

**Press release**

**C&AG's Audit Report No. 7 of 2018 on Defence Public Sector Undertakings, Ministry of Defence tabled in Parliament today.**

Comptroller and Auditor General of India's Audit Report No. 7 of 2018 on Defence Public Sector Undertakings – Ministry of Defence has been tabled in Parliament.

This Report contains significant audit findings which arose from the audit of the Public Sector Undertakings under the Ministry of Defence (MoD), Government of India for the year ended 31 March 2017. Some of the important findings in the Audit Report are detailed in subsequent paragraphs:

**Hindustan Aeronautics Limited (HAL)**

**Production and Supply of 159 Advanced Light Helicopters (ALHs) to Army and Indian Air Force by Hindustan Aeronautics Limited**

HAL entered into five contracts (December 2007) with Indian Army and Indian Air Force for supply of 159 Mark III and Mark IV Advanced Light Helicopters (ALHs). ALHs were to be installed with eight Line Replaceable Units (LRU)/Systems. As the systems were not ready and even requirements were yet to be finalized, HAL could not obtain certification for these LRUs/Systems as per schedule. The Initial Operational Clearance (IOC) was accorded for all the variants of ALH with a delay ranging from 10 months to 71 months and the IOC was also subject to concessions i.e. shortcomings to be rectified later. Delay in achievement of the IOC led to delay in both delivery of the helicopters and their subsequent deployment at the air bases.

*(Paragraphs 2.1.9.1, 2.1.10.1 and 2.1.10.2)*

While 159 ALHs were to be delivered by 2015-16, as of 31 March 2017, only 129 helicopters had been signalled out with delays ranging from 2 to 42 months, which had significant financial impact. Liquidated Damages (LD) of ₹ 670.08 crore for the delayed deliveries was leviable as per the contract of which ₹ 409 crore was deducted by MoD. The delay in delivery was predominantly due to the delay in certification of the Shakti engine which was to be used in the ALHs. Further, though the contract specified that delivery schedule of helicopters would be amended without levy of LD in the event of delay in certification of Shakti engine, the amendments to the contracts were awaited although HAL completed supplies in respect of four out of the five contracts as on 31 March 2017. Pending approval to amendments by Army and IAF, supplies of the balance ALHs would also continue to attract LD.

***(Paragraph 2.1.9.2)***

HAL was to deliver the helicopter duly fitted with the Role/Optional equipment as well as supply prescribed Spares, Ground Support Equipment (GSE) and Ground Handling Equipment (GHE), Bay servicing equipment and Manufacturer Recommended List of Spares (MRLS). The spares were required to be delivered prior to signaling out of the helicopter, preferably three months in advance to the consignee location. Though the supply of the ALH in respect of four out of the five contracts were completed as on 31 March 2017, the supply of the associated spares and optional equipment ranged between 60 *per cent* and 91 *per cent* and 50 *per cent* and 87 *per cent* respectively. Delayed supply of spares, GSE and GHE had a direct bearing on the availability of ALH at the base as these were critical for emergency replacements and delayed supply of optional equipment affected the performance role of ALH.

***(Paragraph 2.1.9.3)***

HAL was eligible for claiming the changes arising in cost of materials procured in foreign currencies on account of Exchange Rate Variation (ERV) in the foreign currency. ERV would not be admissible for deliveries made beyond the contracted delivery. The delivery commenced from 2010-11 and up to 2016-17, only 129 helicopters were delivered though the supply of all 159 ALH were to be completed by 2015-16. The total ERV for 129 helicopters signalled out upto 31 March 2017 worked out to ₹ 830.65 crore against which MoD accepted claims only to the extent of ₹ 567.29 crore. Due to delay in supply of ALHs, HAL could not realise ₹ 263.36 crore being the ERV for supplies made beyond the contract delivery schedule.

***(Paragraph 2.1.9.4)***

Due to delay in production of ALH, Line Replaceable Units (LRUs) procured could not be utilized within the warranty period. Further, though these LRUs were subject to inspection at two stages as per the contracts i.e. immediately on receipt of the LRUs at stores by inspection team and before fitment on the helicopters i.e. Pre-Installation check, the LRUs were not tested at the time of receipt. Consequently, HAL was holding inventory of defective LRUs valued ₹ 47.57 crore for periods ranging from one to six years, and critically, the warranty had also expired.

***(Paragraph 2.1.9.5)***

HAL was required to replace the LRUs which failed during the warranty period within a week of receipt of request. However, out of 120 defective LRUs sent to Original Equipment Manufacturers (OEMs) for warranty repairs/replacement during the period from 2013 to 2016, 34 LRUs were yet to be replaced. For effective operational maintenance of aviation fleet, the desired level of serviceability of the helicopters in Army Aviation was considered as 80 *per cent*. Considering number of helicopters available at the base after excluding Aircraft on Ground (AoG)/aircraft under inspection/aircraft under rectification/aircraft under repair and overhaul, the percentage of actual serviceability during the period from 2014-15 to 2016-17 was 56 *per cent*, 59 *per cent* and 61 *per cent* for IAF and 44 *per cent*, 56 *per cent* and 52 *per cent* for Army. Failure of critical LRUs viz. Automatic Flight Control System (AFCS), Computer, Full Authority Digital Electronic Control (FADEC) and Flight Data Recorder (FDR)/Cockpit Voice Recorder (CVR) was one of the contributory factors for high un-serviceability rate.

***(Paragraphs 2.1.11.2 and 2.1.11.3)***

## **Loss of ₹ 33.67 crore due to non-sustenance of Turbo Prop Engines TPE331 Manufacturing Centre**

Hindustan Aeronautics Limited (HAL) entered (April 2007) into a Memorandum of Understanding (MoU) with M/s Honeywell International Inc., USA (Honeywell) followed by an Agreement in April 2008 for collaboration in manufacture of engine components/engine kits for Turbo Prop Engines TPE331-10 and TPE331-12. Due to delayed/incomplete delivery by HAL, Honeywell cancelled (July/August 2013) all the pending orders and consequently, HAL incurred loss of ₹ 33.67 crore. Inventory valuing ₹ 19.21 crore was lying with HAL and remained blocked since November 2013. Absence of contractual clauses to ensure requisite support from Honeywell even after making full payment of support cost and also HAL's failure to successfully execute the project resulted in loss of ₹ 33.67 crore besides rendering investment expenditure unfruitful.

*(Paragraph 2.2)*

## **Bharat Electronics Limited**

### **Audit of Implementation of Electronic Warfare projects**

Hyderabad unit of Bharat Electronics Limited (BEL) was started (December 1984) as a production agency to manufacture and supply Electronic Warfare (EW) Systems like Sanket, Ellora, Ajantha, Eagle, Varuna, etc. designed by Defence Electronics Research Laboratory (DLRL).

Varuna is a state-of-art ship-borne Electronic Support Measures (ESM) System, designed to meet the requirements of any class of ship and was envisaged to replace all ageing ESM systems. During exploitation of the engineered model, certain issues regarding weight and sensitivity arose. Even before resolving the issues, BEL accepted orders for the supply of 18 Varuna systems to be delivered between March 2015 and January 2018. BEL commenced delivery only from October 2016 and as of December 2017, only 11 out of 18 systems were delivered with delays ranging from 12 to 20 months exposing BEL to Liquidated Damages of ₹ 15.79 crore.

*(Paragraph 2.3.2)*

Ground Based Mobile Elint Systems (GBMES) is capable of detecting, monitoring, location fixing and undertaking complete analysis of Radio Frequency signals. BEL signed a contract with IAF for supply of six GBMES between January 2017 and November 2018. BEL conceptualized the GBMES based on intracom system used in earlier projects despite IAF's requirement of a GBMES with Satellite Communication (SATCOM) system. The pro-active development activity of BEL on intracom-based GBMES was futile and BEL had to start development activity afresh for the SATCOM based system. Initiating the development without considering customer requirements resulted in delay in development and consequent delivery to IAF which ultimately exposed BEL to LD of ₹ 14.04 crore.

*(Paragraph 2.3.3)*

Sanket is a ship borne Electronic Support Measures (ESM) system that intercepts, analyses and identifies radar signals and displays all the tracking information on the monitor. BEL received orders for supply of ten Sanket Mk III systems. In turn, BEL entered (October 2007) into a Technical Collaboration and Licensing Agreement (TCA) with M/s Indra Sistemas, Spain (Indra). There was delay ranging from six to 24 months in delivery of six systems which exposed BEL to LD of ₹ 3.99 crore.

*(Paragraph 2.3.4)*

Samudrika is an indigenously developed new generation Naval EW system using latest technologies. Problems occurred at the initial stage as BEL undertook development of common LRUs for both air and ship borne versions. Further, change

in sub-vendor for a particular hardware led to resultant redesign of the back and front panels which impacted the timely completion. Consequently, there were delays ranging from 12 to 24 months in completion of lab demonstration and user evaluation. By not planning for such contingencies while accepting orders with a fixed delivery schedule, BEL exposed itself to unwarranted risk of having to absorb the cost overrun due to delay in development.

*(Paragraph 2.3.5)*

**Inadequate assessment of scope of work for Command Management System (CMS) leading to a loss of ₹ 48.23 crore**

Command Management System (CMS) processes and evaluates the information transmitted by sensors of own ship and other ships. BEL had earlier supplied CMS to Indian Navy for (P17) and destroyers (SNF) Class of ships. BEL received orders for supplying CMS for project 15A and P28 (Corvettes). BEL accepted the supply order even before finalizing the System Requirement Specifications (SyRS) for these CMS and arrived at the selling price for these orders by considering the cost of main equipment for the systems supplied earlier. BEL also envisaged that considerable portions of the software used in the earlier systems could be re-used. However, study of requirements and design necessitated software development afresh. Despite the change in scope of work, due to the finalized contract, BEL could not take up price revisions with customers resulting in a loss of ₹ 48.23 crore.

*(Paragraph 2.4)*

**Expansion of solar plant at a cost of ₹ 12 crore despite existing capacity being un-utilised**

BEL undertook upgradation of its solar cells and modules manufacturing facility with a rationale to meet the present market requirement and to participate in power plant tenders. Solar division of BEL utilised only 0.03 *per cent* of the existing capacity during the last three years (2013-14 to 2015-16) and the capacity was not utilised at all during 2016-17 even after expansion. Thus the expansion of solar cells and modules manufacturing facility at a capital investment of ₹ 12 crore lacked justification and resulted in idle investment due to absence of sufficient orders for utilisation of the upgraded capacity.

*(Paragraph 2.5)*

**Loss in upgradation of Closed Circuit TV System (CCTV) system at Parliament House and acceptance of irregular contract clause on Liquidated Damages**

Lok Sabha Secretariat, Ministry of Home Affairs (MHA), Government of India (GoI) placed (October 2009) an order on M/s Bharat Electronics Limited (BEL) for Upgradation of Surveillance Closed Circuit Television (CCTV) system in Parliament House (PH). The order stipulated that Liquidated Damages (LD) at ½ (half) *per cent* per day of total contract price for delay in commissioning and handing over the system after successful testing. The integration of the old system with new system was completed on 15 December 2010 and integrated & upgraded CCTV system was offered to PH on 4 February 2011. However, due to technological limitations in the existing legacy system, certain parameters envisaged could not be incorporated in the system. A Third Party Audit (TPA) team constituted (March 2012) by MHA pointed out many shortfalls in the functioning of the system and non-compliance to contractual scope of work. As BEL did not improve the system by rectifying the defects, there was no formal takeover by PH. MHA terminated (April 2014), the agreement with BEL and demanded (August 2014) ₹ 98.72 crore towards LD. The CCTV System was officially taken over by PH on 1 February 2015. BEL suffered a loss of ₹ 20.64 crore. BEL carried out maintenance of the new system as well as the legacy system without a formal contract and the claim of ₹ 2.08 crore made by BEL

towards Annual Maintenance Contract (AMC) charges was not accepted by PH. Thus, BEL accepted the work with an open ended clause without adequate due diligence in appreciating the capabilities of work and associated costs. Consequently, it exposed itself to LD of ₹ 98.72 crore besides loss of ₹ 20.64 crore and maintenance of the system without any return by way of AMC.

*(Paragraph 2.6)*