

NINTH REPORT

**STANDING COMMITTEE ON DEFENCE
(1999-2000)**

(THIRTEENTH LOK SABHA)

MINISTRY OF DEFENCE

OVERHAUL/MAINTENANCE FACILITIES FOR THE NAVAL SHIPS

Presented to Lok Sabha on 18 December, 2000.

Laid in Rajya Sabha on 18 December, 2000



**LOK SABHA SECRETARIAT
NEW DELHI**

December, 2000/Agrahayana, 1922 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON DEFENCE
(1999-2000)

. Dr. Laxminarayan Pandey — *Chairman*

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SECRETARIAT

- | | | |
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INTRODUCTION

I, the Chairman, Standing Committee on Defence (1999-2000) having been authorised by the Committee to submit the Report on their behalf, present this Ninth Report on 'Overhaul/Maintenance facilities for the Naval Ships'.

2. The subject was taken up for examination by the Standing Committee on Defence (1998-99) which also took the oral evidence of the representatives of the Ministry of Defence on the subject on 16.11.98. The subject was reselected by the Standing Committee on Defence (1999-2000).

3. The Committee wish to express their thanks to the Ministry of Defence for placing before them the material and information as desired by the Committee and sharing with the Committee their frank views, perceptions and constraints concerning the subject which came up for discussion during evidence.

4. The Committee would also like to place on record their appreciation for the work done by the Standing Committee on Defence (1998-99). The Composition of the Standing Committee on Defence (1998-99) is given at Appendix to this Report.

5. The Report was considered and adopted by the Standing Committee on Defence (1999-2000) at their sitting held on 8 December, 2000.

6. For facility of reference and convenience, the observations/recommendations of the Committee have been printed in thick type in the body of the Report.

NEW DELHI;
December Q, 2000
Agrahayana 17, 1922 (Saka)

DR. LAXMINARAYAN PANDEY,
Chairman,
Standing Committee on Defence.

REPORT

INTRODUCTORY

1. The Navy presently has 1137 ships, including submarines, in its inventory. As a general norm accepted world wide the life of a ship is approximately 20-25 years. Warships and submarines are compact, self sustaining units, densely packed with a vast variety and range of mechanical, electrical, electronic equipments and weapon systems. In order to ensure that these ships and submarines are exploitable in a high state of operational sea worthiness for their entire life, it is essential that hull and structures of these ships and all the equipment/systems fitted on them are maintained and overhauled in a phased manner, for which necessary capability exists within the Navy.

Maintenance Philosophy of the Navy

2. The maintenance philosophy of the Navy envisages the following:—
- (a) To undertake deep level repairs and overhaul of the hull and structures of ships and submarines, and all the equipment/systems fitted on them in a planned and systematic manner, so that the ship is available in a high operational state throughout its life.
 - (a) To undertake necessary modifications/upgradations periodically to ensure that the performance and capabilities of existing ships/submarines are enhanced keeping in view the technological advances.
 - (c) To provide necessary shore based assistance to ships to ensure that defects that may occur on an operational ship are rectified in the shortest possible time.
 - (d) To ensure availability of necessary infrastructure and expertise within the Navy to perform all the above tasks.
3. The Navy's maintenance philosophy is implemented by the adoption of an 'Operational cum Refit Cycle' for each class of ship and submarine. Briefly this implies the following:—
- (a) **Operational** — Each ship remains in an operational state for a specified duration. This period varies from 9 to 18 months depending on the class of ship/submarine. During this period the ship is available for meeting all tasks/ commitments. Operational ships are provided lay off in harbour at regular intervals to undertake self maintenance or seek assistance from shore based units.

- (b) **Refit** — At the end of an operational phase, each ship is scheduled to undergo a refit at Naval Dockyard. Basically ships undergo three types of refits, viz. short refit, normal refit and medium refit. The duration of these refits and their periodicity is determined based on the number of years the ship has been in commission and the periodicity at which various types of maintenance routine, are required to be undertaken.

Overhaul/Maintenance Stages of a Naval Ship

4. Maintenance/Overhauling of a Ship/Submarine goes through the following stages:—

- (i) Raising of a defect list by the Shipping Staff.
- (ii) Pre-refit trials of equipment and machinery.
- (iii) Defect List conference in the Dockyard to finalise the refit work package.
- (iv) Progressive provisioning of spares.
- (v) Planning and sequencing the refit activities including PERT chart.
- (vi) Commencement of refit as per scheduled date.
- (vii) Dry-Docking for underwater work package.
- (viii) Defect rectification on board or on the shop floor.
- (ix) *Boxing* up the equipment on board after repair and shop trials.
- (x) Testing, tuning and setting to work of equipment systems on board.
- (xi) Harbour acceptance trials.
- (xii) Sea trials.

Specimen list of facilities required for a Naval ship

5. A Naval Ship requires a number of facilities for its smooth sailing and operational readiness. A few important facilities required are as listed below :—

- (i) Berthing and dry docking facilities.
- (ii) Facilities for providing shore support services.
- (iii) Facilities for undertaking all nature of structural testing, maintenance and repairs. This includes assessment of hull *stab'*, structural soundness, watertight/gas tight integrity, etc, and associated maintenance/repairs.
- (iv) Facilities for undertaking repairs/maintenance/overhauling/testing of all machinery equipments/systems installed on the ship. These include main engines (GT's where fitted), Diesel alternators, propellers, shafting, various types of pumps and rotating machines, AC/Ref. Plants, Pneumatic/Hydraulic system, all associated valves, pipelines, controls, NBCD and fire

fighting systems etc.

- (iv) Facilities for undertaking repair/maintenance/overhauling/testing of electrical motors, generators, batteries, switch boards, starters, junction/distribution boxes and various other electrical equipments and appliances fitted on the ship.
- (v) Facilities for undertaking repair/maintenance/overhauling off weapons, radars, communication and EW equipment/systems, including repairs of RCB.
- (vii) Facilities for woodworks, lagging, outfitting, anchor/cable testing, etc.

At present, the Indian Navy has two main dockyards, one located at Mumbai and the other at Vishakhapatnam and two Naval Ship repair yards one located at Kochi and the other at Port Blair. The details of these Dockyards are given in the succeeding paragraphs.

6. Today Naval Ships are fitted with a wide range of mechanical, electrical and weapon systems and the refit facilities for all these ships involve a vast range and variety of workshops adequately equipped with test facilities, special tools, jigs, fixtures and test equipment. In view of this, the Committee recommend that with the progressive induction of newer classes of ships/submarines as newer generation of equipment/system fitted thereon, the facilities existing in the Dockyards should be constantly upgraded and refurbished. The Government should address itself to the problems/constraints being faced by the Naval Dockyards/Repair Yards on priority so that Naval Ships and Submarines are exploitable and are in a high state of operational sea worthiness for their entire life.

Repair Infrastructure

7. The Overhaul and maintenance facilities for ships and submarines available with the Indian Navy are set out here under. The facilities enable the work to be done on Hull and Equipment/System related Engineering, Electrical and Weapons:—

A. Naval Dockyard, Mumbai [ND (MB)]

8. The Naval Dockyard at Mumbai is over 250 yrs old. After independence due to the planned expansion of the Navy, a large number of facilities have been augmented/created so that the refit/overhaul requirements of the Ships based at Mumbai are attended to. ND (MB) have specialised facilities upto medium refit level repairs of all requirements of western and indigeneous origin equipment i.e. Ships and Submarines and generic facilities up to normal refit levels, repairs on all types of ships and submarines.

At present, a large dry dock is under construction to meet the docking requirements of Viraat, aircraft carrier and to augment the dry dock capacity at Mumbai which are presently under severe strain due to the large number of ships based at Mumbai.

ND(MB) is spread over 130 acres of land with berthing, docking and modern workshop facilities for ship repairs. The yard has 101 work centres. These various repair facilities are grouped under Engineering, Electrical, Weapons and Hull disciplines. These facilities are suitable for providing the complete range of maintenance support to Naval ships and submarines based at Mumbai. The Dockyard has about 4000 meters of jetty/wharves for berthing of ships/submarines. Each berth/wharves has crane services, shore electrical supply/mobile generator, High/Low Power

Air Service, Sea/Fresh water supply and Mobile Chillers/Air Conditioners for meeting requirements of ships berthed alongside. The yard has five dry docks of varying capacities in addition to a 150 Ton Slipway for hoisting smaller ships.

9. Future plans to augment/create the facilities at ND (MB) are as under:—

- (i) Creation of new dry dock and two wharves.
- (ii) Augmentation of an Afloat support facility for submarines.
- (iii) Repair facility for NBCD equipment .
- (iv) Modification to test bed in Missile Engines Repair Shop.
- (v) Rubber Moulding Facilities.
- (vi) GT Repair (Gas Turbine) facilities.
- (vii) Augmentation of Electrical Repair facilities at ND (MB)
- (viii) Shore Power Supply facilities augmentation at ND (MB) that is the Ship which are being currently fitted in India & Abroad.
- (ix) Building a new Dockyard Apprentice School.

ND (MB) is managed by about 300 service and civilian officers with its 12000 strong industrial work force. The industrial workers of the yard are suitably qualified and technologically equipped to work on the entire range of activities related to ship repair. The total manhour available at ND (MB) in terms of matrix unit are 377 MU (IMU= 3000 mandays)

10. The Committee note that the ND (MB) caters to refit of various classes of Ships and Submarines based at Mumbai and some of the most important projects are coming up like the construction of dry docks and wharves, augmentation of Afloat facilities for Submarines etc. The Committee hope that these projects would be completed within a short span of time and Government should take suitable

steps to ensure proper utilisation of resources allocated for the future plans and also to avoid cost and time overruns.

11. The Committee are of the view that infrastructure like dry docks, wharves, jetties etc. are continually subjected to marine environment which is extremely hostile. Periodic maintenance and repair of these assets is, therefore, necessary. As the dry dock capacity at ND (MB) is already under severe strain due to the large number of Ships based at Mumbai, the Committee desire that with the futuristic planning of induction of newer types of ships. Government should also draw a comprehensive plan to augment/upgrade the dry dock and repair, facilities at Naval Dockyard, Mumbai.

B. Naval Dockyard, Vishakhapatnam [ND (V)]

12. The Naval Dockyard, Vishakhapatnam is the primary ship and submarine repair and refit organisation of the Indian Navy on the Eastern coast of India. The Naval Dockyard is tasked with the execution of planned refits of the ships and submarines of the Eastern Naval Command and also of other ships and submarines as assigned by Naval Headquarter.

13. This Dockyard originated from a Boat repair yard that existed at the time of independence. With the large induction of Petyas (Anti Submarine Warfare Ships) and Foxtrot class conventional submarines in the late 60s/early 70s, setting up this dockyard became an essential imperative. Recommendations of specialists from Ex-USSR were obtained for setting up this dockyard and implementation was undertaken in a phased manner keeping in view funds availability; as creation of a dockyard requires heavy capital investments. The facilities for deep repair to Petyas (Anti Submarine Warfare Ships) Oceangoing Mine sweeper (SNM), Durg class missile corvettes (SNR), 1241 RES (Veer Class Missile Vessels), Landing Ship Tanks (LSTs), Foxtrot class conventional submarines and 877 EKM class submarines are now either complete or nearing completion. As an adjunct and independent facility for overhaul/repair to Gas Turbine has also been created at ND (V) to meet the overhauling requirements of all Gas Turbines (GTs) fitted in the Navy.

The ND (V) is equipped with three dry-docks, a chain of repair berths and workshops, and basing facilities for ships and submarines. The dockyard undertook the refits of 35 ships and submarines of long and short durations in the year 1999.

14. When asked whether any ship or submarines were sent abroad for refit, the representative of Ministry of Defence, during evidence stated as under :

"Regarding the ships going abroad for repairs, we have already sent EKM submarines abroad for refits. At the moment, there are refits going on in Russia.

That is because we do not have the capacity to take them on here. Only ND (V) has the ability to do the medium repair on the EKM submarines. We are doing one there. No other ships are going abroad. We hope that in the next few years we would also be able to develop Indian Commercial Yard to take on the medium refits of EKM submarines say in Hindustan Shipyard or Mazagon Dockyard.

So, the plan is to progressively stop sending any submarine to Russia".

15. Naval Dockyard (Vishakhapatnam) have made major breakthrough in partnership with the Indian Industry in the Private and Public Sectors, as well as the Defence Research Development Organisation in development of Naval technology in some strategic areas. The Vibrant Quality circles movement has been set up at ND (V), where workers find solutions to seemingly intractable problems. The Quality Circles of this Yard have not only won several awards but more significantly have devised indigenous solutions to numerous technical problems. The Dockyard has now offered its specialised

manufacturing capabilities in areas where surplus capacity exists, to the industry at large.

16. The Dockyard employs about 7600 personnel including about 5000 industrial personnel. The total man hours available in term of matrix unit at ND (V) are 285 M.U. The Dockyard also has an intensive training programme for the continuous upgradation of skills of its workforce.

17. The Committee note that Naval Dockyard, Vishakhapatnam had been shaped, primarily for the specialised refit and repairs to ships and submarines acquired from the Ex-USSR and has also developed the necessary capability for repairs to indigenously constructed ships and equipment. The Committee desire that Naval Dockyard, Vishakhapatnam should upgrade their existing repair facilities keeping in view the induction of newer types of ships particularly forthcoming induction of 1135.6 class of ships. The Committee also desire that Navyi should create/develop necessary repair facilities to undertake medium refit of EKM Submarines at Naval Dockyard, Vishakhapatnam either indigenously or with Original Equipment Manufacturer (OEM) in order to save time and precious foreign currency which are spent on sending EKM class of submarines to Russia for the purpose of refit and repairs.

18. The Committee appreciate the Quality Circles which have been set up at Naval Dockyard, Vishakhapatnam which won several awards in the country and desire that the management at the Naval Dockyard, Vishakhapatnam should encourage and appreciate the quality work of their work force and upgrade their skill by organising seminars/workshopo regularly so that further thrust could be given to Quality Circles Movement. The successful Quality Circles Movement should also be encouraged in other Dockyards/Repair Yards.

Naval Ship Repair Yard, [NSRY (K)]

19. The Naval Ship Repair Yard, Kochi has come a long way from its humble beginnings as Base Engineering and Electrical Workshops with a total complement of 32 men to its present stature as full fledged Naval Ship Repair Yard. In 1952, the Base Workshops were merged and renamed as Base Repair Organisation. The Yard Craft Organisation at Kochi was also brought under the administrative and operational control of BRO, Kochi. An Apprentice Training School started functioning in BRO, Kochi, in 1973.

20. The largest extension of BRO, Kochi took place in the eighties when it was augmented for basing Inshore Mine Sweepers. A number of new facilities such as Slipway, ICE shop, Weapon and Electronics shops, were added as the refit load of yard progressively increased. In August, 1988, the BRO, Kochi was re-christened Naval Ship Repair Yard, Kochi. At present the yard occupies four times the area of erstwhile BRO and has over 1150 personnel including 30 officers. The total man hours available at NSRY (K) in terms of matrix units are 35 M.U.

21. The north jetty, being nearer the repair shops is used as the repair jetty and south jetty, which is more modern, is used for berthing operational ships. A Weapon Equipment Depot located at Always functions under the administrative control of NSRY, Kochi, with a provider section located within the NSRY complex.

22. The role of NSRY is to provide repair & shore support facilities to ships and establishments of Southern Naval Command, visiting IN ships and Coast Guard ships as approved by Headquarters Southern Naval Command. The yard undertakes full fledged refits of Offshore Patrol Vessels, Training Ships, Survey and Oceanography ships, Maritime Acoustic Research ship. Mine Sweepers and the maiden Sail ship based at Kochi. As NSRY slipway can take only vessels upto 100 Tons, it offloads drydocking of ships other than Mine Sweepers to commercial yards such as CSL, Kochi and HSL Vishakhapatnam with the rest of the repair work on machinery and systems being undertaken in-house.

23. Manufacturing and Repair facilities at NSRY include foundry, machine shop, plating, welding and cutting facilities, saw mill, said loft, ICE shop, electrical shop, auxiliary machinery and fitting shop, weapon and electronic shops, mine sweep repair bay, boat repair shop, shipwright shop, FRP repair shop, smithy, hull fabrication and outfitting shops.

24. The Committee note that due to non-availability of suitable dry dock at NSRY (K) dry docking requirements are met by using the commercial dry dock at Cochin Shipyard Limited. The Committee desire that the Government should explore the feasibility of creating dry dock facility at NSRY (K) during the Tenth Defence Five year Plan.

25. The Committee hope that Government would undertake necessary modification/upgradation/augmentation of refit/overhaul facilities at NSRY (K) particularly for In-shore Mine Sweeper and Naval Ships of Western origin and that this work would be completed during the Ninth Defence Five Year Plan.

D. Naval Ship Repair Yard, Port Blair NSRY (PB)]

26. The Naval Ship Repair Yard at Port Blair has been upgraded in 1993 from a Base Repair Organisation to Naval Ship Repair Yard. NSRY (PB) has facilities to meet the short refit requirements of minor war vessels, A floating dock is available to meet the emergency dry docking requirements of Ships upto frigate size.

27. At present, NSRY (PB) has 19 Service Officers, 1 Civilian Officers, 28 Supervisors, 210 Trademen, 55 Unskilled labourers. The capacity of NSRY (PB) in terms of matrix unit is 9.50 M.U..

28. Manufacturing and repair facilities at NSRY (PB) include Ice shop. Fitting shop, Airconditioning & Refrigerator shop. Machine shop, Fabrication shop. Outfitting shop, Electricals shop and Electric weapon shop. NSRY (PB) is equipped with the jetty crane of 15 tonne capacity and two mobiles cranes of 7.5 and 5 tonnes capacity respectively. Workshops are also equipped with 4 cranes ranging from 2 tonnes to 10 tonnes capacity.

29. NSRY (PB) has one floating dry dock and this floating dry dock has been instrumental in assisting NSRY (PB) achieving large scale independence with regard to its refitting capacity from the main land which in itself is highly limited due to the available manpower.

30. NSRY (PB) has been undertaking scheduled refitting in addition to attending to operational defects on board IN Ships. NSRY (PB) also provides limited support to the Coast Guard Ships based at Port Blair.

31. In regard to augmentations of facilities at NSRY (PB) the Ministry of Defence in a written reply stated:

"Certain essential augmentation facilities at Port Blair may become necessary and would be contingent to the future plans of the Navy with regard to basing of Ships and Submarines at Port Blair.

The proposed establishment of Far Eastern Naval Command at Port Blair will further enhance the operational availability of alternate Ports of operating fleet Ships and Submarines".

32. Keeping in view the strategic location and distance of Andaman and Nicobar Islands from the main land and other security considerations, the Committee recommend that the Government should expeditiously take a decision on the proposed establishment of Far Eastern Naval Command at Port Blair.

33. The Committee desire that the Government should augment and develop specialised refit facilities at NSRY (PB), taking into consideration the future plans of the Navy with regard to basing of Ships and Submarines at Port Blair so that, upto medium refit level, repairs of all types of Ships and Submarines could be undertaken at NSRY (PB)

E. Protect Sea Bird, Karwar

34. Need to establish a Naval Base on West Coast was appreciated and accepted by CCPA (Cabinet Committee on Political Affairs) as a new scheme in the 1980-85 Naval Plans on account of the following major factors:

- (a) The existing Naval Bases were located within the Metropolitan Areas and this precluded total security and exclusiveness.
- (b) To decongest Mumbai with a view to have flexibility of expansion.
- (c) For strategic reasons.
- (d) For development & testing of weapon system in exclusive environment.

35. Karwar was found to be the ideal location for establishment of the Naval Base from strategic point of view and availability of sufficient depth of water for operation and berthing of Naval Ships and adequate land to meet the future requirements.

36. The Project, Sea Bird at Karwar was cleared by the CCPA in August, 1985 and in 1995 the Cabinet approved the construction of reduced Phase-1 of the project at a completion cost of Rs-1294.41 crores which is planned to be completed by year 2005.

37. The delay in the project has mainly been due to severe resource crunch which extended till 1995 and due to acquisition of land and evacuation of Project affected Families and since this has been completed the contract for the Marine works has been concluded at a cost of Rs. 575.85 crores.

38. The Committee note that the basic aim to establish a Naval Base at Karwar apart from strategic reasons was to decongest the existing Naval Bases on West Coast particularly Mumbai Naval Base.

39. As has already been observed by the Committee in its earlier reports, (Fourth Report—Tenth Lok Sabha, Eighth Report—Twelfth Lok Sabha and First Report—Thirteenth Lok Sabha) the Committee regret the inordinate delays in commencement of Project Sea Bird, which is the one of the most strategic and ambitious projects of the Indian Navy. The Committee are of the view that such projects which are vital for nation's security deserve to be accorded high priority and completed expeditiously.

40. Keeping in view the future requirements of Navy particularly for Aircraft Carriers, the Committee desire that necessary specialised facilities for dry docking and berthing of the Aircraft Carriers should be created at Karwar which at present are not available to the Indian Navy at any Naval Base on West Coast.

Refit capacity of Yards

41. On the refit capacity and manhours available with the four Dockyards/Repair Yards, the representative of the Ministry of Defence during the evidence stated as under:—

"The capacity of the Repair Yards is measured by matrix unit. We define one unit as 3000 mandays. Each type of refit for a class of ship is assigned a fixed matrix unit. The total planned load of the yard is calculated for all ships falling due for refits in that yard. Selective off-loading is planned to reduce the mismatch between the load and the capacity. Further load is created by operational requirements, non-availability of spares, increase in scope of refit, refit work necessitated by the review of total workload. This essentially means that if over and above the planned programme of the repair yard, suddenly, a requirement comes wherein a ship is expected to sail and it has got a certain defect which prevents it from sailing. That is what is the meaning of operational requirement is. In some cases where spares are not available, we have to either procure them from local trade or manufacture them within the yard. Such activity increases the scope of refit work which is what is resulted in the review of the matrix unit."

42. The following table shows the planned refit load of the various yards from the year 2000 to 2005:—

(All figures in Matrix Unit, 1Mu = 3000 Mandays)

Yard	Capacity	2000-01	2001-02	2002-03	2003-04	2004-05
ND (V)	285.00	430.00	431.00	435.00	437.00	440.00
ND (MB)	377.00	450.00	461.00	465.00	467.00	475.00
NSRY (K)	35.00	41.00	45.00	50.00	53.00	60.00
NSRY (PB)	9.50	10.00	10.00	10.50	10.50	11.00
Inductions		40.00	70.00	105.00	130.00	150.00
Total	706.50	971.00	1017.00	1065.50	1097.50	1136.00
Deficiency		264.50	310.50	359.00	292.00	429.50

As can be seen from the table...

As can be seen from the total given at the bottom of the at table, the total capacity of the yards put together is about 700 matrix units whereas for the year 2000-2001 we have a work equivalent to 971 Mu. We have to bridge this gap.

43. To bridge this gap, we offloaded the work. Offloading necessitated for several considerations. They are firstly, *cape* constraints of the yard capacity constraints in specific department the yard, capacity constraints in the nature of facilities themselves.' some cases, the facilities have not been set up. In certain other cases there are areas where we have yet not picked up the expertise. Then there are areas where extensive labour—intensive tasks are involved and there is no point in the yard taking on this task. So the tsuch as clearing the ship's bottom etc. can be offloaded. Also there other cases like bulk manufacture of low technology items. We want a large number of nuts and bolts. This task can be offloaded to private trade".

44. In response to a query on filling the gap of workload representative of the Ministry of Defence added:—

"We have shortfalls in our capacity to handle the work the going to come particularly in the newer areas. Our plan is to manage with the existing resources within the country. We will rely on the industry and we will also rely on the PSUs to take on some of our work. In this way we would be able to close the gap. For instance, Mazagon Dock Ltd. in Mumbai and Hindustan Shipyard Ltd. in Vishakhapatnam can take on some work. Goa Shipyard Ltd. too can take on some smaller work as they too have some spare capacity.

The difference in shortfalls in matrix units is filled up by offloading the work to outside organisation."

45. To the above query during the evidence, the Defence Secretary further added as under:—

"It is our plan that we should combine the naval dockyard capabilities with what are available even in our PSUs. Together we have the requisite capacity to overhaul and do the refitting. In addition, the new trend that is emerging is that a number of private shipyards are also coming up."

46. The Committee note that the present total refit capacity of four Naval Dockyards/Ship Repair Yards is 706 matrix units, whereas for the year 2000-2001 the workload is equivalent to 971 M.U. The Committee feel that the progressive refurbishment/replacement of equipment and facilities installed in the dockyards/repair yards needs to be improved and the refit capacities of Dockyards/Repair Yards should be augmented and shortfall in matrix unit should be effectively filled up.

47. The Committee further feel that the interaction of Naval Dockyards/Repair Yards with PSUs shipyards and Private Sector Shipyards should be frequent and continuous as this would help in avoiding further investment by the Government on the technologies and capacities already available in the PSUs shipyards and Private Sector Shipyards. The combine capabilities and capacities of Naval Dockyards Repair Yards, PSUs Shipyards and Private Sector Shipyard so created would be adequate to meet the projected requirements of Indian Navy for overhaul/maintenance of Naval Ships.

48. The Committee recommend that Naval Repair work which is labour intensive or involves bulk manufacture of low technology items should be suitably off-loaded to private sector so that the Naval Dockyards/Repair Yards could concentrate on high technology items as this would prove to be more cost effective.

Budgetary Requirements

49. Keeping in view the essential requirements of augmenting repair infrastructure, undertaking repair/overhaul of ships/submarines and procurement of spares for equipment/facilities installed in the repair yards; support in terms of adequate budgetary allocation on a continued basis needs no emphasis. The Budget Estimates and the Actual Expenditure incurred for the repair/refit of ships/submarines in the last five years and Budget Estimates for 2000-2001 are as under:—

(Rs. in Crores)

Year	B.E	Actuals Expenditure
1994-95	53.04	56.94
1995-96	47.97	54.54
1996-97	72.91	92.51
1997-98	131.06	121.31
1998-99	217.30	335.04
1999-2000 (Provisional)	338.22	527.09
2000-2001	476.47	476.47 (B.E)

50. The Ministry of Defence in a written reply have state under:—

"The overhaul/maintenance infrastructure of the Navy is presently just adequate to meet the refit requirements of all existing ships/submarines. Continued capital investment infrastructure development and upgradation is part an essential necessity. Naval Capital Budget allotment is sought be maintained at suitable levels to ensure adequate budget allocations as a continued basis for timely augmentation of repair

infrastructure, undertalcing repair/overhaul of ships submarines procurement of spares for equipment/facilities installed in repair yards etc. within the parameters of the overall Defence Budget Outlay".

Budget Projections by the Navy for augmenting facilities at the two Naval Dockyards and the two Naval Ships Repair Yards are as follows:—

	Year	Projection (Rs. in Crores)
Balance IX Plan X Plan	2001-2002	53.31
	2002-2003	79.42
	2003-2004	89.93
	2004-2005	92.95
	2005-2006	95.45
	2006-2007	89.15

51. The Committee

51. The Committee feel that continued capital investment infrastructure development is an inescapable necessity and any limitations imposed due to inadequate funding will only result reducing the operational capabilities of ships and submarines, also reducing cither their life or the life of equipment/system fitted on them. The Committee, therefore, recommend that Governmt should make available adequate funds for strengthening repair infrastructure, undertaking repair/overhaul of ships and submarui on a sustained basis so that operational readiness of the Indian Navy does not get eroded.

NEW DELHI;
December 8, 2000
Aparahavana 17. 1922 (Saka)

DR. LAXMINARAYAN PANDEY
Chairman,
Standing Committee on Defence

MINUTES OF THE ELEVENTH: SITTING OF THE STANDING
COMMITTEE ON DEFENCE (1998-99)

The Committee sat on Monday, the 16th November, 1998 from 1430 hours to 1645 hours.

PRESENT

Sqn. Ldr. Kamal Chaudhiy — *Chairman*

MEMBERS

Lok Sabha

2. Shri Suresh Chandel
3. Shri Dada Baburao Paranjpe
4. Shri Sohanveer Singh
5. Shri Arvind Tulshiram Kamble
6. Col. Sona Ram Choudhary
7. Shri Hannan Mollah
8. Shri S. Ajaya Kumar
9. Shri Pradeep Kumar Yadav
10. Shri Madhukar Sirpotdar
11. Shri Promothas MukhelJee
12. Dr. Subramanian Swamy

Rajya Sabha

13. Shri V.N. Gadgil
14. Shri V. Kishore Chandra S. Deo
15. Shri K.R. Malkani
16. Shri A. vijaya Raghavan
17. Shri Adhik Shirodkar
18. Shri Kapil Sibal
19. Shri Arun Shourie

SECRETARIAT

1. Shri Joginder Singh — *Joint Secretary*
2. Shri R. Kothandaraman — *Deputy Secretary*
3. Shri K.D. Muley — *Assistant Director*

REPRESENTATIVES OF MINISTRY OF DEFENCE

1. Shri Ajit Kumar — Defence Secretary
2. Shri P.R. Sivasubramanian — Financial Advisor (DS)
3. Shri Subir Dutta — Additional Secretary
4. Shri R.P. Bagai — Joint Secretary (Navy)

Naval Headquarters

1. Vice Admiral A.S. Krishnan — AVSM, VSM, COM
2. R. Adm A.M. Telang, VSM — ACOM (D&R)
3. Cmde S. Godbole — DFM
4. Cmde B.K. Kaul — DODY
5. Cmde T. Mohan Ram — DNAM

2. The Chairman welcomed the Defence Secretary and his colleagues to the sitting of the Committee and invited their attention to the provisions contained in Direction 58 of the Directions by the Speaker.

3. The Committee then took evidence of the representatives of the Ministry of Defence on various points arising out of the examination of the subject 'Overhaul/Maintenance facilities for Naval Ships'. The representatives of the Ministry explained and elaborated on the queries from the Members.

(The witnesses withdrew)

4. A verbatim record of the proceedings was kept.

The Committee then adjourned.

**MINUTES OF THE FOURTEENTH SITTING OF THE STANDING
COMMITTEE ON DEFENCE (1999-2000)**

The Committee sat on Friday, the 6th October, 2000 from 1500 hrs. to 1715 hrs.

PRESENT

Shri **Hannan** MoHah — *In Chair*

MEMBERS

Lok Sabha

2. Shri S. Bangarappa
3. Col. (Retd.) Sona Ram Choudhary
4. Shri Raghuvir Singh Kaushal
5. Shri Mansoor Ali Khan
6. Prof. Rasa Singh Rawat
7. Shri A.P. Jithender Reddy
8. Shri Ramjiwan Singh
9. Dr. Jaswant Singh Yadav

Rajya Sabha

10. Shri Adik Shirodkar
11. Sardar Gurcharan Singh Tohra
12. Shri T.N. Chaturvedi

SECRETARIAT

1. Shri P.D.T. Achary — *Joint Secretary*
2. Shri Ram Autar Ram — *Director*
3. Shri K.D. Muley — *Assistant Director*

Representatives of the Ministry of Defence

1. Shri T.R-Prasad — *Defence Secretary*
2. Shri P R Sivasubramanian — *FA (DS)*
3. Shri V.N. Gaur — *Joint Secretary (Shipyard)*

Defence Production & Supplies

Shri Ravindra Gupta — *Secretary, DP & S*

Navy Headquarters

1. V.Adm. AS Krishnan
PVSM, AVSM, VSM - Chief of Material
2. R.Adm. AM Telang, VSM - Asstt. Chief of Material (D&R)

3. Cmde. BK Kaul, VSM - Director of Dockyards
4. Cmde. Z. Mathews - Director of Fleet Maintenance
5. Cmde. D. Deshpande, VSM - Director of Naval Air Material
6. Cmde. B.B. Das - Director (NRD)
7. Captain K. Vasudev - GM (Tech.) Project Sea Bird

2. At the outset the Chairman welcomed the Defence Secretary and his colleagues to the sitting of the Committee on the subject 'Overhaul/Maintenance facilities for the Naval Ships'.

3. He then read out Direction 55 and 58 of the Directions by the Speaker, Lok Sabha. The Ministry of Defence then made a brief presentation on the subject. The Committee then took evidence of the representatives of the Ministry of Defence on the various aspects of the subject 'Overhaul/Maintenance facilities for the Naval Ships'. The representatives of the Ministry explained and elaborated the queries from the Members.

(The witnesses then withdrew)

4. Verbatim record of the proceedings of the Committee has been kept.

The Committee then adjourned.

**MINUTES OF THE FIFTEENTH SITTING OF THE STANDING
COMMITTEE ON DEFENCE (1999-2000)**

The Committee sat on Friday, the 8th December, 2000 from 1500 hrs. to 1630 hrs.

PRESENT

Dr. Laxminarayan Pandey — *Chairman*

MEMBERS

Lok Sabha

2. Col. (Retd.) Sona Ram Choudhary
3. Smt. Sangeeta Kumari Singh Deo
4. Shri Jarborn Gamlin
5. Shri Mansoor Ali Khan
6. Shri A. Krishnaswami
7. Shri Hannan Mollah
8. Shri Gajendra Singh Rajukhedi
9. Prof. Rasa Singh Rawat
10. Shri A.P. Jitender Reddy
11. Shri Madhavrao Scindia
12. Dr. Col. (Retd.) Dhani Ram Shandil
13. Shri C. Sreenivasan
14. Dr. Jaswant Singh yadav
15. Dr. (Smt.) Sudha Yadav
16. Shri Vijayendra Pal Singh Badnore
17. Smt. Raneeh Narah

Rajya Sabha

18. Shri Suresh Kalmadi
19. Dr. Y. Lakshmi Prasad
20. Shri Kripal Parmar

SECRETARIAT

1. Dr.A.K. Pandey — Additional Secretary
2. Shri P.D.T. Achary — Joint Secretary
3. Shri Ram Autar Ram — Director
4. Shri K.D. Muley - Assistant Director

2. ** ** ** **

3. ** ** ** **

4. The Committee then took up for consideration Draft Ninth Report on Overhaul/Maintenance Facilities for Naval ships. The report was adopted without any change.

5. The Committee authorised the Chairman to finalise the Reports in the Light of verbal and consequential changes and for presentation of the Reports to Parliament.

The Committee then adjourned.

APPENDIX

COMPOSITION OF THE STANDING COMMITTEE ON DEFENCE (1998-99)

Sqn. Ldr. Kamal Chaudhiy—*Chairman*

MEMBERS *Lok Sabha*

2. Shri Rajendrasinh Ghanshyamsinh Rana
3. Smt. Bhavnaben K. Dave
4. Shri Shanta Kumar
5. Shri Suresh Chandel
6. Shri Gaurishankar Chaturbhuj Bisen
7. Shri Dada Baburao Paranjpe
8. Shri Bachi Singh Rawat
9. Shri Sohanveer Singh
10. Shri Parvathaneni Upendra
11. Smt. Surya Kanta Patil
12. Shri Arvind Tulshiram Kamble
13. Shri Rajesh Pilot
14. Col. Sona Ram Choudhary
15. Shri Ram Narain Meena
16. Shri Gajendra Singh Rajukhedi
17. Shri A. Venkatesh Naik
18. Shri Hannan MoUah
19. Shri S. Ajayakumar
20. Shri Pradeep Kumar Yadav
21. Smt. Reena Chaudhary
22. Shri V; Sathiamoorthy
23. Shri Digvijay Singh

24. Shri Indrajit Gupta
25. Shri H.D. Devegowda
26. Shri Madhukar Sirpotdar
27. Shri Promotes Mukherjee
28. Shri Ramachandran N. Gingee
29. Dr. Subramanian Swamy
30. Shri Sultan Salahuddin Owaisi

Rajya Sabha

31. Shri V.N. Gadgil
32. Shri V. Kishore Chandra S. Deo
33. Shri K.R. Malkani
34. Shri A. Vijaya Raghavan
35. Shri Ish Dutt Yadav
36. Shri Adhik Shirodkar
37. Shri S. Peter Alphonse
38. Sardar Gurcharan Singh Tohra
39. Dr. Raja Ramanna
40. Shri Kapil Sibal
41. Shri Arun Shourie
42. Shri Pritish Nandy
- *43. Shri Pramod Mahajan
44. Shri S. Sivasubramanian
45. Shri Suresh Kahnadi

SECRETARIAT

1. Dr. A.K. Pandey — *Additional Secretary*
2. Shri Joginder Singh — *Joint Secretary*
3. Shri R. Kothandaraman — *Deputy Secretary*
4. Shri K.D. Muley — *Assistant Director*

"Ceased to be the Member of the Committee consequent upon his appointment
Minister *w.ef.* 5.12.1998.