

**OFFICE OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA**

**NEW DELHI  
17<sup>th</sup> DECEMBER, 2024**

**Report of the Comptroller and Auditor General of India on Training of Pilots  
in Indian Air Force presented in Parliament**

The Report no. 15 of 2024 of Comptroller and Auditor General of India (C&AG) was laid in Parliament here today. The Performance Audit was conducted during the period January 2022 to May 2022 and covered the three stages of training viz., Stage I (Basic), Stage II (Intermediate) and Stage III (Applied) imparted by the Flying Training Establishments (FTEs) and the training of Navigators at the Navigation Training School (NTS) during the period 2016 to 2021. The performance audit on the training of pilots in IAF was previously conducted and reported in CAG Report No. 09 of 1992 and Performance Audit Report No. 05 of 2008 (Air Force & Navy). The Public Accounts Committee (PAC) reviewed the CAG's Report (2008) and presented its report to the Parliament. This audit also attempts to review the implementation of action taken by the Ministry/IAF on recommendations made by the PAC.

The audit findings of the report are as under:

**Availability of Pilots, Instructors and Trainer Aircraft**

- In February 2015, IAF had assessed that there was a shortage of 486 pilots. Between the period 2016 to 2021, against the planned initial intake of 222 trainees annually, the initial annual intake ranged between 158 and 204 trainees. Also, the annual intake after wastage ranged between 124 to 167. As a result, the shortage of pilots rose from 486 to 596 which was expected to be filled up between January 2021 and January 2030. Furthermore, in respect of women fighter pilots, against the envisaged strength of 20 pilots by 2020, their actual strength was only 15 at the end of March 2022, which increased to 17 as of August 2023.
- Ministry, in reply to PAC recommendations, had stated in March 2013 that action was on hand to procure 296 aircrafts by 2016 and IAF would have sufficient resources to train its pilots till 2036.
- In case of fighter stream, induction of 106 Basic Trainer Aircrafts (BTA) and 73 Intermediate Jet Trainers (IJT), both indigenously being designed and developed by HAL, could not materialise due to delays in clearance from certifying agency and design issues, respectively.
- In case of Transport stream, despite availability of latest glass cockpit (KD) series of Dornier-228 aircraft and assurance given by the Ministry to the PAC of providing new trainer aircraft to the trainees, the IAF continued imparting training with older version of Dornier-228 aircraft.
- In case of helicopter stream, the training was being imparted on the Chetak helicopters which had been inducted more than 50 years ago. The training on new helicopters could not be imparted as procurement of 61 Light Utility Helicopters (LUH), indigenously being designed

and developed by HAL, could not materialise due to delays in production at HAL. Further, procurement of Mi-17 V5 helicopters (which were supposed to replace Mi-8 helicopters) were completed, yet they were placed with operational squadrons.

- There was also excess posting of instructors at AFA Dundigal and Helicopter Training School (HTS) Hakimpet.

### **Quality of training**

- Prior to December 2001, trifurcation of trainees into fighter, transport and helicopter streams was carried out after Stage-II of flying training. Since December 2001, trifurcation was carried out after Stage-I. The fact that trifurcation after Stage-I had led to fall in the performance of trainees was also commented in Paragraph 2.9.2.4 of C&AG Performance Audit Report No. 05 of 2008 (Air Force and Navy). Subsequently, in July 2020, it was decided that trifurcation would be conducted after Stage-II training which is being implemented from 2021.
- Existence of a Long-Term Training Plan (LTTP), covering both the present and future requirements of trainee pilots besides the infrastructure and trainer aircraft requirements, ensures comprehensive assessment of training needs, timely provision of funds, induction of trainer aircraft and acquisition of required skills for the trainee pilots of different streams. The absence of formulation of LTTP by IAF and its impact on quality of training was also commented upon in C&AG's Audit Report of 1992 and in Performance Audit Report on the Training of Pilots in 2008. Due to delays in the aircraft modernisation plan of IAF, deficiencies were noticed in Stage II and Stage III training of pilots in transport and helicopter streams.
- In respect of Transport Stream, all pilots are initially trained in Pilatus PC-7 Mk-II aircraft which is the basic trainer aircraft with state of art glass cockpit platform. Post trifurcation, in Stage III, the transport pilots are trained in Dornier-228 HM series and AN-32 aircraft, which are technologically much inferior to the Pilatus aircraft in terms of both avionics and instrumentation.
- In case of helicopter stream, IAF held Chetak/Mi-8/Mi-17 helicopters to train its pilots. These are legacy platforms with rudimentary cockpit equipped with obsolete avionics. Further, after completion of Stage-III Training, majority of the pilots underwent another conversion training to familiarize themselves with the helicopters being flown by the operational units (Mi-17 V5 helicopters).
- Simulators, as effective tools of training of pilots, have been in use since 1970s in IAF. Although, the Flying Training Establishments (FTEs) for fighter stream, were utilising simulators, however, no full motion Simulator was available at the FTEs for the training of pilots of helicopter and transport streams. For these streams, only Virtual Reality (VR) Simulators and Flying Training Devices (FTDs) were being used to familiarise the trainees with the aircraft systems. The VR Simulators and FTDs being used were only procedural training simulators and lacked any physical movement which could help trainees get the actual feel of the aircraft.

### **Support Facilities**

- Even before prototypes of D&D phase of IJT had achieved Initial Operational Clearance (IOC), Air HQ created infrastructure costing ₹33.59 crore at AFS Tambaram. Further, due to non-supply of IJT aircraft, the Simulator building constructed was being utilised for other purposes. The re-appropriation of buildings without requisite approval was irregular and required CFA sanction (CCS in this case).

- There was delay in all stages of the construction of the building to house the simulator for Dornier aircraft at AFS Yelahanka. Further, despite lapse of five years since the contracted date of delivery for commissioning of simulator, the Dornier aircraft training continued to be imparted on the Flying Training Device only to satisfy the procedural requirements.
- Due to delays and lapses on part of IAF as well as the contractor, Explosive Decompression Chamber and Rapid Recompression Chamber were not installed at AFA Dundigal, thereby depriving the trainees of practical exposure to decompression in higher altitude since July 2018.
- IAF was unable to narrow down for three decades the correct land requirement for establishing a weapons training range at Nirna (Bidar) for conducting weapon training as an integral part of Stage-III fighter training. In the absence of weapons training range, IAF continued to incur substantial amount towards ferrying cadets by air for the weapon training [costs of ferrying ranging from ₹20 crore (2012) to ₹110 crore (2022)].
- AFS Begumpet imparts training to navigators of IAF and possesses one hangar, five buildings and 10 aircraft parking bays, all located on the land which was under the control of the Airports Authority of India. IAF took initiative for transferring the land to its custody. The Civil Aviation Ministry desired (February/March 2015) to enter into a MoU with the Ministry of Defence (MoD) before handing over the assets. However, the transfer of land to IAF was yet to be resolved, as MoD had not indicated ‘In principle approval’ for entering into an MoU with the Civil Aviation Ministry.
- Delay in construction of sun shelters for Hawk squadrons at AFS Kalaikunda deprived the aircraft of the necessary sun shelters for eight years (2015–2023). In absence of the same, the aircraft continued to be exposed to the elements of nature till such time construction of 12 sun shelters was completed.

Pilatus PC-7 Mk-II aircraft was being used as a BTA to impart ab-initio Stage-I flying training for trainee pilots at AFA since May 2013. During the period of 2013-2021, 16 aircraft (25 *per cent*) encountered 38 snags relating to engine oil leak. Considering the serious flight safety issues in the aircraft, IAF took up the matter with OEM for its rectification/arrest. The issue could not be resolved (August 2023) as the matter was stated to be under investigation by OEM.