other airports. Cases of time overrun upto 75 months due to reasons like absence of clear possession of land before taking up the work leading to delay and foreclosure of work, poor performance of the contractor leading to rescinding of the contract and subsequent reaward of work and cost overrun upto Rs.3.47 crore due to changes in scope of work leading to extra items of work were noticed (**Annexure IV**).

3.3 Other operational problems

3.3.1 Problems in land acquisition and encroachment on airport land

The Authority required land for expansion and upgradation of infrastructure facilities at the airports. The acquisition of land had to be done through State Governments. In many instances the Authority's efforts at land acquisition were held up due to procedural delays and litigation. Cases where creation of facilities was held up/abandoned due to land acquisition problems that were identified in a test check conducted by Audit are listed in **Annexure-V**. As per the Authority's records, 702 acres of land was under encroachment in 20 airports (March 2006). At Mumbai, the encroachment was to the extent of 171 acres. During five years ending 2005, the Authority was able to remove encroachment from only 30 acres of land, incurring in the process an expenditure of Rs.24.35 crore. In Delhi, though it was stated that only 4.5 acres were under encroachment, Audit noticed that 89 acres of land for which compensation had already been paid was yet to be handed over to the airport. Other major encroachments were at Hyderabad (97 acres), Kolkata (76 acres) and Amritsar (83 acres) airports. The encroachment at the airports hampered expansion and upgradation of facilities. The Management while accepting the fact stated (August 2006) that removal of encroachment at the airports was a herculean task which required the assistance of the local police and the State Government. Besides socio political difficulties, legal hurdles were also required to be taken care of.

3.3.2 Shortage of domestic parking stands and night parking facilities

As of August 2006, the scheduled operators owned 270 aircrafts. In view of the enormous growth in the aviation sector, many operators were also reported to have placed orders for a number of aircraft. As compared to the number of aircraft at present and expected to arrive in future, the Authority has only 208 night parking bays at the five international airports where operators desire night parking. All the parking bays at Delhi and Mumbai have been allotted to existing operators with no facility for new entrants who are already awaiting permission. At times international flights are held on taxiways due to non availability of parking bays. It was observed that applications are pending at Ahmedabad, Hyderabad and Jaipur for night parking which could not be provided because of non availability of sufficient parking stands. The Management replied (September 2006) that the projected number of aircraft to be purchased by the carriers spread over a long span of delivery period and there would be a time gap available to the Authority for creating the infrastructure facilities required to meet the demand for parking on induction of new aircraft. The Management also stated that the airlines were being persuaded to do the night parking at domestic airports as well, for which additional parking bays were being created.

3.4 Future work programme for the new larger aeroplane

The entry into service of the new larger aeroplane (NLA) namely Airbus A-380 is envisaged in 2006. ICAO developed (May 2003) a two phase action plan for smooth introduction of NLA. The maximum passenger capacity of the NLA is around 800. In view of the higher passenger capacity, overall weight, height and fuselage length and capacity, the operation of NLA not only calls for the strengthening of runway, taxiway and apron but also the terminal, conveyor, aerobridge and other passenger facilities. Three airlines (Singapore, Lufthansa and Emirates) requested the Authority to make necessary arrangements for operation of NLA from select Indian airports by 2006/2007. As of August 2006, the preparation for receipt of the NLA was not yet complete as even the parking bays for the aircraft had only been proposed in Delhi and Kolkata. In Mumbai and Chennai, these were under construction. Other facilities were yet to be created.

Recommendations

- Effective steps should be taken to remove encroachments.
- All project activities should be synchronised so that there is no idling of facilities created due to non completion of related activities.
- Planning should be detailed and comprehensive to avoid cost escalation and delays due to changes in scope of work.
- A high level committee involving the Authority, the Ministry and the State Governments concerned should be set up for coordinating land acquisition to avoid problems and delays.