OVERVIEW

This Report contains significant audit findings which arose from the audit of the Public Sector Undertakings under the Ministry of Defence (MoD). It contains four chapters. Chapter I gives audited entity profile. Chapter II relates to observations arising out of Performance Audit. Chapter III relates to observations arising out of compliance audit of Public Sector Undertakings. Chapter IV relates to Follow up on Audit Reports.

Some of the important findings in the Report are given below:

Chapter II – Performance Audit on Construction and Delivery of Anti Submarine Warfare (ASW) Corvettes

MoD sanctioned ₹ 331.27 crore for augmentation of infrastructure facilities for construction of ASW Corvettes since as per the Cabinet Committee on Security (CCS) Note of March 2003, it was felt that the existing infrastructure was considered to be grossly inadequate. The modernisation was completed in 2013-14 as against the scheduled completion of July 2009 and thus, the work of modernisation of shipyard as well as construction of corvettes were undertaken simultaneously.

(*Paragraph* 2.1.2.1)

Audit observed that at the time of issue of Letter of Intent (LoI), only a sketchy specification of the ship was made available to Garden Reach Shipbuilders and Engineers Limited (GRSE) and finalisation of system design as well as specification of equipment, weapon and sensor fit were to be undertaken by Directorate of Naval Design (DND). DND finalised the same only in the year 2006 and major modifications continued till 2008. This resulted in delays in preparation of General Requirements for Acceptance of Quality (GRAQ). DND's failure to freeze the design before issue of LoI and commencement of construction concurrently without appropriate monitoring and target timelines resulted in delay in construction of the Corvettes.

(*Paragraph* 2.1.2.3)

The envisaged weight of the corvettes as per the contract (June 2012) was 3170 tonnes. During construction of first two corvettes (3017 and 3018), Integrated Headquarters (Navy) (IHQ(N)) observed that the weight of the Corvettes increased significantly due to adoption of various signature reduction measures. In order to achieve the reduction in weight of the Corvettes, DND suggested (May 2009) that GRSE use composite super structure in lieu of the steel super structure on board three Corvettes out of the four whereby the weight could be reduced by 70 to 80 tonnes. Considering

the long lead time for procurement of composite materials from foreign vendors, GRSE decided to use composite material only for the last two Corvettes**.** Audit contends that increase in the weights of Corvettes *vis-a-vis* the envisaged weight was owing to absence of a concrete plan for build of ships. A major change in construction plan/methodology in the middle of a major project involving construction of series of ships indicates inadequate preparation before sanction of project.

(*Paragraph* 2.1.2.5)

GRSE placed orders on the Integrated Headquarters (Navy) (IHQ (N)) nominated indigenous vendors for procurement of major equipment and systems. Audit observed that vendors did not adhere to the stipulated delivery dates and delivery schedule was extended up to 7 ½ years through amendments due to delay in development and manufacture, delay in sourcing/getting the raw materials, dependency on foreign vendors due to high import content, changes in components, list of deliverables etc. IHQ (N) had neither assessed the preparedness of the indigenous vendors including Central Public Sector Undertakings to take up development of systems before nominating them as single vendor nor developed alternate vendors for development of systems. As a consequence, supplies did not dovetail with the shipbuilding time lines as indicated in the CCS note.

(*Paragraph* 2.1.2.7)

GRSE completed the first ASW Corvette in 99 months and the second in 104 months. Though 105 months and 87 months were consumed in respect of the balance two ships upto December 2016, the percentage of completion was only 86 and 49 respectively. On a comparison of the activity-wise time consumed for construction of the remaining three corvettes with that of the first corvette, Audit observed that the time consumed was more than the first corvette. This was contrary to MoD prescribed benchmarks for performance parameters such as labour productivity, outsourcing, outfitting, procurement, etc. which assumed improvements over period from ship to ship and indicated that GRSE failed to derive the benefits of learning curve.

(*Paragraph* 2.1.3.2)

Against the 18 weapons and sensors to be installed on ASW Corvettes, Audit observed that the two ASW Corvettes delivered were not fitted with X weapon and sensor systems. Thus, ASW Corvettes could not perform to its full potential as envisaged.

(*Paragraph* 2.1.3.4)

Audit observed that Harbour Acceptance Trials (HATs) was still pending (December 2016) in respect of the second ASW Corvette (3018) for over a

year. Non-completion of HAT for this system resulted in not demonstrating the effective computation of ASW fire control solutions.

(*Paragraph* 2.1.3.5)

The Build Specification of ASW Corvette released in July 2003 specified a displacement of 2500 tonnes and achievement of maximum speed of 25 knots and cruising speed of 18 knots at ambient temperature of 40^0C. GRSE clarified (November 2005) that it was not in a position to ensure stipulated weight as per Statement of Technical Requirements approved by the Navy. At the time of signing of the contract in June 2012, MoD increased the displacement to 3170 tonnes. Audit observed that the actual displacement of the first two Corvettes (3017 and 3018) delivered was 3384 and 3490 tonnes and the maximum speed achieved was 23.9 knots and 22.8 knots. The drop in the achievement of the specified speed was mainly on account of increase in weight of the ASW Corvette by over 800 tonnes from initial envisaged 2500 tonnes.

(*Paragraph* 2.1.4.2)

Sea Acceptance Test (SAT) is conducted to test vessel's speed, manoeuvrability, equipment and safety features. Audit observed that, SAT on six weapons and sensors and all weapons and sensors were pending satisfactory completion in respect of first Corvette and second Corvette respectively. Thus, the effectiveness of the main feature of the anti-submarine warfare was yet to be fully proved.

(*Paragraph* 2.1.4.3)

Chapter III – Transaction Audit Observations

Delay in delivery of aircraft to MoD due to delay in supply of technical documents, accessories & tooling by Original Equipment Manufacturer (OEM) and rectification of defective tools & jigs supplied resulted in delayed supply of Batch I aircraft. Not insisting for licence for manufacture of unlimited number of aircraft by MoD while negotiating for Batch I contract resulted in avoidable payment of licence fee for licenced manufacture of unlimited number of aircraft.

Hindustan Aeronautics Limited (HAL) also incurred expenditure of ₹ 107.05 crore on account of procurement of six additional engine kits in anticipation of order from MoD which remained infructuous. Though establishment of facilities for major servicing of airframe and engines was envisaged to be completed by March 2016 and March 2018 respectively, considering aircraft directly procured by MoD, HAL was yet to establish the facilities till date

(*Paragraph* 3.1)

Injudicious decision of Bharat Electronics Limited, to quote and enter into contract for establishment of Camp Area Network without considering the complexity of work involved and associated costs like Exchange Rate Variation, Warranty expenditure and impact of delay in supply, resulted in loss of ₹ 36.84 crore.

(*Paragraph* 3.2)

Bharat Electronics Limited (BEL) proceeded to develop three Dimensional (3D) L Band radar without clearly ascertaining the specific requirement of customer. Since customer was keen on S band 3D Aslesha radar modified for meeting the Bharani Mk II requirements, decision to go for development of L Band radar resulted in avoidable expenditure of ₹ 11.45 crore.

(*Paragraph* 3.3)

Improper estimation of cost and delay in submission of proposals for amendment of contract by Bharat Electronics Limited resulted in delayed execution of the project and loss of ₹ 56.43 crore including Liquidated Damages of ₹ 8.97 crore.

(*Paragraph* 3.4)

BEML Limited delayed commissioning of walking dragline and suffered consequent avoidable loss of ₹ 9.56 crore by way of Liquidated Damages.

(*Paragraph* 3.5)

Procurement of machine without ensuring required infrastructure resulted in idle investment of ₹ 13.15 crore. Further, the vision of BEML Limited to enter into aviation design, manufacturing and services remained unachieved.

(*Paragraph* 3.6)

Failure of Garden Reach Shipbuilders & Engineers Limited in taking up the proposal for modification as prescribed in the contract resulted in extra expenditure of ₹ 12.74 crore.

(*Paragraph* 3.7)