

Executive Summary

Background

As a major maritime nation, India's vital economic and security interest are linked to the seas. It is, therefore, essential to maintain naval forces that are not only adequate but also have the combat edge to meet contemporary threats. To ensure seaworthiness and operational fitness of its fleet, Navy undertakes various types of repairs and refits of its ships. These repairs and refits are to be undertaken in accordance with Operational-cum-Refit Cycle (OCRC) as promulgated by Integrated Headquarters [IHQ MoD (Navy)] and Ministry of Defence (MoD).

Audit Approach

The Performance Audit (PA) covers the period 2005-06 to 2009-10 and was initiated by discussing its scope, objectives and criteria with various management levels at the MoD and IHQ MoD (Navy). Our conclusions are based upon the audit conducted at various Directorates at IHQ MoD (Navy), Naval Dockyards (ND) and Naval Ship Repair Yards (NSRY). This Report has six chapters. Chapter 1 is introductory in nature. Chapters 2 to 5 contain audit findings. In Chapter 6, the conclusions have been summarised.

Ministry/Integrated Headquarters Ministry of Defence (Navy) response

The PA report was issued to the MOD and IHQ MOD (Navy) in December 2011 and June 2012. The reply from the Ministry was awaited as of November 2013. Our findings were finalised with reference to the replies furnished by the NDs/NSRYs and various Directorates of IHQ MoD (Navy).

Key Findings

1. Planning and Execution of Refits

Refit of the ships are planned as per the OCRC approved by the MOD/IHQ MOD (Navy). Our analysis revealed that 113 (i.e. 74 *per cent*) out of a total of 152 refits were completed with an

accumulated delay of 8629 days. Further probing revealed that 66 refits (i.e. 43.42 *per cent*) were planned ab-initio in excess of the duration authorised for refits in OCRC thereby resulting in an accumulated planned loss of 5,188 days in availability of the concerned ships. Delays of over 300 days in completion of 97 (i.e. 63.82 *per cent*) and commencement on schedule of only 28 (18.42 *per cent*) out of 152 refits was indicative of improvements needed in Refit Planning and Management.

One of the main reasons for delays was the growth of work attributable to the ageing of ships as also the inability to ensure timely induction of new / replaceable ships. Resultantly, the warships were unavailable for operational deployment for a considerable period which resulted in a certain class of ships that remained unavailable for deployment for 163 months. Also in 40 refits, there was excess utilisation of 2975 dry docking days. The cost attributable to this delay was ₹167.49 crore.

(Paras 2.1.2, 2.2.1, 2.2.2, 2.2.3 2.2.4 and 2.4)

2. Mid Life Update of Ships

Mid-life update (MLU) is undertaken for those ships which have a residual life of 10 to 15 years, so as to derive the optimum utilisation taking into account the expenditure involved. We noticed that MLUs were undertaken at the fag end of a ship's life. Major equipment sanctioned at a cost of ₹245.50 crore by the Cabinet Committee on Security (CCS) were either delinked or deleted without reference to or approval of the Competent Authority. Actual expenditure booked against each of the CCS sanctioned projects was not available with the Navy. There were delays ranging from 5 to 67 months in commencing the MLU resulting in cascading delays in MLU / refit of remaining ships and operational unavailability of ships. Apart from delays in commencement, there were delays ranging from one to 33 months in completion of MLUs of 10 out of 17 ships.

(Paras 3.1, 3.2.1, 3.2.2, 3.2.3 and 3.3)

3. Infrastructure, Human Resources and Supply of Spares

In order to overcome the dockyard constraints, Government had sanctioned construction of dry-dock/wharves at Mumbai in 1985 at a cost of ₹ 90.60 crore. However, the work had not been completed even

after 26 years, due to lack of foresight in planning, designing and in estimating cost of the project. The latest estimated cost of work was ₹ 1106.38 crore and the work is to be completed in 2014. Pending completion, ND Mumbai, continues to suffer dry docking constraints which in turn would lead to delay in completion of refits.

Out of 97 projects sanctioned at a cost of ₹884.75 crore for development of infrastructure of repair yards during the period 2005-06 to 2009-10, only 59 projects costing ₹ 272.22 crore were completed and remaining 36 projects were at various stages of completion.

Against a targeted utilisation of 60 *per cent* of the installed Matrix Units (MUs) for refit, actual utilisation was less. New repair facilities envisaged to be expanded to a full-fledged dockyard and a futuristic shipyard continue to lag behind.

Though there were deficiencies in posted strength in all the NDs / NSRYs, a NSRY commissioned in 2006 had a deficiency of man-power to the extent of 69 *per cent* as of April 2010. The MU was not followed as per the existing orders and there was no uniformity in working out of mandays / MUs at various yards. In one dockyard the undervaluation of mandays based on the posted strength worked out to 7,34,670 mandays (244.89 MUs). Though MU was an important norm for assessing capacity of the refitting yard, its calculation was varied at different dockyards, more importantly the basis for its computation was unknown to them. Further, increasing automation increased posted strength and over time were not factored in arriving at MU.

Main factor contributing to delay in completion of refits / MLUs was the poor availability of spares and equipment. The non-availability of spares was to the extent of 73 *per cent* and 67 *per cent* in respect of Forecast List (FCL) and Post Defectation Demands (PDDs) respectively. Non-availability/failure of critical equipments, delays in supply and fitment of various systems etc. also resulted in time over-runs. The non-availability of spares was despite the fact that 58 weeks for spares and 2-3 years for equipment were available for procurement before commencement of refit.

(Paras 4.4, 4.4.1, 4.4.2, 4.5, 4.5.1, 4.5.2, 4.5.3 and 4.6.2)

4. Costing

The cost accounting system currently in vogue in the dockyards did not reveal the actual cost of refits as cost of equipment/spares etc. supplied by the various procurement agencies were not reflected in the cost of refit at the dockyards. There were lapses in timely and accurate preparation of the Annual Works & Production Accounts (AWPA). The prevalent costing system did not aid either cost identification, cost control or identification of inefficiencies.

(Paras 5.2 and 5.3)

5. Conclusions

While acknowledging that the Navy had been undertaking refits of aged ships of varied classes and origin, it was also admitted that there were considerable time and cost over-runs, resulting in reduced availability of ship days. This PA report therefore points out the need for a more efficient management of planning and execution of refit, speedy completion of infrastructure project, better inventory management and timely supply of machinery and spares.

Recommendations

- ✓ **The refit management of ships needs to be realigned with the OCRC, as promulgated, to ensure timely commencement and completion of refits.**
- ✓ **Ministry and Navy should critically analyse the reasons behind the delays in refit and lack of adherence to the prescribed OCRC to identify factors contributing to it. This includes faster induction of ships, greater refit efficiency at repair yards and firm planning for refits.**
- ✓ **Timely availability of spares must be ensured to complete the refit without delay.**
- ✓ **The identification of candidate ships for planning and execution of MLU needs to be streamlined so that MLUs are completed around half way stage of a ship's life so as to ensure that full benefits of MLU are exploited.**

- ✓ **There is a need to designate a nodal agency in the Ministry and in the IHQ MOD (Navy) to ensure that MLUs are taken up and completed timely. The nodal agency should also ensure that expenditure incurred by different agencies on MLUs is collected and tracked to ensure that expenditure is incurred as intended by the sanctioning authority.**
- ✓ **The planning and process of obtaining sanctions for MLU needs to be far more rigorous. Only such equipment which could be reasonably put onboard as part of MLU should be projected.**
- ✓ **The process of procurement of spares and equipment required for the MLU needs rationalisation. Sources of supply and tendering mode need to be assessed realistically. The items to be indigenised should be selected based on firm timelines for productionisation.**
- ✓ **The capacity of the refitting yards should be re-assessed with reference to the posted strength of Industrial Personnel taking into consideration the automation, overtime and offloading.**
- ✓ **Action should be taken to recruit the tradesmen at NSRY, Karwar at the earliest against existing sanctioned strength.**
- ✓ **Ministry needs to undertake a review with regard to availability and utilisation of earmarked MU capacity for refit, along with reasons and constraints for the inability to achieve the earmarked refit capacity.**
- ✓ **The IHQ MoD (Navy) should ensure that creation of necessary repair facilities are synchronised with the induction of new ships to ensure availability of infrastructure and facilities. Since timely availability of spares is critical for efficient refit programme, Navy should take steps to streamline the procurement system through better co-ordination and effective controls.**
- ✓ **IHQ MoD (Navy) may consider the need to review and revisit the system of demand satisfaction in refits and consider refit specific procurement of spares.**

- ✓ **Suitable cost accounting system should be designed and implemented in consultation with CGDA and professionals, in all NDs/NSRYs.**

- ✓ **The present system does not capture all costs incurred on the refits, such as cost of equipment, spares etc., pay & allowances of Officers posted at Repair Yards. This needs to be addressed in a comprehensive cost accounting system.**