



सत्यमेव जयते

**COMMITTEE OF EXPERTS FOR AMENDMENTS TO DPP 2013  
INCLUDING FORMULATION OF POLICY FRAMEWORK**

**Report of the Experts Committee**



**Facilitating 'Make in India' in Defence Sector through  
Defence Procurement Procedure**

**JULY 2015**





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INCLUDING FORMULATION OF  
POLICY FRAMEWORK**

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**Committee of Experts for Amendment To DPP-2013  
Including Formulation of Policy Framework  
presents its Report to the Government of India**



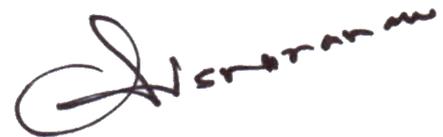
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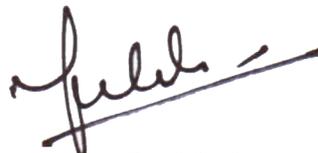
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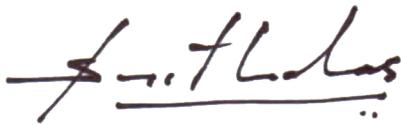
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## **DEFENCE MATERIEL**

“Now the main foundation of all States, whether new, old or mixed, are good laws and good arms. But since you cannot have the former without the latter, and where you have the latter, are likely to have the former, I shall here omit all discussion on the subject of laws and speak only of arms.....”

Machiavelli in ‘The Prince’



## CHAPTER 1 DEFENCE MATERIEL

### 1.1. Introduction

1.1.01 Defence Systems acquisition, defence production and formulation of doctrines of offensive and defensive warfare are all intertwined. These are also conducted within an overarching strategic defence and foreign policy environment. This is a continuous exercise, but there are certain defining moments, whose impact is profound and it may be worthwhile to take note of some of them especially those which have a bearing on the Committee's mandate.

### 1.2 Historical Perspective

1.2.01 Modern defence industry in India was set up to serve the interests of the colonial power. Whereas hardware could be brought over from the mother country, perishables like gunpowder could not, especially in large quantities and this prompted them to set up small mills within the fortifications at Bombay (now Mumbai), Madras (now Chennai) and Calcutta (now Kolkata) to make gunpowder. In addition to gunpowder mills, smithy and carpentry yards were established to make gun carriage. The Fort William complex was augmented by a brass gun foundry and thereafter a full fledged production factory at nearby Cossipore (Kashipur). This Factory which commenced production in March 1802, initially as a gun carriage manufactory with the gun foundry amalgamated with it later, is generally recognised as India's first Ordnance Factory. It has been working continuously since then. Its present name was given in 1872 to mark the completion of the new rifle shell factory in its extended premises. Although this major step was taken, the policy of procuring most of critical hardware from England and supplementing it by locally produced of what can be termed as quartermaster stores continued. In his minute on the Ordnance Department, Sir Hugh Rose, Commander in Chief in India spelt out the guiding parameters for procurement on 20th March 1865.

1.2.02 "Guns shots and shells fortunately do not deteriorate from climate. As a general principle, therefore, I would advocate that guns, shots and shells and small arms of all kinds should be obtained from England and that the manufactures from India should be limited to the supply of what may be called perishable articles, such as gunpowder, laboratory stores, gun carriages and wagons, harness and saddlery etc."

1.2.03 Frequent technological advances and economies of scale reinforced this policy. Demands for local production were met by the argument that Cossipore was at least fifty percent more expensive than Woolwich. Moreover, it was said that locally made defence products were lacking in 'requisite handiwork' and there was no machinery or scientific skills available. Unfortunately the industrial policy of 1956 unwittingly strengthened this position. The remnants of this policy to a very large extent still haunt us, as state-of-the-art equipment continues to be imported with only repair and maintenance facilities being established in the country.

1.2.04 Although a war had been fought with Pakistan soon after independence, India's strategic policy in the initial years, nevertheless was to maintain peace by striving for good relations with neighbours and not by proactively arming itself to deter any aggressor. Perhaps the dominant economic development models which gave prominence to the public sector, contributed to keeping away the private sector from Ordnance manufactures, which were reserved for the public sector. Considering that a substantial portion of defence equipment was being imported (and except for those from the former USSR) much of it manufactured by private industry, the ideological bias against Indian private industry is in hindsight quite inexplicable. Perhaps it could be explained by stating that the policy was mainly directed to the civil sector and defence industry was a mere adjunct. However a series of events commencing from a souring of relations with China in the late 1950's and actual clash of arms in 1962, Ayub Khan's military coup in 1958 and inflow of sophisticated US arms into Pakistan forced a rethink. Prof P.M.S Blacketts' recommendation to follow a two phased production strategy, short term to meet local adversaries, and long term for more sophisticated arms to counter a stronger adversary was considered attractive. His recommendations, however still aimed at building up limited manufacturing capability, urging India to rely more on diplomatic efforts. His advice had led to the establishment of the Defence Research and Development Organisation (DRDO). A review by the US management firm of Arthur D. Little of the production infrastructure highlighted several deficiencies and a coordinated effort was mounted with the setting up of the Department of Defence Production. However the 'Supply' part of the Department was mainly to assist the Public Sector and the Services to source low value, unsophisticated stores or perhaps outsource some components or processes to the private (mainly small scale) industries, which were still not permitted to produce complete platforms or weapon systems. India's decision to remain non-aligned predicated an equidistant position between the superpowers, but its economic policies and geographical proximity saw it turning more and more towards the USSR for its defence requirements. An Indo-Soviet Treaty of Peace, Friendship and Cooperation was entered into with the Soviet Union in 1971. It reinforced the reliable nature of the relationship and provided enormous political dividends. The system followed was to enter into Government to Government agreements and to conduct negotiations with one state Agency. India's requirement of indigenous production was met by licensed production contracts and setting up of dedicated infrastructure to suit the production processes of the source country. Obviously this further strengthened the Indian public sector production base. Technology transfer was limited in scope and did not extend to building and developing design capabilities. There was enormous dependence on a host of spares and maintenance and overhaul of major sub-systems. The advantage in the one vendor system however was that once the decision had been taken more time was available to discuss issues relating to infrastructure, manpower and related skills, production technology absorption and other operational requirements. This contrasts with multivendor negotiations where considerable time is taken even before a vendor choice is finally made.

1.2.05 The advantages to both parties were of such great magnitude that political upheavals of the late 1980's did not impact the defence relations with Russia. Both sides have however reconfigured their negotiation mechanism and adjusted strategies to cope with commercial realities. Issues that were unthinkable earlier, were brought to the negotiating table and short comings in technology such as in avionics or night vision were discussed. Whilst

India was not prepared to give up the robust platforms which remain comparatively less expensive, it has been insisting on customizing them with western and India sourced items. The SU 30MKI multi-role fighter has French, Israeli and Indian systems integrated into the Russian made platform. This phase of defence acquisition has remained the bedrock on which we have continued to build. The resultant inventory comprising of a vast array of equipment for all three Services (and the Coast Guard) has been tried and tested and remains our mainstay.

1.2.06 The period up to the early 90's can hence be broadly classified as that fostering a partnership with one major supplier, which resulted in limited technology transfer, and use of production techniques modelled on Soviet practices. Repair and overhaul facilities, contractual provisions, import of kit of parts, negotiating formats all followed a particular template. It also resulted in a huge inventory which needed to be used and maintained over a long period of time. Similarly strategic and tactical doctrines of all three Services could not ignore the use of this inventory to its optimum capability. India became an arms import dependent country.

1.2.07 The early 1990s saw the end of the cold war and the establishment of what is termed as a multi-polar world order. Within our domestic sector there was a resurgence of the economy and changes in the economic order. The economic crisis of 1990-91 prompted the acceleration of the liberalisation process. Controls in many areas were removed and operation of the market forces largely restored. The private sector demonstrated its prowess especially in Information Technology and pharmaceuticals. The nation needed to harness their entrepreneurship and management skills and this led to a realisation that it could no longer afford to keep the private sector out of so vital a field as defence equipment manufacture. The policy of reservation of all defence equipment manufacture for the public sector was jettisoned in 2001-02 and it was opened to private entrepreneurship albeit under licence. These changes also had their impact on defence equipment acquisition. Military contacts were established with manufacturing countries other than Russia. On the diplomatic front a number of bilateral arrangements were entered into with many countries embracing cooperation in purchase, manufacture, ToT and joint research and development. The flipside was that a multi vendor situation where more complex systems were being evaluated exposed the weakness in acquisition executives to conduct such prolonged negotiations efficiently. It also highlighted institutional deficiencies not brought out in Government to Government negotiations with single vendors. The assertion of independent thinking on strategic national security issues also exposed the country to chinks in its armour when sanctions were imposed, defence units and R & D establishments denied technology and even repair of equipment kept in abeyance. Deft diplomatic handling soon resulted in easing of sanctions, and business as usual. Military supplies from the US commenced and long term partnership agreements entered into.

1.2.08 Another significant fall out of confidence in Indian industry was the insistence on a shift from a buyer-seller relationship into one of coproduction, co development and joint research and development. At all meetings of bilateral Defence Groups this became a standard demand and sub-groups on industry were formed with each of the major supplier countries. Whenever technology was to be obtained the depth of technology insisted upon was much deeper, as well as on inclusion of design technology to enable incorporation of design changes in locally produced systems at subsequent stages, to suit Indian requirements.

1.2.09 The stage had by now, been set, for major initiatives to be taken on procedural matters to address Indian concerns. The Public Accounts Committee of Parliament in its 187th Report in 1989 recommended that Government should draw up comprehensive guidelines relating to defence purchases and contracts. The 1992 guidelines sought to address these concerns. They embraced the concepts of a long term perspective plan, Services five year capital acquisition plan and 'Make' and 'Buy' decisions. The process was continued when in the aftermath of the Kargil war, the Higher Defence Management was subjected to a scrutiny by a Group of Ministers and comprehensive reforms in the Defence acquisition institutional and procedural set up were made. The guiding principles were jointness, synergy, building up of expertise and collegiate decision making. All these were to be achieved by institutional mechanisms at various levels.

1.2.10 Long term plans were to be prepared by an Integrated Defence Staff reporting to the Chiefs of Staff Committee. These would be the basis for medium term and annual plans. Approval for such plans was to be accorded by the Defence Acquisition Council (DAC) chaired by the Defence Minister. Emergency purchases and consideration of intricate matters was to be done through a collegiate decision making process by the Defence Procurement Board (DPB) chaired by the Defence Secretary. The efforts of the production and research agencies were to be synergised with the requirements of the Services through production and R & D Boards chaired by their respective Secretaries.

1.2.11 A completely new acquisition architecture was put in place, headed by a Director General of Defence Acquisition (earlier Special Secretary, Acquisition). There would be Technical Managers (from the Services), Finance Managers (from the Financial services) and Acquisition Managers (from the Administrative services), each with their own expertise but working together under one authority. Detailed procedural guidelines called Defence Procurement Procedure (DPP) were promulgated in 2002 which was applicable for procurement flowing out of 'BUY' decisions of the DAC. The scope of these procedures was enlarged in June 2003 to include procurements flowing out of 'Buy and Make' through imported Transfer of Technology (ToT) decisions. The DPP which had an in built mechanism for review has since been revised in 2005, 2006, 2008, 2009, 2011 and 2013 enhancing the scope to include 'Make' procedure and 'Buy and Make (Indian)' categories and upgrades. Offsets were made mandatory for specified high value projects since 2005. There have been periodic revisions of the scheme.

1.2.12 A Defence Production Policy was enunciated in 2011 giving emphasis to indigenisation. Progressive amendments to the DPP since 2002 have enabled private sector participation and increased focus on domestic production. There are perceptible differences from earlier DPP's. There is renewed emphasis on indigenisation, the Buy (Global) decision can now be taken only after the other options for procurement, namely, Buy (Indian), Buy and Make (Indian), Make, Buy and Make with Transfer of Technology (TOT) are ruled out; and by stopping the practice of nominating only the OFB or DPSU's as recipients of Maintenance TOT. The HQ Integrated Defence Staff (IDS) has also published 'The Technology Perspective and Capability Road map TPCR – 2013'. It is expected to provide industry with a detailed perspective of what the Armed Forces are looking at.

1.2.13 This second phase stretches from the early 90's to present times. Although Russian inventory remains the backbone it has been diversified with materiel sourced from Israel, France, the United States, Britain, South Africa and Italy. There are requirements of absorption of a range of technologies, changes in production and maintenance techniques and cooperation on allied defence related matters with a very much expanded list of countries.

1.2.14 The country is now set for an entry into the third phase with a more proactive industrial policy captured in the pithy 'Make in India' call. The multi-polar world and the healthy rivalry of resurgent economies of the developing world, have inculcated a greater sense of confidence in India. The security scenario remains tense with the need to protect a 7500 Km long coastline, to protect the country's interests in the Indian Ocean and its littoral considering the expansionist propensities of countries in the Region and to meet a two-front threat from the Northern and Western land borders. Over this is the overlay of threats of cyber and space warfare. Thus this five front threat requires the Armed Forces to operate in inhospitable terrains ranging from the mountainous Himalayan region to the deserts of Rajasthan and the jungles and riverine regions of the east and north-east as also the expanses and depths of the oceans and open skies. The rise of terrorism and disruptive activities of non-state actors has made matters worse. The growth in the economy is expected to provide India with the wherewithal to function as a great power and to engage more constructively in the efforts to preserve the security of the region. It is no longer to be restricted by a defensive posture at the northern land mass but to look east and south across the oceans. The strategic content of its defence and foreign policy would reflect this new found confidence. Needless to mention it will also be spurred on because of a healthy competition with other emerging powers.

### **1.3 Role of the Political Executive**

1.3.01 The overarching responsibility of the political executive and consequently the decisive voice in the field of foreign and defence policy is axiomatic in democratic polities. The Services understand and respect this position. So in spite of their concerns in some areas which they perceive as vulnerable, including a policy that scholars have termed as 'strategic restraint', in the wider national interest, they adjust their war fighting doctrines to such limitations. And herein lies the rub. There is a justifiable criticism that India lacks coherent strategic thought. Although the number of strategic thinkers has grown they are unable to influence policy. The political executive of various shades has also not built up cadres of strategic thinkers to provide continuity. Internal social divisions and the structure of the Indian polity is such that there are continuous internal confrontations and only in time of crisis and war that everyone comes together, unfortunately to relapse into business as usual once the crisis abates. Unless a national consensus develops and an institutional framework put in place adequate military power will not be generated.

1.3.02 Such a position therefore carries a historical legacy of defence equipment, infrastructure and production techniques. Since the life cycles are long they continue to impact on resource allocation and battle doctrines. Changes are sought to be made incrementally and seamlessly integrated, so that vulnerability is reduced. The resultant mix of 'Obsolete', 'Obsolescent' and 'State of Art' in inventory has its repercussions on logistics, inventory management and carrying costs.

## 1.4 Role of the Armed Forces

1.4.01 However, when we consider the nature of defence systems, and their growing complexity, and fast changes in technology then we enter into the practical realms of detail and usage. There is a widespread belief that the Qualitative Requirements are gleaned from glossy brochures and that unrealistic parameters for defence equipments are formulated. We would like to dispel this notion and state that whereas primacy has to be accorded to policy makers in strategic planning taking into account domestic compulsions (including resource allocations), and international relations, sometimes translating into greater reliance on diplomatic efforts and defensive postures, the balance of advantage however needs to shift to the Armed Forces in the matter of the choice of the characteristics of defence systems and equipment based on user preference and tactical and operational doctrines. Modernisation is not merely induction of new types of equipment, but a mix of strategy and security perceptions and optimum use of hardware to achieve stated national objectives. Services should lead the initiative for modernisation.

1.4.02 There is also the question of inter-Service trade-offs which impact on procurement and priorities. This is considered a weak area and Services must make concerted and serious efforts to address this problem, in spite of their intractable nature, if they have to justify their primacy in choice of systems.

1.4.03 We hence need to examine the nature of Defence Systems and move from primacy to the political executive to giving a decisive voice to the Armed Forces and create a defined space for them. The primary objective is to ensure that doctrinal developments of the Services are not hindered.

1.4.04 Military tactics and materiel go together. Each can limit the other or supplement it. Leadership provides the balance. All these are the preserve of the Armed Forces. The airlift on 27 October 1947 landing Indian troops into Srinagar with meagre resources in a joint effort by the IAF and Army; the dogged defence of the Chushul sector of Ladakh by Army in 1962 with IAF support using un-pressurised aircraft operating at high altitudes using improvised landing strips; the capture of the Hajipir pass in the high Himalayas in August 1965 and recapture of dozens of peaks in the Kargil war of 1999; the victory by armoured formations at Asal Uttar in September 1965, the cool calculated planning and then a swift, sweeping attack choreographed by FM Maneckshaw in the Indo-Pak war of 1971; the Indian Navy's raid into Karachi in 1971; the Air Forces quick learning curve in adapting smart weapons to existing inventory in aid of ground troops in the Kargil sector are all examples of how the three elements can be successfully used.

1.4.05 We are here more concerned with situations where the doctrines precede the induction of materiel. Thus if the Army decides that mechanised forces which could strike pre-emptively, but kept at reasonable distances away from the border ( Reorganised Army Plains Infantry Divisions) needed to be stocked with tanks, armoured fighting vehicles, ground attack missiles, air defence systems, attack helicopters and howitzers then the procurement should not be looked at of discrete items in isolation but of a total package. And if the strategic scenario changes and it is felt that a reorientation is required as future battles will be short and swift and if the RAPIDs need to be supplemented by formations which are smaller, more extensively deployed, closer to borders (Integrated Battle Groups) in doctrines like those of 'Cold Start'

then major changes in equipment and command and control systems may be required and the long term perspective plans need to be tweaked. The Army's range of requirements is more varied, encapsulating small arms, long range guns, varied platforms of different capabilities but none as big as ships or of sophisticated technology as aircraft. The possibility of complete systems being designed and manufactured by companies with lesser investment in infrastructure is higher.

1.4.06 Similarly starting from an auxiliary role the IAF has moved to formulations which give it a more offensive role and lately as a strategic force. For this it would require enhanced airlift and reconnaissance capabilities. However the very high cost of airborne technologies does put the IAF in a tight spot. This has its implications for indigenous R&D efforts, which need to be addressed as a National effort.

1.4.07 The Indian Navy although in similar straits has a slight head start. Ship building capabilities have existed in the private sector for long (because of our industrial policy to which we have alluded to earlier, ship yards were brought within the Government's fold post independence). The Indian Navy has design capabilities (a historical legacy carried over from Britain's Royal Navy) and have a more integrated R&D culture with DRDO. The Navy too has been updating its maritime doctrines to mesh with a more proactive role, in the Indian Ocean and its littoral, in consonance with the nation's economic progress. It also has a major role in protecting India's offshore assets during peace time and to protect the sea lanes to sustain the country's commerce. Like the IAF it too has expensive platforms but is closer to indigenising them than the IAF. Our recommendations on ship building in subsequent sections take this into account as we feel that the time frame for Navy's modernisation is lesser than that of the IAF and indigenous capability outside the public sector can be harnessed in a shorter time frame.

## **1.5 Nature of Defence Materiel**

1.5.01 We now proceed to elaborate on the distinctive features of defence systems and the means to exploit them. These are:

- (i) Modern warfare is becoming increasingly influenced by armament technology and military doctrines sometimes chase evolving technologies;
- (ii) There is an enormous cost associated with development of such technologies with costs also allocated to skilled scientific manpower and subsequent production infrastructure. Time frames tend to be long and procedures are complicated.
- (iii) Platforms have given way to complex systems. Weaponry, the electronic suite and command and control systems need to be looked at in totality. Thus what may appear as a single discrete item in the procurement request would be part of the entire system and its criticality would depend upon where it fits into the whole. Moreover for optimal utilisation of such complex systems other existing support infrastructure may need upgradation (e.g. A sophisticated aircraft may need upgrading of airfields).
- (iv) Specialised user trial procedures are laid out to test efficacy in different terrains, climate and battle conditions;

- (v) Technological obsolescence is faster which leads to expenditure on upgrades and sometimes wholesale replacement of complete systems. This is also influenced by the inventory held by adversaries.
- (vi) There are costs involved in training the manpower in use of these technologies and weapon systems;
- (vii) Budgetary constraints have led to inventories which consist of a range of technologies from obsolete to state of art. This means that capabilities should exist to maintain equipment for long periods which may extend in some cases to 60 years.
- (viii) The optimal use of complex platforms would depend on the training which the user undergoes and this requires years of diligent work. This combination of man and machine is what matters in times of war. User preference therefore needs to be accorded a very high priority. It can make the difference between winning or losing a battle.
- (ix) In case the requirements of such materiel cannot be met indigenously then they need to be imported and here pure commercial terms do not always matter as defence materiel exports are subject to a whole host of control regimes and export clearances imposed by the sovereign states from which the materiel is sourced. Such control regimes exist not only for equipment but also for the production technology, resulting in sub-optimal transfer of technology.
- (x) Finally the distinctive requirements of the different Services and threat from multiple fronts requires specialised and dedicated equipment of considerable variety and complexity, but which in joint operations may be required to be used in conjunction with one another.

1.5.02 In contrast in the typical business market, a buyer examines the available products, requests competitive bids for purchase or manufacture from a number of contractors, selects a bid based on quality and price and signs a one-step contract for delivery on a specified date. Such a market depends on having complete information of products and, producers, a standardised off-the-shelf product, predictable cost of products, and minimal concern about the viability of maintaining the product or losing the source of supply.

1.5.03 Setting out the distinctive features of defence materiel becomes necessary as it has a bearing on:

- (i) Purchase Procedures where unwittingly comparisons are made with civil procurement;
- (ii) Search for the industrial source which does have the capability to produce such materiel; and
- (iii) Difficult pricing decisions because of non operation of traditional market forces.

1.5.04 Consequently there needs to be a proper understanding of the complexities of the procurement procedures, and to usher in a process of dialogue and discussion which will lead to a better understanding of these complexities and build a national consensus on defence related issues.

1.5.05 This is important in the context of wide spread perceptions that defence acquisitions are prone to corruption. Time and again cases get highlighted, years of work stopped, for the misdeeds of a few, the morale of many are severely jolted, the taint is transferred from the individuals to the equipment and the Armed Forces are left high and dry. The nation suffers and the adversaries benefit. We do not consider it necessary to give any examples as most are well publicised. Our aim should be to ensure that :-

- (i) There is wide spread understanding on critical defence matters especially equipment purchases and its complexities so that whilst a robust systems of preventing corruption is put in place and punishment for corrupt practices is swiftly meted out it does not hamper on-going, purchase efforts; and
- (ii) To build systems which will provide a greater level of comfort to those who have to take decisions based on their understanding, that not only their bona fide decision would not result in any administrative or penal action but that, they would be encouraged to take decisions in the national interest with courage.

1.5.06 It is not part of our mandate and we do not propose to give any suggestions relating to building up of a national consensus and clear understanding of critical defence related issues (including procurement of equipment) amongst policy makers, legislators, the intelligentsia , media and the general population, except to state that such an understanding will instil a greater sense of confidence and lead to better risk taking by those directly involved , resulting in lasting benefit to the nation on the one hand and add to the discomfiture of our adversaries on the other.

## 1.6 Conclusion

1.6.01 Our examination in this chapter has led to the following conclusions:-

- (i) Whereas primacy is to be accorded to the political executive in all decision making and especially on strategic national security issues, in the choice of the characteristics of defence systems and equipment based on user preference and tactical and operational doctrines, the Armed Forces must have a decisive role;
- (ii) A tectonic shift must take place in the acquisition procedures, which are primarily based on the template of civil procurement procedures, because of the sophisticated nature of defence systems and which must cater to defence requirements;
- (iii) The procurement executive devised to execute such complex procedures, in an efficient and timely manner must have inhouse professional expertise in diverse disciplines, working in harmony, having continuity of tenure, and having the ability to obtain outside professional advice when needed and be subjected to capability assessments from time to time;
- (iv) Oversight and audit procedures would need to be instituted to cater to these specialised procedures.

## 1.7 The Next Chapter

In the next chapter we examine the nature and contours of defence industry worldwide and in India, and of how it impacts equipment purchases today.







## CHAPTER 2 DEFENCE INDUSTRY

### 2.1. Introduction

2.1.01. SIPRI Year Book 2015 has estimated the global military expenditure in 2014 at \$1776 Billion. The United States remained the largest military spender in 2014, followed at some distance by China and Russia. At the same time, the volume of international transfers of major weapons grew by on an average of 16 per cent between 2004–2008 and 2009–13. The five largest suppliers in 2010–14, the United States, Russia, China, Germany and France accounted for 74 per cent of the volume of exports. With the exception of China, the USA and European suppliers have dominated the top tier of suppliers for the past 20 years. In 2010–14 it was the third largest supplier.

2.1.02. Military spending in Asia-Pacific remains huge, as China has substantially increased military spending year-after-year. This has been accompanied by increasing tensions due to territorial disputes in the South and East China seas.

**Table -1: Country Wise Military Spending 2014**

Region	Spending (\$ billion)	Change (%)
USA	610.0	3.5
Russia	84.5	4.5
China	216.0	2.06
India	50.0	2.4
World Total	1776	-

**Table-2: Top 10 Arms Importers 2010-2014**

Importer	Share of international arms imports (%)		Main Suppliers (share of Importer's total Imports) 2010-14		
	2010-14	2005-09	1st	2nd	3rd
India	15	7	Russia (70%)	USA (12%)	Israel (7%)
Saudi Arabia	5	1	UK (36%)	USA (35%)	France (6%)
China	5	9	Russia (61%)	France (16%)	Ukraine (13%)
UAE	4	5	USA (58%)	France (9%)	Russia (9%)
Pakistan	4	3	China (51%)	USA (30%)	Sweden (5%)

Importer	Share of international arms imports (%)		Main Suppliers (share of Importer's total Imports) 2010-14		
	2010-14	2005-09	1st	2nd	3rd
Turkey	3	3	USA (58%)	South Korea (13%)	Spain (8%)
USA	3	3	Germany (18%)	UK (15%)	Canada (13%)
South Korea	3	6	USA (89%)	Germany (5%)	Sweden (2%)
Singapore	3	3	USA (71%)	Germany 10%	Sweden (6%)

Source: SIPRI Year Book 2015

2.1.03. India has been one of the top arms importers with a 15 percent share followed by Saudi Arabia.

## 2.2. Select International Case Studies

2.2.01. The world witnessed a proliferation of defence industries in the years following both the world wars. However since the end of the Cold War, the global arms production has been consolidated in the hands of a few big primes. In the US, the biggest Defence Industrial Base in the world, there are only three aerospace primes (Boeing, Northrop Grumman and Lockheed Martin) left in the defence industry. Three companies, Air Bus, Dassault Aviation and BAE systems dominate the European aircraft industry. A similar situation prevails in the defence shipbuilding and land warfare systems industries. Such consolidation has to be seen in the context of stagnant (in real terms) global defence expenditure, and the uncertainty and cyclical nature of defence equipment orders. Significant changes have also been brought about by harnessing technology to enhance the capabilities of the weapon systems and platforms. Innovation in defence technology requires collaboration between military organisations (who know what they need), defence industry (which appreciates the parameters of the possible), and the broader civilian economy (which lays the foundation for technological development and provides the resources for defence spending). Governments provide the direction, export promotion and funding where required.

**Table-3: The 10 Largest arms-producing companies, 2013**

Rank	Company	Arms Sales, (\$m.)	Profit (\$m.)
1	Lockheed Martin (USA)	35490	2981
2	Boeing (USA)	30700	4585
3	BAE Systems (UK)	26820	275
4	Raytheon (USA)	21950	2013
5	Northrop Grumman (USA)	20200	1952
6	General Dynamics (USA)	18660	2357
7	EADS (trans-European)	15740	1959
8	United Technologies (USA)	11900	5721
9	Finmeccanica (Italy)	10560	98
10	Thales (France)	10370	761

Figures are US\$. The profit figures are from all company activities, including non-military sales.

*Source: SIPRI Year Book 2015*

2.2.02. In spite of the dominance of large industry, there is an increasing space, that has been created for SMEs now engaged in civilian products. For the last fifteen years, the US DoD has encouraged small firms to contribute to defence innovation, especially as the costs of military technology increases relative to “off the shelf” civilian technology.

2.2.03. In the paragraphs following, we examine the journey of countries, which set about having a Defence Industrial Base post World War II.

### **2.3. United States**

2.3.01. Industry Structure: The Defence Industrial Base consists of both government and contractor owned equipment and facilities as under:-

- i. Government-Owned Government-Operated (GOGO) Facilities.
- ii. Contractor-Owned Contractor-Operated (COCO) Facilities.

2.3.02. Traditionally, the United States has relied on a privately owned (COCOs), profit-oriented industrial base to provide most of the goods and services used by the military departments. This defence manufacturing and technology base can be characterised as that providing equipment with stringent performance parameters, but at very high cost with low volume of production.

2.3.03. While the DOD policy has been to rely on private sector facilities for fulfillment of government contracts, remnants of the government’s earlier “arsenal system” still remain.

These public facilities are used to manufacture and repair aircraft, ships, ground combat systems and other military equipment.

2.3.04. The US DOD has defined two alternative methods of military sales, i.e., Foreign Military Sale (FMS) through the Pentagon and Direct Commercial Sale (DCS). Between these two, sales are equally shared. Six out of the top ten defence companies are US-based, and in 2013, they together accounted for 50 percent of global sales. Huge private sector participation in the defence industry indicates strong and seamless interaction between the government and industry.

#### 2.3.05. **R&D Structure**

i. US DOD has many government supported Research and Development Centers. The US defence sector has not been able to maintain adequate R&D levels, and hence, the US Government has always relied on the private sector to develop technologies independently.

ii. The spending on the defence sector rose at the rate of 4 percent since 2002. The R&D expenditure has grown at the rate of 11 percent. This has led to significant technological development, which has taken the US far ahead of all the defence industries worldwide.

#### 2.3.06. **Contribution of US Defence Industry to National Economy**

i. The defence industry is responsible for over 2.23 percent of GDP and about 7.0 percent of exports, and is the largest net exporting industry in America. The US defence market at present comprises about 44 percent of the total global revenues and 53.8 percent of total employees working for publicly held industrial companies.

ii. With direct, indirect and induced employment of 3.53 million workers spread over the entire U.S., the defence industry contributes an estimated \$40 billion in tax collections.

### 2.4. **Russia**

2.4.01. Because of the Soviet Union's heavy emphasis on military prowess and capability, the Military-industrial sector in the Soviet Union (now Russia) was larger than its counterparts in other countries. In addition to military equipment, it produced almost all civilian products with technology content such as appliances, electronic equipment, and civil aircraft. The organisational structure of state-owned companies was not designed to function in a market economy. On the contrary, qualitative and quantitative decisions about output were dictated by the State. The State also performed many of the operational functions normally handled within a Western corporation, such as distribution, purchasing of inputs, and finance.

2.4.02. Companies were vertically integrated, performing many functions within the enterprise that could have been done far more efficiently by outside suppliers and subcontractors. However, these did not exist.

2.4.03. As the State's role shrinks and competitive market forces emerge, the boundaries and organisational structures of the enterprises are being redefined. Many of the functions

previously performed by the State are being internalised. Other functions not required earlier in the command economy, such as marketing, are being instituted. Large organisations are being decentralised for purposes of cost control and efficient operations along product lines. In some cases the decentralisation is being accomplished by the creation of internal divisional cost and profit centers, in other cases by the establishment of subsidiaries.

## **2.5. United Kingdom**

2.5.01. In early 1970, a Committee was asked to investigate efficiency in government owned industrial establishments, with a view to determining whether the existing organisation and systems of control and accountability presented impediments to achieving full efficiency and how these impediments should be removed. The committee recommended that the Royal Ordnance Factories and the Royal Dockyards should be given a financial structure more like that of a commercial undertaking and should be placed on a trading fund basis. This was the first step in the privatisation process. However, there was substantial difference from the civil process. Whereas civil privatisation, reduced Government involvement in the decision making of industry; permitted industry to raise funds from the capital market on commercial terms and without government guarantee; promoted wide ownership of shares; encouraged workers' share ownership in their companies; increased competition and efficiency and replaced ownership and financial controls with a more effective system of economic regulation designed to ensure that the benefits of greater efficiency are passed on to the consumers, privatisation of defence companies was done differently.

2.5.02. They were sold or floated on the stock market, some entirely and some broken up. The government retains a "Golden Share" in the three key defence equipment companies to protect national interest, but the bottom line is that the market rules and this has been reinforced by the Ministry of Defence's adoption of procurement policies based on competition.

2.5.03. From the Government's perspective, privatisation has enabled them to pursue the policy of opening up defence procurement as fully as possible to competitive pressures. This was not possible earlier when the Government was both the customer and one of the potential suppliers. Competition in defence procurement has produced substantial economies to the defence budget in recent years.

## **2.6 France**

2.6.01 General Directorate for Armament (DGA) is a technical service of the French Ministry of Defence, which acts as an interface between the Armed Forces and the defence industry. DGA engages in procurement, research and development and production of arms.

2.6.02 The French defence industry is broadly composed of three distinct organisational structures.

- i. Arsenal and shipbuilding, which functions under DGA.
- ii. Semi-public firms, which produce military and civilian goods.
- iii. Private sector industries, which are now the fastest growing.

While competition exists at the level of subcontractors and suppliers, the French domestic market for military airframes, aero-engines, and armoured vehicles is not large enough to support

more than one prime contractor in each of these sectors. As a result, the French Government has promoted the consolidation of those portions of the defence base considered vital both to national security and the country's overall economic growth. Since military aerospace and defence electronics are closely linked to "strategic" civil industries (aeronautics, space satellites, telecommunications, computers, and electronics), many defence prime contractors and their associated civil-sector industries have been combined into large conglomerates.

### **2.6.03 Restructuring and Privatisation**

i. From the 1960s through the 1980s, France emphasised bilateral collaboration with its European neighbours because such projects offered greater control and lower transaction costs. It also negotiated co-production arrangements with countries that purchased French weapons to help "offset" procurement costs and thereby promote sales. However, such collaboration was mainly on systems of secondary military importance, such as helicopters, trainers and transport aircraft, while it preserved its national autonomy in "strategic" areas such as nuclear weapons, nuclear-capable delivery systems, etc.

ii. In September 1991, France approved a partial privatisation (up to 49 percent) of its entire nationalised sector, including banks, insurance companies and defence contractors. There were a number of obstacles for the defence industry. First, it was difficult to find buyers who were prepared to pay a good price. Second, people were cautious about buying shares in a state-controlled firm whose priorities and goals differed from those of private investors.

iii. There was, however a gradual move away from the emphasis on national autonomy in arms production. The DGA concluded that France no longer had the financial means to maintain an independent capability across the full spectrum of weapon systems and needed to rationalize defence production by concentrating on its competitive strengths. In an effort to reduce overcapacity and eliminate redundancies, the government urged defence companies to pare back their product lines, collaborate with other European firms that had complementary technological assets, and focus on "poles of excellence" where France enjoyed a technical or market advantage. Further, leading French defence contractors sought to reinforce their technological strengths and penetrate new markets by acquiring foreign firms and creating overseas subsidiaries.

### **2.6.04 R&D structure**

In May 1997, the DGA recognised its organisation for defence research by creating a Directorate for Research, Studies and Techniques (DRET), which coordinated all defence-related research in the public and private sector.

### **2.6.05 Contribution of Defence Industry to National Economy**

Although France produces about 90 percent of its own armament requirements, the defence industry also exports to more than 25 countries. The defence industry in France is its largest employer. It is export-oriented and has historically used arms export as a means to maintain its balance of payments. The French defence industry makes an important contribution to the government's revenue. One oft-quoted statistic says that for every one euro that the government spends on defence, it receives up to €1.3 (\$1.7) in tax, social security contributions and export revenue.

## 2.7 Israel

Israel's desire for the development of its own defence industry was reinforced by the arms embargoes imposed by the supplier states from time to time. The formalisation of the defence sector in Israel started in the 1950s with the establishment of many defence organisations for production, research or maintenance. An R&D division established within the Israeli Ministry of Defence (MoD) in 1952 was recognised in 1958 as a separate entity — Rafael — which, over the years, turned it into the country's central defence development organisation.

### 2.7.01 Industry Structure

Israel's defence Industry can be divided into three broad categories:

- i. Israel Aerospace Industries, Rafael and Israel Military Industries. They being large state-owned firms, they mainly develop and produce defence systems.
- ii. Private defence companies of large and medium size. Three of the key firms in this group, ELOP, Elbit Systems and Elisra, concentrate almost entirely on defence products. The other firms in the group, such as ECI and Tadiran, mainly produce civilian products (communication equipment), but have defence system divisions.
- iii. Small private firms. These only produce specified types of defence equipment. For example, BVR develops computerised aircraft simulators; aeronautics, command and control systems.

Apart from the three groups mentioned above, there are several large refurbishment and maintenance centres that are part of the Army's Division of Technology and Logistics. These centres maintain armoured vehicles, aircraft, communication equipment and other support devices that are used by the military. Currently, Israel's defence industry consists of about 150 firms. The ten largest firms account for 78 percent of the defence industry workers, 82 percent of its total sales, and 87 percent of its total exports. More than 75 percent of the sales of the defence industry are exported. Defence products and systems account for 32 percent of Israeli industrial exports.

### 2.7.02 R&D Structure

Massive and innovative R&D investments by the Government have contributed to the development of high-tech capabilities in the private sector. There is a much greater reliance on outsourcing and sub-contracting of production and R&D among defence contractors. This has enabled shortening of development time and costs. It has also resulted in the development of some unique weapon systems that are suitable to the conditions in the Middle East and to the special needs of Israel's Defence Forces.

Further, Israeli R&D in defence is aided by its higher education system in science and engineering and by the general research community. It is estimated that around half of the scientists and engineers employed in its industrial sector currently have worked with the defence industry / defence services.

### 2.7.03 Industrial Participation Policy

- i. The defence sector in Israel has had a fundamental impact on the development of its technological and industrial capabilities. Israel's small size and its economy, the common background of military service for almost all citizens and its large number of engineering schools have created a basis for open communication between military professional staff and industry. As a result, advanced technologies that were originally developed and utilised for military purposes are now being used to develop commercial products for civilian use. Factors such as highly skilled engineers, good geographic location and some tax and custom benefits have resulted in various international firms setting up their operations in the country.
- ii. Some foreign firms have entered the market by setting up operations directly, whereas others have opted for friendly takeovers of small Israeli firms. Many international firms also maintain a presence in Israel by virtue of their minority holdings in Israeli start-up companies. International firms, which established local research and development centres in Israel in the 1970s and 1980s, have also helped to bring the know-how and the operating procedures of large conglomerates to local, inexperienced firms.
- iii. Defence exports, initially a secondary interest and a means to counterbalance local demand fluctuations, have grown dramatically, now accounting for the majority of sales, placing Israel among the largest arms suppliers in the global market.

### 2.7.04 Contribution of The Israeli Defence Industry to National Economy

- i. Exports have become an important component of the Israeli defence industry and indeed, the entire economy. Israel's high-tech industry has experienced an unprecedented rate of growth which began in the early 1990s. Israel at present is amongst the ten top most global defence exporters accounting for two percent share of the total defence exports from 2009-2013. About 70 percent of the output of the military industry is exported.
- ii. Moreover, advanced technologies developed in Israel are in great demand, and many Israeli-developed applications can now be found in the products of multi-national companies in the communications, computers, information systems, medicine, optics, consumer goods and software sectors.
- iii. Studies have shown that R&D-intensive, high-tech companies have been a major factor in the growth of exports over the years, especially in electronics, optics, electro-optics, lasers, computer-based equipment, robotics and aeronautics.

## 2.8 China

China has set its sights on joining the ranks of the world's advanced industries by the end of this decade to match its status as an emerging global economic and military power. China's Defence Industry has progressed from 'imitation' phase to 'innovation' phase from low end to high-end passing through the following:

- i. Creative Adaptation: High-end imitation with significant proportion of domestic

components on foreign derived platform.

- ii. Incremental Innovation: Updating of indigenous systems & processes; organisational and management capabilities.
- iii. Architectural Innovation: Innovations that change how components of a product are linked together, but core design concepts to remain untouched.
- iv. Component Innovation: New components to be plugged into the existing system architecture.
- v. Disruptive Innovation: Breakthroughs in both components & architectural design changes

The number of defence industry companies exceeds 1400 (both state owned & private). 90 percent of all defence R&D is spent by the defence conglomerates. There are plenty of small, innovative Chinese Technology firms. However, given the opacity of the Chinese defence industrial system, there is little clarity on how much PLA relies on small firms for innovation.

## **2.9 Republic of Korea**

2.9.01 From the early 1970s, the South Korean Government initiated a policy to develop the defence industry by establishing the Agency for Defence Development in 1970. The process of resource mobilisation to fund this research was the introduction of the Defence Tax in 1975 (until 1990) that promoted the domestic production of basic weapons with Technical Data Packages provided by the US as military assistance. In 1980s, most projects for research and development were government driven and focused on the improvement of conventional weapons. It made efforts to upgrade its basic weapons systems and started to successfully develop home-grown Korean weapons systems, developing core technologies in advanced weapon systems. R&D has been given a priority as much as possible in the weapon system acquisition. Under its strategy of selection and concentration, the Government seeks to secure core technologies on which South Korea is heavily dependent on advanced nations. The focus today is to build an effective surveillance and reconnaissance system, to enhance basic force capabilities, next-generation tanks, and satellite communication and to proceed with constant R&D activities related to advanced weapons systems.

2.9.02 The Defence Procurement Agency (DPA) of the Ministry of National Defence (MND) is responsible for more than 95 percent of all defence procurement activities in Korea. The DPA handles everything from the initial specification work to payments to contractors. Its major functions include: procurement of defence materiel for the Korean military forces; construction of military facilities; sources of supply management; acquisition of price information and cost management; offset negotiation and management; military specification and standardisation management. Korea depended completely upon military aid and equipment from the United States until the mid-1960's. In 1971, the Ministry of Defence set up the DPA as an integrated procurement agency. The DPA has since contributed to the modernisation of military equipment used by the country's armed forces and strengthened the nation's war potential by streamlining the process of acquiring war materiel. The DPA currently manages a four trillion Won defence budget.

### 2.9.03 **Defence Industrial Policies and Strategy**

The modernisation of South Korea's defence industry has been facilitated by several government led initiatives. Significant policies have been implemented by the ROK government since the 1990s in a successful effort to further promote the development of the country's defence industry. The Defense Reform 2020 Plan for defence industrial development recognises the ROK armed forces' and government's demands for improved command, control, communication, computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities, precision-guided munitions and advanced weapons platforms and pushes the defence industry to focus less on production through imitation and reverse engineering and more on indigenisation and domestic R&D. More specifically, the ROK's procurement trends since the late 1990s show a growing emphasis on acquiring domestically developed and manufactured products.

2.9.04 Defence contractors are designated by the government and such contractors are entitled for substantial benefits and subsidies. Being assured of orders, industry maintains steady production as the relation between supply and demand is institutionally guaranteed by the South Korean government. In effect, defence contractors have traditionally been granted monopolistic or oligopolistic positions within the defence sector, as each individual contractor has been allocated specialised areas of production.

2.9.05 In essence, the state has played a crucial and fundamental role in shaping both South Korea's defence industrial strategy and the industry development. The state's central role in this sector underlines its preference for undertaking in defence industrial cooperation with other countries on a Government-to-Government level as opposed to a more direct engagement between defence contractors.

## 2.10 **South Africa**

Increasing international opposition to apartheid, and world-wide demands for a mandatory arms embargo against South Africa prompted the government to embark on a major reorganisation and expansion of the domestic defence related industries during the mid-1970's. The rationale behind the establishment of Armscor was based primarily on the then government's strategic concerns in the context of the United Nations' arms embargo. The motivation for the establishment of Armscor was fundamentally strategic in nature, due primarily to the strategic concerns of the government of the day.

### 2.10.01 **Industry Structure**

The South African Defence Industry in the early 1980s had to cope with rising overhead costs, excessive capacities, and declining domestic demands and thus had to make the push in exports by establishing a strong wing of 'Armscor' for export only.

The South African Government adopted the "hands off" approach during the conversion and formation of Denel. Some of the means adopted were vertical integration, mergers and international joint ventures and diversification

### 2.10.02 **R&D Structure**

Domestic production was also encouraged through the government's support to strategic industries and its import-substitution drive. An important development during this period was

the establishment of quality standards appropriate for the manufacture of military equipment. This had a profound effect on the lifting of quality standards in the manufacturing sector of the economy. Applied research and development capabilities were also greatly enhanced, especially through the National Institute for Defence Research of the Council for Scientific and Industrial Research (CSIR).

Defence production had also reached a relatively high degree of self-sufficiency by the end of the 1980's and most of the equipment requirements of the South African Defence Force (SADF) were met domestically. However, because of the country's limited research and development resources, and the UN arms embargo, the local defence related industries did not try to reproduce or emulate the R&D, which had already been carried out by the major Western arms producers. Instead, the industries concentrated on acquiring a capacity for upgrading, modifying and modernizing existing armaments and weapons systems.

### **2.10.03 Contribution to National Economy**

South Africa's defence industries contribute to the country's economy through export. According to the South African Defence Industry Directory 2014–2015. The defence industry in 2012 had a total turnover of R13. 3-billion (of which 67 percent were from exports) and directly employed 15 000 people. It spent R1.2-billion on research and development and achieved "value addition" to the tune of R5.8-billion. It paid R1. 2-billion in taxes to the government.

## **2.11 Defence Industry in India**

2.11.01 The post-independence, industrial policy placed the production of Defence items in the Reserve List making it mandatory for production to be taken up only by the public sector. India, thus created a defence industrial base in the Public Sector consisting today of nine Defence Public Sector Undertakings (DPSUs), 39 (+2 in making) Ordnance Factories (OFs). In addition, there are 50-odd R&D labs and establishments under the Defence Research and Development Organisation (DRDO). The sector for the first time was opened up to 100 percent Indian private sector participation, with Foreign Direct Investment (FDI) up to 26 percent, both subject to licensing in 2001.

2.11.02 Reforms in the defence industrial sector and the acquisition policy have been one continuous process since then, beginning with the formulation of DPP 2002 and its successive revisions (the last one being in 2013), formulation of the Defence Production Policy and the issuance of Joint Venture guidelines. In the recent past changes have been made in the licensing policy, and the FDI limit has gone up to 49 percent and in exceptional cases beyond that. The validity period of the licences has also been increased to seven years with a provision for extension for three more years thereafter.

### **2.11.03 Indian Defence Budget**

Striking a balance between the pressing needs of defence and other development sectors, the defence budget has grown at a steady pace, since the 1999 Kargil conflict. Between 2007-08, which was the first year of the 11th Five-year Plan period, and 2014-15, the outlay for defence more than doubled from INR 92,000 crore in 2007-08 to INR 2,03,500 crore in 2013-14, growing at an average rate of 13 per cent per annum (Table 4).

**Table -4: Total Defence Expenditure (INR in Crore)**

Year	Actual	Percent Increase (Actuals)	(%) GDP*
2007-08	91917.79	7.87	1.84
2008-09	114499.49	24.57	2.03
2009-10	141781.08	23.83	2.19
2010-11	154116.71	8.70	1.98
2011-12	170913.28	10.90	1.90
2012-13	181775.78	6.36	1.80
2013-14	203499.36	11.95	1.79
2014-15	174260.21	-	1.75

Source: Controller General of Defence Accounts.

2.11.04 The defence budget is the third largest single item of expenditure in the non-plan segment of the union budget; indeed in some of the years it was the second largest single item of expenditure. As a percentage of GDP, the defence budget has seen a steady decline, reaching 1.74 percent in 2014-2015. On the other hand, China spends 2.1 percent and Pakistan 2.36 percent on Defence.

#### 2.11.05 Indian Defence Market Size

The budget presented to Parliament on February 28, 2015 set aside INR. 2,46,727 crore (US\$ 40.4 billion) for defence, which amounts to a 7.7 percent increase over the previous year's allocation. The capital budget has doubled from INR 37461 crore in 2007-08 to INR 79125 crore in 2013-14.

**Table-5: Capital Expenditure**

Year	Actual	Percent Increase (Actuals)
2007-08	37462	10.74
2008-09	40918	9.23
2009-10	51112	24.91
2010-11	62056	21.41
2011-12	67902	9.42
2012-13	70499	3.82
2013-14	79125	12.24

Source: Controller General of Defence Accounts. All figures in INR Crores.

2.11.06 As can be seen from Table-6, the Foreign Exchange outgo is nearly 50 percent. In addition, in many of the major ToT produced items by OFB/ DPSUs, a high percentage of raw materials and parts are procured from abroad.

**Table- 6 FE Content in Annual Capital Budget (INR Cr)**

Year	Rs Indigenous	FE (Import)	Total	% of FE in Total
2010-11	17811	4370	22181	20
2011-12	11905	15258	27164	56
2012-13	11832	19220	31053	62
2013-14	15990	20927	36917	57
2014-15	16153	14655	30809	48

2.11.07 Table -7 shows category wise AoNs approved by the government in the past five years. It can be seen from the table that the proportion of “Buy Indian” and “Buy and Make (Indian)” categories in the AONs accorded have increased significantly in 2013-14 and 2014-15. In future, the focus is going to be on “Make” projects for all our major defence requirements.

**Table – 7: AoNs Category wise Approvals (in Cr)**

Year	Buy (Indian)	Buy & Make (India)	Make (Indian)	Buy & Make	Buy Global	Total Year-wise
2010-11	60836	16710	15845	19450	40547	153388
2011-12	28561	2032	0	5747	20500	56840
2012-13	18689	385	1004	13460	27114	60652
2013-14	21002	2734	0	3504	371	27611
2014-15	38319	72751	0	0	6760	117830

Source: Ministry of Defence

2.11.08 The expenditure in foreign exchange being large, the major plank in production policy is to achieve a level of 70 percent indigenisation by 2027. It has been estimated by the industry that the Indian defence market size is likely to be of the order of Rs 86350 Cr by 2022 and, Rs 1,65,000 Cr by 2027 on a conservative estimate. This offers a great opportunity for the Indian defence industry at different levels. It would also be the catalyst for a revolution in the Indian industry, bringing in technological upgradation apart from giving a boost to the Indian economy.

#### 2.11.09 **Production by DPSUs / OFB**

Indian Defence Industry is dominated by DPSUs and OFs, which contribute about 90 percent of the total domestic defence manufacturing output (Table-8 ). The 41 ordnance factories are spread across 26 different locations and employ close to 1, 25, 000 people.

**Table – 8: Value of Production of Defence PSUs including OFB (INR in Crore)**

Organisation	2013-2014
HAL	15867
BEL	6127
BEML	3165
MDL	2865
GRSE	1611
GSL	509
BDL	1804
MIDHANI	572
HSL	453
OFB	11123
Total	44096

Source: Ministry of Defence Annual Report 2014-15

#### 2.11.10 Current Capabilities of Indian Industry

Ordnance Factories manufacture a wide spectrum of equipment including small arms and field guns, ammunitions, explosives, armoured vehicles, transport vehicles, clothing, parachutes and general stores. DPSUs account for approximately 65 percent of the total industrial output of the defence public sector enterprises. The capabilities of DPSUs are listed in Table-9.

**Table – 9: The Current Capability of DPSUs**

DPSUs	Products
Hindustan Aeronautics Limited	Manufacture, repair and overhaul of aircraft, helicopters, engines and their accessories.
Bharat Electronics Limited	Design, development and manufacture state-of-the-art electronic equipment components for the use of the defence services, paramilitary organisations and other government users.
Bharat Earth Movers Limited	Manufacture of a wide range of equipments including specialisation in heavy vehicles for defence and re-engineering solutions in automotive.
Bharat Dynamics Limited	Missiles, torpedo countermeasure systems, countermeasure dispensing systems.

DPSUs	Products
Mishra Dhatu Limited	Super Alloys for Aeronautics, space, armaments, atomic energy and navy. Special products like Molybdenum wires and plates, Titanium and stainless steel tubes, alloys etc.
Goa Shipyard Limited	Builds a variety of medium size, special purpose ships for the defence, Indian Coast Guard and civil sectors.
Garden Shipyard and Engineers Limited	Builds and repairs warships auxiliary vessels for the Indian Navy and the Coast Guard.
Mazagaon Dock Limited	Submarines, missile boats, destroyers, frigates and corvettes for the Indian Navy
Hindustan Shipyard Limited	Survey Vessel, Mooring Vessel, Landing Ship Tank (Large), Offshore Patrol Vessels, Training Ship, Inshore Patrol Vessel.

#### 2.11.11 Private Sector

- i. Since opening up of the defence industry for private sector participation, the Department of Industrial Policy and Promotion (DIPP) has so far issued 222 Letters of Intent (LOIs) and issued Industrial Licences (ILs) to more than 150 companies for manufacture of a wide range of defence items. 46 companies have so far reported commencement of production. The licenses have been issued to the Indian private sector for manufacture of Military Aircraft, Unmanned Aerial Vehicles, Radars, Electronic Warfare Systems, Ship borne platforms, Armoured Vehicles etc.
- ii. In the recent years, many Indian private industries have been involved in a small way with several defence 'Make' projects. These are Integrated Materiel Management Online System (IMMOLS), Integrated Air Defence Command and control system (IACCS) Tactical Communication System (TCS), Battlefield Management Systems (BMS) and Futuristic Infantry Combat Vehicles (FICV). While (IMMOLS) and (IACCS) have been deployed, TCS, BMS and FICV are in the early stages of development. Award of major projects under 'Make' category to Indian private industries is a new beginning in Indian defence industrialisation.
- iii. Indian Private Sector companies are matured today to do system integration in India. The list of Industry Licenses (ILs) issued for manufacture of items under defence industries demonstrates Indian manufacturing sector capability in developing components, sub-system or system supplies as indicated in Table-10 below. Many Indian companies are already part of the global supply chain and have absorbed technology and skills which can be utilised in domestic defence production.

**Table -10: List of Industry Licenses issued to Indian Industry – System/ Sub-system/ Component Level Capability**

<b>System / Sub-system Components</b>	<b>Industry Licenses</b>
Armoured Vehicle / Arms Ammunitions	29
Underwater Equipment / Underwater Ammunitions	4
Ground Equipment / Ground Launch System	6
Night Vision / Sensor based Systems/ Optical Goods / Display systems	17
Radar / Electronic Systems/ Radio / Avionics / Airborne Guidance & Control System / Simulators	57
Bulletproof Jacket / Ballistic Protection	10
Network-Centric / Electronic Warfare System / Combat Management System	11
Rocket, Missiles, Torpedo Tubes / Air Defence Gun / UAV's System & Sub-systems	23
Warship / Submarines	5
Ship, Submarine, Maritime Equipments	7
Aircraft Engine / Airframe / Aircraft systems & Sub-systems	25

*Source: DIPP*

#### **2.11.12 Role of MSMEs**

- i. Across the globe, the capability and viability of the defence and aerospace industry is built on the strength of supply chains. Almost 80 percent of components, aggregates and assemblies of complex weapon systems and aircraft are made by MSMEs which are part of such chains. The major companies are designers and integrators of the equipment, and directly make only about 20 percent of the most critical components. In India, gross value of output of MSME manufacturing in 2012-13 was INR 1809976 Crores, contributing 7.04 percent of GDP. Nearly 6000 MSMEs operate across the country supplying components and sub-assemblies to the DPSUs, Ordnance Factories, DRDO and Private Industries. Over 800 SMEs are today engaged with DRDO.
- ii. Together DPSUs and OFs typically outsource 20 to 25 percent of their production requirements to private sector companies. There is a wide base of Tier- I, II and III vendors who supply raw materials, components and sub-assemblies, as indicated in Table 11 below:

**Table – 11: List of DPSUs/OFs vendors**

S no.	Organisation	Vendors Developed In The Year 2012-13	Vendors Developed In The Year 2013-14	Vendors Developed In The Year 2014-15
1	MDL	131	156	123
2	HAL	41	143	151
3	BEL	632	689	753
4	MIDHANI	0	0	103
5	HSL	5	8	10
6	GSL	45	48	34
7	OFB	444	646	681
8	BDL	29	56	44
9	BEML	120	80	85
10	GRSE	102	57	46

Source: Ministry of Defence

### 2.11.13 R&D in India and Other Countries

- i. The key pillar of a nation's competitiveness is technological innovation. Israel spends 4 percent of GDP in R&D while, Japan, South Korea and Scandinavian countries spend 3 percent. The figure in US, France, Germany is 2 percent and China spends 1.5 percent. But the most important point is that in all these countries (except China), industry spends more than Government in R&D - in some countries 3 times more than Government spending.
- ii. In India, while total spending in R&D is around 1 percent Government's spending is 2 to 3 times more than that of Industry's. The size of the 12th plan for S&T sector has now been estimated with a public investment of Rs. 1, 20, 430 crores in six departments. This may be seen in Table 12. Additional investments are planned under DRDO, various other socio-economic ministries as well as academic and state sectors. The capital outlay of DRDO for 2015-16 is INR 7788.40 Crore.

**Table – 12: Indicative Outlay for 12th five Year plan, Central Scientific Ministries/ Departments/Agencies**

S/No	S&T Department / Agency	12th Plan (2012-17) Outlay (Rs.Cr)
1	Department of Atomic Energy (R&D Sector)	19, 878
2	Ministry of Earth Sciences	9, 506
3	Department of Science & Technology	21, 596
4	Department of Biotechnology	11, 804
5	Department of Scientific and Industrial Research including CSIR	17, 896
6	Department of Space	39, 750
Grand Total		1, 20, 430

Source: 12th Five Year Plan 2012-2017, Volume – 1, Planning Commission, Government of India.

### 2.11.14 **Innovative Ecosystem**

i. Innovation is the key to harness success in defence technology. While India is gearing up to upgrade its “ease of doing business” parameters and addressing necessary policy reforms to attract investments under “Make in India”, it is very important to put the highest priority in strengthening its innovation ecosystem, primarily led by industry and in partnership with government, academic and research institutions, nationally and globally. India’s position in global innovation index has been sliding year on year basis. The key reason is that India’s investments in knowledge and innovation ecosystem are not commensurate with India’s economic development. Defence Research and Development Organisation (DRDO) and the defence industry are the two entities involved in defence R&D and innovation in military technology. But, amongst both innovation is lacking and is constrained by the lack of an effective ecosystem and inadequate investment on R&D.

ii. India’s private sector’s investment in R&D as percent of Gross expenditure in R&D (Government + Private sector) has been the lowest among countries like Brazil, China, South Africa, Malaysia, Philippines, Thailand, Israel, Japan, South Korea, Singapore. It is time to trigger Indian industry’s investments in defence technology development and technology commercialisation. There is also a need to incentivise R&D in defence with innovative funding methods. The significant reserves available with DPSUs could be one such resource to encourage innovation in the MSME sector.

### 2.11.15 **Impact on the Indian Economy**

### 2.11.16 **Job Potential in the Defence Industry**

Defence Equipment Manufacturing has 9 PSUs, 39 producing Ordnance Factories, a few large private companies and over 6000 SMEs, and employs approximately 8 Lakh people (2 Lakhs directly and 6 Lakhs indirectly). According to a CII - Boston Consulting Group report titled “Creating a Vibrant Domestic Defence Manufacturing Sector”, if India is to achieve its strategic objective of 70 percent domestic supply in defence, then the indigenous industry has to scale up its production to reach the target of USD 80-100 billion by 2020 (This does not appeared to be feasible at percent. The target needs to be shifted to 2027), to bring down import levels to 30 percent. It also has to increase its work force 2 to 2.5 times; even with a doubling of current levels of efficiency to about Rs. 30 Lakhs per employee per year from the present Rs. 15 Lakhs per year. This implies that there is a potential to create 8 to 12 Lakhs new jobs in the sector (2-3 Lakhs direct jobs and 6-9 Lakhs indirect jobs).

### 2.11.17 **Export Potential**

India’s exports to countries like Nepal and Mauritius include ALH, Lancer attack helicopters and Dornier transport planes. The main defence exporters include state-run BEL, BEML, HAL and OFB. Defence exports are likely to touch US \$ 130 million as per Government estimates. This is less than that of Israel, South Korea or even Singapore. With increasing emphasis on indigenous R&D, the scope for export

of Indian produced defence items will also increase. Export controls now in force in respect of defence items need to be liberalised. As India was hitherto not in the export market, it would need to carve out space in a highly competitive environment

## 2.12 Key Inferences

In the foregoing paragraphs, we have traversed the broad contours of Defence Industry worldwide and in India. We have also studied manufacturing processes, which impact on the growth of the industry and are now in a position to draw some inferences.

- i. The standard of performance demanded of defence systems is extremely high and scrutiny of the qualitative requirements intense. This, coupled with fast changing technologies requiring huge investment in R & D and the need to integrate many sub-systems to arrive at the finished product, leads to high cost;
- ii. Even in the case of electronic equipment used in defence systems the so called Grosch's Law does not apply and costs of defence systems continue to rise because of lesser quantities to be produced. There are negative economies of scale;
- iii. In civil manufacturing, the efficiency of production was increased by investing in more dedicated as opposed to generic assembly lines or batch production infrastructures, in more automated machinery, more sophisticated tooling and in other ways of replacing labour with capital equipment. There are fully robotic plants which require labour only for maintenance, not operation. But because fewer weapon systems of a given type are purchased, (compounded also with uncertainties of business continuity with fluctuating order books), very little investment in advanced production plant technologies can be economical. In contrast to civilian industry, in which IT controlled plants and equipment can produce customised as well as classic mass produced items, most weapon systems are almost entirely made by hand, with a profligate use of costly skilled labour. This generates additional costs; humans being less reliable than machines, greater the manual content of production, the greater the potential for manufacturing errors that require repairs or replacements or that simply cause disruptive delays. One has only to visit an armoured combat vehicle factory and an ordinary automotive plant to see the contrasts. The former consists of mostly empty space within which highly skilled workers can get under, over and inside the combat vehicles as they are assembled one by one. The latter consists of a production line, densely packed with automated machinery. A production capacity of 100,000 per year is more or less, a minimum for an automobile plant, yet no armoured vehicle is produced in such large numbers;
- iv. Another crucial, but little recognised factor is that the military, used to traditional platforms, but enamoured of technical developments mainly in electronics, insists on fitting modern electronics into traditional platforms, a costly process indeed. The basic structures of commonly used platforms, whether they may be the Main Battle Tank, aircraft carrier as a Capital ship, or all metal, jet propelled fighter aircraft have not changed since they came into being in the closing years of World War II. New ideas like Unmanned Aerial Vehicles and Networking (where the whole is greater than the sum of its parts) are exceptions to the rule; The result is that the number of defence manufacturers continues to be low;

- v. Defence purchases are a monopsony and purchases take place from relatively few manufacturers. Competition is weak even in the United States and almost absent in Europe, where national, bi-national or tri-national conglomerates virtually own their home markets;
- vi. The normal cost constraining function of the free market is absent from military purchasing. Export regulations by seller countries and offset requirements by buyer countries further distorts the market;
- vii. Mergers and acquisitions are the norm. By the 1990's, 15 large defence companies had merged into 5 big players in the US. Many civil companies like IBM, GE etc quit the defence business. The exception was aerospace where civil and military products found common manufacturers. However, trans-national corporations have not come into being;
- viii. Cross fertilisation between civil and military technologies is a continuing feature (viz microwaves or consumer electronics). However, this would have a bearing on private sector defence industry. The DPSUs and OFB are dedicated production sources for defence products. The private sector is a new entrant. Perhaps in the Indian context, it would be more viable and cost effective for existing civil entities to commence production of defence equipment in separate divisions, subsidiaries or JVs, rather than new defence companies getting incorporated. This would be in contrast to the situation in the US and Europe, but companies in those countries have a historical head start;
- ix. Because of limited domestic markets, Governments have been taking an active role in promoting exports of their defence equipment. In fact, it became a major plank of foreign policy during the cold war period. The US set up its International Logistics Negotiations (ILN) in 1961 to sell arms actively. In the UK, the Labour Government of Harold Wilson hired a former car industry top executive Sir Donald Stoles of British Leyland to improve Britain's arms export success rate. Now each of the arms exporting countries has a huge machinery in the Government set up to further arms sales.
- x. Majority of defence materiel manufacture in India is in the public sector, which has two models (as a Government entity - OFB or as a corporate body - DPSUs). However, large private sector industries and MSMEs are keen to participate in defence equipment manufacture.
- xi. Many countries with a strong public sector defence base relaxed state controls and increased privatisation. Private companies were made partners not only in production but also R & D. This has paid rich dividends not only in enhancing production, but helping exports.
- xii. Having brought the private industry into the defence industry fold, it would be imperative for Government to support the limited numbers (who do venture into the business) on a long term basis. This would require both long term projections and stable current orders, and hand holding in various stages of the procurement cycle ranging from R&D to life cycle support and upgrades.

xiii. Long Term Planning of equipment needs to be harmonised with requirements of R&D and skill development, both of which also have long lead times.

### **2.13 The Next Chapter**

In this chapter, we have drawn lessons from an understanding of defence industry world-wide and its current status in India. We now proceed to examine how the defence industry in India can be remodelled to serve national interests and become a vibrant component of the 'Make in India' campaign.



## **MAKE IN INDIA**

“..... though the wide universe is full of good, no kernel of nourishing corn can come to him but through his toil bestowed on that plot of ground which is given to him to till.”

Ralph Waldo Emerson, *Essays and Journals*



## CHAPTER 3 MAKE IN INDIA

### 3.1 The Framework

3.1.01 The unequivocal emphasis placed by the Government on ‘Make in India’ concept, brings the defence sector at the cusp of an unprecedented opportunity. This is true as much for the Indian defence industry, as for the international players in the field. India’s rise as an economic power, her requirements of defence preparedness and her vibrant industrial base have the potential to convert ‘Make in India’ into a reality in defence sector with its spin off in other sectors as well. Defence procurement procedure needs to enable and strengthen this process and help create an eco-system where design, R & D, manufacturing, maintenance, upgrade and export capabilities thrive. This chapter prepares the contours of the initiatives required to attain the envisaged goals of “Make in India”.

3.1.02 A ‘Make in India’ policy for the defence sector would ideally aim to reverse the current imbalance between the import of defence materiel and indigenous manufacture of defence materiel without adversely affecting the requirements, capability and preparedness of the user. There are several aspects of this process, the best case scenario being that we have the ability to design, develop, make i.e. the ability to manufacture and integrate, test, maintain and upgrade the defence systems we require and, if possible, export these on one hand while developing synergy with the civilian sector on the other. Where this is not feasible, we should be able to at least manufacture or integrate the system within the country with the help of full technology transfer. Given the nature of the defence materiels, this may not be possible all the time. In such cases we should at least have the ability to provide a life cycle support i.e. repair and maintenance if not mid-life upgrade. This is schematically depicted in the ‘Make in India conceptual competence ladder’ below :-

I	II	III	IV
			System Design, Develop, Manufacture, Upgrade, Test ( <i>IPR</i> )
		Sub-system, Assembly Design, Manufacture, Upgrade, Test ( <i>IPR</i> ) <i>(Certified test facilities)</i>	Sub-system, Assembly Design, Manufacture, Upgrade, Test ( <i>IPR</i> ) <i>(Certified test facilities)</i>
	Sub-assembly / Component Design, Manufacture, Test( <i>IPR</i> ) <i>(Certified test facilities)</i>	Sub-assembly / Component Design, Manufacture, Test( <i>IPR</i> ) <i>(Certified test facilities)</i>	Sub-assembly / Component Design, Manufacture, Test( <i>IPR</i> ) <i>(Certified test facilities)</i>
	System Integration & Testing	System Integration & Testing	System Integration & Testing
Life Cycle Support (Repair & Maintenance, MRO) <i>Certification for Deployment &amp; Operation</i>	Life Cycle Support (Repair & Maintenance, MRO) <i>Certification for Deployment &amp; Operation</i>	Life Cycle Support (Repair & Maintenance, MRO) <i>Certification for Deployment &amp; Operation</i>	Life Cycle Support (Repair & <i>Maintenance, MRO</i> ) <i>Certification for Deployment &amp; Operation</i>

**Figure-1: The ‘Make in India conceptual competence ladder in the defence sector’**

3.1.03 The figure above represents the progressive development of competence level in industry, public or private. From the very basic level of repair & maintenance to the level of having the ability to system design, develop, manufacture and test it, is a gradual, step by step process based on the technologies and complexities as well as manufacturing and testing techniques involved. In the process, as the industry moves up the competence ladder, IPR of varying levels is also generated whether in industry, design houses or in academia.

3.1.04 Various stages in the ladder above can be effectively correlated with various categories in the capital procurement as obtaining today.

- i. At the left end of the competency ladder, there may be only repair / maintenance expertise and limited component level support. Given our competence in this segment I, Buy (Global) would be the immediate choice to cater for urgent requirements, but “Make” has to be the eventual goal.
- ii. As one moves to the right, competence levels would improve. As such at the right end of the stack (Segment IV), Buy (Indian) would become the preferred course of action.
- iii. The two options of Buy and Make (Indian) i.e. where an Indian entity obtains the technology required from abroad and Buy and Make where we require a specified level of

technology to be transferred to a designated Indian Partner would fall in-between these two (Segments I & IV) ends of the ladder. While in Buy and Make (Indian) cases, RFP is issued to the Indian entities who select their foreign technology partner, in Buy and Make cases, RFP is issued to foreign vendors and in certain specified cases MoD would nominate an Indian entity as Production Agency (PA), for transfer of technology from foreign OEM. In other cases, foreign OEMs are allowed to select their Indian partners as PA.

iv. “MAKE” option, depending upon the time frame available to achieve the future capability requirements, could be launched from any of the Segments along the competence ladder. The key requirement is access to the enabling, mature technologies, industry capability and time frame.

v. In the competency stack, points of IPR creation are also indicated. But this also implies that those specific zones present opportunities to employ existing IP if held in industry, Design Houses or Academia. DRDO has often stated that they have a large repository of IP across technologies as well as defence applications. These should therefore be monetised through transfer of IPR to participating industry as we move up the competency stack.

3.1.05 Ideally one would like to see a situation where the pyramid of the procurement has a larger base of Make, Buy (Indian), Buy and Make (Indian) categories, narrowing at the top with some cases of Buy and Make and few cases of Buy (Global). In the situation as it obtained until recently this pyramid was inverted as we will presently see. To begin with therefore, a quantum shift needs to be brought about in the relative weightage given to Make, Buy (Indian) and Buy and Make (Indian) vis a vis the Buy and Make and the Buy (Global) category. Second, within the Buy (Indian) and Buy and Make (Indian) the indigenous content has to increase steadily and significantly. Care has to be taken to ensure that ‘Make in India’ concept does not become ‘assemble in India’ with no IPR or design controls and thereby perpetuating our dependence on the foreign supplier. A very important aspect, therefore, is to develop the capability for design and development and capacities for manufacturing on the one hand and the ability to service, maintain and upgrade a given system, on the other. An attendant issue that assumes importance is the ballasting of indigenous capacity with a civil component and wherever feasible, an export component. The inevitable reality of a narrow vendor base and the need to sustain it given the variable nature of defence procurement also needs to be factored in. The Committee feels that this aspect is often lost sight of as reflected in a number of suggestions made by various stake holders. While a wider vendor base would be welcome, the number of players at the system, important sub-system and critical component level will always be small unlike in the commercial sector.

3.1.06 Once we have a higher portion of the defence procurement coming from the Indian vendors, we can afford to make a shift in the offset policy towards direct and directed offsets and leveraging the same towards acquiring critical technologies. This is particularly so in the cases of various G to G purchases. The issue of direct and directed offsets is already being addressed by the DDP through a new draft offset policy. The views of the Committee on the draft offset policy are covered in the next chapter.

3.1.07 The culture of increasing the share of Indian vendors and indigenous content in our capital procurements needs to spread to other entities like the DRDO, the DPSUs, the OFB

or any integrator for that matter, in their own sourcing. They must also follow the floor level for indigenous content stipulated in DPP 2013 under Buy (Indian) category, i.e. 30%, and Buy and make (Indian) category i.e. 50% or as amended upwards from time to time. In fact these agencies should go well beyond the floor, where feasible, rather than leveraging a high content of one sub-system e.g. a platform, to ignore the feasibility of achieving a higher IC in another sub-system. Even the DPM should follow or improve on these floor values in the revenue procurement and this should become part of the procedure prescribed in the DPM. MoD, DRDO and the DDP need to ensure this for their respective agencies. We should also identify items for which there is a large order over a sustained time period including in the commercial sector e.g. propulsion package, navigation suite for ships and air assets and ensure that these are either manufactured in India, or assembled and tested or at least have a full MRO in India.

3.1.08 The opportunities for up-gradation of in-service weapon systems in incubating the concept of 'Make in India' will be significant. A planned up-gradation program both for managing obsolescence as well as infusing additional capabilities by way of inserting contemporary technologies must be designed and executed. The up-gradation plan must be launched simultaneous to acquisition and most cases must be executed by 'Make' categorisation.

3.1.09 If effectively implemented, this framework should result in bringing 75-80 % of the procurement by value through Indian vendors, double the indigenous content in the procurements from the current levels of about 35% to nearly 70%, result in development of certain key identified technologies and products, and take volume of defence exports (excluding volume generated through offsets) to USD 1 billion in five years and USD 3 billion in next 10 years. This will also create immense direct employment opportunity for young engineers and technicians.

## 3.2 Procurement Procedure

3.2.01 **Analysis of Categorisation Data.** From the data presented in Table-I at Annexure-I, the increase in involvement of Indian vendors in capital procurement is discernible, particularly in the FY 2014-15. Of the 56 AoNs accorded by the DAC for a total value of Rs 117829 Crores, 40 AoNs, amounting to Rs111070 Crores i.e. 71% in numbers and 94 % in value come under the categories of Make, Buy (Indian) and Buy & Make (Indian). In 2013-14 only 6 out of 34 AONs went to the Buy (Global) category i.e. only 17% in number and Rs 371 Crores out of more than Rs 27000 Crores i.e. less than 2%. The five year data on categorisation brings out this aspect. A view was expressed as to whether this can be considered as a representative trend. We do not see any reason to view it as a one off event. But this needs to be consolidated consciously and watched on a quarterly basis. Besides this, the categorisation process needs to be further elaborated to maintain this momentum and increase participation of Indian vendors. The innovations introduced in the DPP 2013, should be retained as such and improved upon further.

3.2.02 **Increasing the Indigenous Content.** The issue of increasing indigenous content (IC) in the Make, Buy (Indian) and Buy and Make (Indian) categories needs to be looked at in some details. The Committee had held detailed discussions with various stakeholders on this aspect. While there was a unanimous opinion that the indigenous content needs to be increased through a preferential treatment, there was considerable difference of opinion on the way to achieve this in the short run and in the long run. The committee considered various options which included:-

- i. Splitting the order between the L-1 and the I-1 i.e. the highest Indigenous content provider,
- ii. Awarding the contract to the I-1 if he matches L-1 (and other variations with a similar idea),
- iii. Giving price preference linked to the Indigenous Content (IC), and
- iv. Increasing the IC floor above 30% on a case to case basis or periodically.

3.2.03 The DDP although a strong supporter of the need to increase indigenous content in our procurements, brought out the limitations of the implementation process. While they have the ability to assess indigenous content to a reasonable extent, the accuracy of such assessment could fall short of the levels of rigour required in the case of contractual disputes and their adjudication. There was also the question of the possible inability of a vendor to adhere to the stated IC values during the actual production phase. The consequent disputes and their resolution could very well turn out to be long drawn and complicated affair delaying the acquisition process. As such, the route of preferential treatment based on indigenous content was not considered practicable at the present stage. Similarly, the idea of giving part of an order to the highest provider of the indigenous content did not find favour with the services on account of the post induction management logistics of the same system from two vendors. It was therefore felt that the most prudent course of action for the present was to let the Categorisation Committee increase the IC floor in individual cases on the basis of past experience. This has been incorporated in the decision making flow chart for categorisation given at Annexure I to IV of the Chapter 4 titled “Defence Procurement Procedure”. In the meantime, the DDP should set up a credible and effective mechanism to assess the indigenous content in different contracts so as to put a preferential treatment mechanism in place at an early date.

3.2.04 Against the backdrop of these deliberations, an additional measure that is both feasible and desirable was also suggested. This measure is to raise the minimum level of indigenous content across the board every two years i.e. at each revision of the DPP. The Committee feels that the two year period is adequate for stabilisation of a given IC norm. We may, therefore, increase the minimum IC level to 40% in the Buy (Indian) category and to 60% in the Buy and Make (Indian) category in DPP 2015, and to 50 % and 65% respectively in the next DPP. Only in rare cases where it is not possible to adhere to this norm, the Categorisation Committee could record their specific opinion and progress the case for eventual approval of the lower IC norm as a deviation as per extant procedure.

**3.2.05 IC and the Exchange Rate Variation (ERV) Protection.** Exchange rate variation becomes an important factor while making a correct assessment of the indigenous content by cost. Even though DPP 2013 categorically rules out inclusion of a sub-vendor’s imports being reflected as indigenous content, the industry has been quite lukewarm in ensuring this norm particularly for its tier III or tier IV vendors. Such reluctance gets curbed to a large extent where ERV protection is given to all the Indian vendors since any incorporation of a sub-vendor’s import as indigenous content hurts the vendor himself when rupee depreciates. The Committee therefore fully supports the proposal to grant ERV protection to the Indian vendors. Such a proposal, it is understood, is nearing finalisation.

**3.2.06**      **Categorisation.** The norms of categorisation have evolved over years. As seen above, the categories compatible with the ‘Make in India’ approach have done well in the past two years. One of the reasons for this is the introduction of ‘preferred category’ sequence and imposition of a procedural discipline at the Statement of Case (SoC) stage where the proposal to select a given category e.g. Buy (Global) had to incorporate a justification for excluding the higher preferred categories i.e. Make, Buy (Indian), Buy and Make (Indian) and Buy and Make category. We now need to move towards deliberate provisions, to be introduced at the Categorisation stage, so as to consolidate this trend and nudge the industry to achieve higher indigenous content under Make, and Buy (Indian) and Buy & Make (Indian) categories.

3.2.07      A number of stakeholders have made suggestions to put procurement categories in just three broad heads, i.e.

- i.      Made in India i.e. designed and developed in India with design ownership,
- ii.     Make in India i.e. where design ownership is not there and a ToT is needed, and
- iii.    Buy (Global).

3.2.08      There was even a plea for reducing the procurement categories further to two. The Committee considered these suggestions but felt that the categorisation process has to be more nuanced, and should take into account distinctions regarding design and development process, the need for the ToT (Transfer of Technology) which may at times need to be directed both in terms of the content, extent and the recipient. In addition, the issue of offsets also needs to be taken into account. Besides this, the Buy (Global) process could also follow a G to G route where certain critical technologies could be specifically sought. The table below brings out these nuances and the consequent categories, which, the Committee recommends, should be retained as such.

Category	Development	Vendor	ToT	Remarks
Make	Design develop and manufacture in India	Indian	Not specified by purchaser	IC* $\geq$ 30% in successful prototype
Buy (Indian)	Manufactured in India	Indian	Not specified by purchaser	IC* $\geq$ 30%
Buy and Make (Indian)	Phased Manufacture in India	Indian	ToT specified Vendor free to choose partner	IC* $\geq$ 50%
Buy and Make	Phased Manufacture in India	Foreign	ToT specified Indian ToT partner specified	IC* $\geq$ Offsets on FE component
Buy (Global) Commercial or G to G	Need not be Manufactured in India	Foreign or Indian	No ToT specified Offsets specified	IC*/Offset for Indian vendor ( $\geq$ 50%) and Offset for foreign vendor $\geq$ 30%

*\*Or as amended from time to time, or case to case, as the case may be.*

3.2.09 Among themselves, these categories take care of all the capital procurements with nuances as specified. There is a caveat however. The categorisation process at the Categorisation Committee and the Categorisation Higher Committee level has to follow certain decision making algorithms designed to promote both Indian vendors and indigenous content. Decision Flow Charts covering each of the above categories are placed at Annexures I to IV to Chapter 4 titled “Defence Procurement Procedure”.

**3.2.10 Defining Indian Vendor.** One issue increasingly requiring clarity, relates to the definition of Indian vendor. This issue assumes importance in the context of the permission for 100% FDI in the defence sector for products not requiring license. A moot question that arises is whether such a 100% owned subsidiary of a foreign vendor would qualify as a bidder or for that matter a JV where the foreign vendor has 51% stakes or more. The other factor that will have a bearing on this issue is the requirement of license for the product line as a ‘defence product’. It is the considered opinion of the Committee that the essential ingredient of the Indian vendor criterion is the controlling stakes of the Indian entity except cases where FDI above 49% has been allowed to an entity for a particular defence product and the entity is competing for supply of that product e.g. a UAV.

3.2.11 **The following definition of an Indian Vendor is therefore proposed;**

*“For defence products requiring industrial licence, an Indian entity/ Partnership firm, complying with, besides other regulations in force, the guidelines / licensing requirements stipulated by the Department of Industrial Policy and Promotion as applicable. For defence products not requiring industrial licence, an Indian entity/ Partnership firm registered under the relevant Indian laws and complying with all regulations in force applicable to that industry”*

The Committee would however, like to flag the need to put in place requisite safeguards so that a liberalised FDI policy does not render some of the high tech Indian private industry open to controls that could adversely affect the Indian interests. Such controls could be exercised through IPR controls on development or up-gradation of a product, discontinuation of production of certain crucial items on ostensibly commercial grounds and worse, invocation of extra territorial jurisdiction of the investing country’s laws. Our interests would therefore need to be safeguarded through requisite contractual provisions in the Standard Contract Document and use of existing legal provisions under the Acts such as The IDR Act, The Indian Patents Act, Semiconductor Integrated Circuit layout Design Act etc.

3.2.12 **Consolidating the Current Trend.** While it is heartening to note the shift in favour of Indian vendors, the trend seen in the FY 2014-15 needs to be consolidated. This will call for a number of measures starting from the categorisation stage. Decision making flow charts at Annexures I to IV to Chapter-4 titled “Defence Procurement Procedure” aim at guiding this process. The chart dealing with the Buy (Indian) decision, provides an objective check list for arriving at the decision. It also facilitates an analysis of the factors that could lead to category of lower priority than that of Buy (Indian). This would help the stakeholders identify and take remedial steps that would facilitate the Buy (Indian) categorisation of the concerned item and similar items, the next time. The flow chart also provides for a check regarding the levels of Indigenous Content to be incorporated in the RFP.

3.2.13 The flow charts generate inputs for lower preference category (say Buy & Make

(Indian)) if the higher preference category (say Buy (Indian)) is found not suitable for a given scheme. For example, existing gaps in technology, capability as well as capacity in Indian industry would get identified while running the Buy (Indian) decision flow. These gaps are then addressed by running the Buy & Make (Indian) decision flow, before considering any lower preference category e.g. Buy & Make or Buy (Global). The decision flow charts address the necessity to assess the requirements of the range and depth of ToT prior to proceeding with Buy & Make categorisation. Further, if the equipment / system or platform has earlier been produced by the Indian industry through ToT, the decision process is deliberate to consider undertake upgrade of such equipment / system or platform through the same Indian industry until the identified gaps in technology / expertise / facilities necessitate another ToT from identified foreign sources.

**3.2.14 Shorter AoN Period in Buy (Indian) Cases.** DPP 2013 shortened the AoN period from 2 years to 1 year. This has had a positive impact on the issuance of RFPs under the Buy (Indian) and Buy and Make (Indian). Given the increasing number of AoNs in the Buy (Indian) category, it is worthwhile shortening the AoN period under this category further to six months, while the time to be granted for receipt of RFP response and commencement of Field Evaluation to be kept flexible to accommodate wider participation.

**3.2.15 Non- retraction of RFP.** Retraction of the RFP happens when a single vendor situation develops post TEC. The Committee felt that such retraction should not be done in the Buy (Indian) case and Buy and Make (Indian) especially since the commercial quote has been submitted in such cases in a competitive environment. This will further expedite the procurement cases under these two categories.

### **3.3 Partnership with Indian Private Industry**

3.3.01 A vibrant Defence Industrial Base must necessarily include the private industry, both large, medium and small scale. This would enable utilisation as well as consolidation of the national manufacturing base in areas such as shipbuilding, engineering and metallurgy, automotive, electronics, avionics, telecommunication etc. Considering the available synergies between civil and defence technology applications, and the existing capability of Indian private industry, fostering a constructive, long term partnership is considered not just sound economic option but a strategic imperative to minimise dependence on foreign vendors. It is a known fact that larger and sustained production volume of any system leads to optimisation of cost as well as improved production efficiency.

3.3.02 The Committee was conscious of the fact that the shift in favour of the Indian vendors, with or without the transfer of technology, would also need corresponding measures to be taken in infrastructural and procedural support, ease of doing business, technical hand holding and the like. Based on deliberations and suggestions received from various stakeholders, following suggestions are made.

**3.3.03 Partnership Models.** Having considered the nature of defence materiel and the configurations of defence industry worldwide we have come to the inevitable conclusion that if the strengths of private industry are to be harnessed then they must be done under well defined models depending upon the strategic needs, quality criticality and cost competitiveness. Whenever the

vendor base is large and competition is feasible, the competitive bidding process must be followed. There are cases however where certain platforms are of strategic importance. For these, we are recommending the 'Strategic Partnership model' for creating capacity in the private sector on a long term basis. Such a capacity will be created over and above the capacity and infrastructure that exists in Public Sector units. This is expected to spur the sectors towards a more efficient and effective mode of operation. Likewise, there are cases where quality is critical and vendor base is very narrow. For these we are recommending a model of 'development partnership'. These models would depend upon the systems and products within the ambit of the requisite model.

### **Strategic Partnership Model**

3.3.04 The Committee considers following projects that could be identified for long term partnership:-

#### **Platforms**

- i Aircraft - fighter, transport and helicopters and their major systems
- ii Warships of stated displacements and submarines and their major systems
- iii Armoured Fighting Vehicles and their major systems

#### **Weapons**

- iv Complex weapons which rely on guidance systems, to achieve precision hits, which may include anti-ship, air defence, air to air; air to surface, anti-submarine, land attack.

#### **Networks**

- v Command, Control, Communication and Computers, Intelligence, Surveillance, Target acquisition and Reconnaissance

#### **Materials**

- vi Critical materials ( Titanium alloys, Aluminum alloys, Carbon composites, Nickel / Cobalt alloys etc.)

3.3.05 In each of these segments, private sector Strategic Partners (SP) need to be identified through a well-defined protocol to create capacity in them over and above the capacity in the Public Sector in these segments. The primary focus of strategic partners would be to support sustainability and the incremental improvements in capability of platforms through technology insertions over their lifetimes. Thus the key competence that one should be looking at in such partners is (i) their competence in system engineering; (ii) supply chain management to manage life cycle support; and (iii) companies that are looking for assured revenue streams based on such long term partnerships, rather than those who could prefer one off contracts from time to time. SPs would be identified and then become partners with the MoD in their deliberations under Government to Government negotiations with foreign OEMs for collaboration in the production of items in the 6 segments identified above.

3.3.06 The selection procedure would obviously be the most crucial aspect of the Model. It would incorporate the following parameters:-

- i. **Segmentation of Market** – Select just one / two SPs in each segment.
- ii. Selection to be done through a well-defined and transparent process:
  - a **Financial Capability**. Annual turnover, Profitability, Net worth, Risk Appetite, appropriate ratio of program size to annual revenues;
  - b **Financial Prudence**. Credit ratings, quality of disclosures, No CDR status;
  - c **Technical Capability**. Domain specific capabilities (range and depth), organisational processes, outside domain large programme capability, Global reach / network;
  - d **R & D Capability** Track record in development of technologies and products, R & D investments over past five years, R & D centre certification and accreditations;
  - e **Capacity / Infrastructure** - quality of infrastructure w.r.t. global benchmarks;
  - f **Executive Track Record** – Delivery Track Record
  - g **Ownership Structure** – Public / Private, Family / Professional, Promoter driven / widely held.

3.3.07 The selection procedure for such Strategic Partners is the most crucial element in operationalising the idea. The entire scheme rests on it. What has been suggested above are broad parameters. A Task Force needs to be constituted to lay down the criteria in detail after studying best practices. We are aware that most such criteria are used for selecting the best offer in commercial bids. Our model stops short of commercial bids and would have as target companies those who may not have been involved in projects under the identified segments. This is not an insurmountable proposition. A rational, fair, scientific and transparent procedure can and should be worked out.

3.3.08 Lest there be lingering doubts on the compensation package to the SP ('taking the MoD for a ride') – a rigorous audit, including cost audit mechanism would be instituted. The contract would allow for inspection of books for the purpose. A strong data base needs to be generated. The US and French models could be studied for the purpose where the system has been in vogue for quite some time.

3.3.09 There are other operational issues which would need to be clarified so that there is a clear understanding between the MoD and the SP. These may include:

- i. Investment on the basis of assured orders;
- ii. **Cost + mechanism of funding**. Programme specific Fixed / Variable cost models;
- iii. **Risk sharing** – Inflation correction, ERV, Taxes and duties change mechanisms;
- iv. **Risk – Reward model** for development and programme implementation;
- v. **Hand holding by Collaborator / MoD-** Joint Review mechanism, mechanisms to deal with unknowns and imponderables as they surface during the execution phase;
- vi. Prime contractors (SPs) to be mandated to develop tierised industries as partners, on the same principles, to accelerate program execution;

- vii. Encourage teaming agreements between prime contractors and tierised industry;
- viii. Encourage teaming agreements between SPs and DPSUs, because of the latter's head start;
- ix. Long term covenants between Government, Strategic Partners and tierised partners to guide not only the first contract (after determination of the segment and SP) but subsequent ones to follow, so that resources are utilised optimally over long periods of time.
- x. Placed at Annexure II is an elaboration of this idea.

3.3.10 The Committee is conscious that its recommendations relating to the Strategic Partners which would be applicable to the 'Buy and Make' category, is of considerable import. Such a recommendation goes against the accepted grain of thinking which prefers competitive bids involving technical and commercial parameters. It is hence considered desirable that the committee's reasoning be spelt out in detail. Although many issues relating to procedure would be dealt with in the next chapter, this matter needs to be clarified at the earliest.

3.3.11 'Buy and Make' refers to those cases where defence systems, not available in India are sought to be obtained from foreign OEM's with TOT and then produced in India, through an Indian production agency. The negotiations in such cases are controlled by MoD. In this category, the committee has identified SIX SEGMENTS which are of strategic significance and will form the core of the nations fighting strength. Self-reliance in these segments is of paramount importance. Worldwide we have observed that because of its sheer complexity the number of such large integrators in defence systems are extremely limited. This will ultimately be the position in India. To expect otherwise is unreasonable. Our recommendation is based on this basic premise.

3.3.12 Currently, MoD on the basis of SQRs identifies a source and then negotiates on a Government to Government basis. It nominates a production agency which is part of the negotiating team. Since it is a 'Nomination' the normal course hitherto was to choose the concerned DPSU or OFB. Thus aircraft (SU-30 MKI) are built by HAL and the tanks (T 90) by OFB. The inherent advantages were that the choice of the platform was with the MoD (including Services, an essential requirement). Negotiations were held with one party and hence more time was available for in depth consultations especially on TOT issues, and the nominated production agency could participate in the negotiations. The disadvantage was that there was complete reliance on the public sector which in effect meant that there was only one production source. Thus the induction programme was dependent on the capacity of one entity and on its technical and managerial capabilities. There were inevitable cost and time overruns and technical shortcomings. Therefore, here is a need to create additional capacity through Strategic Partners in the private sector, for which the following three options are available:-

- i. **Selection after G to G Negotiations.** MoD negotiates on a Government to Government basis but nominates a private sector industry after the Government to Government negotiations. This process would not only suffer from a major deficiency in not having the production agency as part of the negotiating team but the choice of the production agency in a sequential manner would lead to delays. It may be argued that the choice of a platform having been made, the private sector industries could compete on the basis of commercial parameters. This would mean that the Indian entities would

have to separately negotiate with the foreign OEM, before giving their offers. For select segment listed at para 3.3.04 above, this is considered to be impractical.

**ii. Selection through Competition.** Allow multiple Indian bidders to negotiate with foreign OEMs and then on the basis of such agreements to offer their technical and commercial bids to the MoD. This is the preferred mode under the ‘Buy and Make (Indian)’ category. However, such a procedure would not work in the segments we have identified. The numbers of foreign OEMs are extremely limited. Multiple Indian entities would need to negotiate with the same OEMs. Not only the matrix would become too complicated but to expect that OEMs would make multiple offers and share technology and commercial details with multiple Indian industries is unreasonable. And most important of all in such vital segments, the MoD would have no say whatsoever in the choice of the source of the platforms.

**iii. Selection before G to G Negotiations.** Based on projected requirements and having determined that additional production capacity is needed, and also to benefit from the managerial and technical competence of the private sector to choose from amongst them, one entity is selected through a well defined and transparent procedure and then jointly negotiate on a Government to Government basis. Thus the chosen private sector industry would be designated as Strategic Partner for a particular platform (or complex weapon system, or network) in the segment and a long term covenant would be drawn up with it by MoD. The choice of the source of the platform would firmly be that of the MoD. It may be argued that this process does not fully meet the commercial requirements of competitive bidding. We have examined this issue in Chapter 1 and 2 and concluded that the normal civil sector market does not operate in the defence sector as we go higher up the technology chain and complexity. In this segment we are at the very apex. Moreover the Government to Government channel has its own advantage in as much as conveying the decision itself can be used to leverage substantial technical and commercial benefits. For all these reasons, this is the preferred choice of the Committee.

3.3.13 A question which may arise is the eligibility of a private sector entity for multiple items in any one of the six segments or in any of the remaining five. We are of the opinion that having been declared a Strategic Partner in any one platform, or a family of complex weapons or a major network programme that entity or its associate or subsidiary should not be eligible to be chosen as a Strategic Partner for any other purpose under this dispensation. This is to prevent conglomerate monopolies emerging at the very start without production even having commenced. Likewise, they will also not be allowed to have cross-holdings in each others’ companies. The available capability and capacity in the concerned public sector unit will be an additional safeguard against any monopolistic tendency on the part of the Strategic Partner.

3.3.14 The concept of Partnership would be modelled on the same principles except that the number of items in a tierised set up would be very large and so would the number of entities. Consequently, the limitation imposed on the number of items to be taken up by Partners would not be imposed.

### Development Partnership Model

3.3.15 In our scheme of things we do not intend to distinguish between large corporate and MSMEs in seeking collaborative partnerships. Innovation and entrepreneurship are not the preserve of large conglomerates. Thus for all manner of projects (except those under the Strategic Partnership Model) we would prefer the field to be kept wide open. The Procurement Executive would have dedicated seeker teams who would be on the lookout for persons / companies with innovative ideas who could be inducted into the defence fold and who would be assisted and incentivised. A similar attitude would need to be inculcated amongst the SPs, OFB and DPSUs as well as DRDO who would identify, select, and nurture long term partners. As and when the products of such partners are tested and found useful they would be taken out of the competitive model and placed in the category of partnerships.

### Competitive Model

3.3.16 For all other projects and products in those outside the purview of Strategic Partners and Developmental Partners (with accepted products), as well as for MOTS / COTS items, the well understood traditional competitive model will remain in force.

3.3.17 **Selection of An Indian ‘Single Vendor’.** It is necessary to recognize the ground reality of a narrow vendor base in the defence sector for most of the materiel to be procured. This is particularly so when a strategic partner is to be selected. Then there are cases when a development partner is selected after due diligence or there could be instances where there is only one established source. Such eventualities have to be recognised and provided for. It is nobody’s case that a strategic or a developmental partner should be nominated in an arbitrary or an ad-hoc manner. However once a partner is selected after due diligence the agency selecting it, be it DRDO, a DPSU or a base workshop / Naval Dockyard / Base Repair Depot for that matter, should be permitted to stick to such a partner in the development, initial induction and upgrade phase unless additional vendors with Indian IPR are available. The Committee felt that the insistence to have more vendors is often unrealistic since the development partner cannot be expected to part with all the IPR unless there is a specific stipulation to this effect. Even where there is such a stipulation, enforcing it can be a difficult exercise. Hence the DPP should provide for single Indian vendor situation and such a course of action should not be frowned upon on the grounds of restricted competition and financial implications vis a vis imported items. As stated earlier, the nature of defence materiel and systems has to be taken into account before mechanically applying norms of commercial procurement.

3.3.18 **Common Testing Facility, Lab Access on Payment.** Defence equipment is necessarily required to undergo qualification tests (environmental, EMI/EMC etc.) during development stages before being considered for user trials. Majority of facilities for such qualification testing are presently held by DRDO, DGQA or Govt. agencies such as ETRLs. DPSUs also have certain captive facilities. Private industry needs to be provided access to these existing facilities on payment basis. Further, to facilitate large scale participation of private industry in defence, there is a need to create more such facilities in proximity with industry clusters. Formal procedure and processes need to be put in place to facilitate the private industry in this respect, on payment basis.

3.3.19 **Trial Infrastructure to be Made Available for the Industry.** There is also a strong case to enable smooth and expeditious user (field / sea / flight) trials of equipment developed by private industry, which they may have developed on their own initiative based on capability requirements projected by the services through LTIPP or TPCR. At present, services and DRDO (for proof firing ranges) have complete control on the trial avenues with no obligation to private industry. Formal procedure and processes need to be put in place to facilitate the private industry in this respect, on payment basis.

3.3.20 **Facilitation for Indian Private Industry.** One of the problems faced by the private industry, particularly the MSME, is the absence of a one stop shop for information and facilitation. This should be done by maintaining two way communication with private industry through regular interaction, information exchange and facilitation in areas of licensing, test facilities, discharge of offsets etc. In Chapter 6 we have made suggestions to reconfigure the Acquisition Executive, such facilitation desks could be part of that setup. However as an interim measure the DDP should address this problem through an internal mechanism.

3.3.21 **DPSUs and OFB to Outsource to MSME and Indian Private Industry.** A major initiative that is doable in the short run, is to increase the outsourcing from the DPSUs and the OFB to Indian industry, MSME preferably and other vendors where necessary. This is particularly so for the low risk, high standardisation items required by these entities. It will be quite anomalous if stringent norms are applied for indigenisation in the capital procurement, while the DPSUs and the OFB, themselves recipients of large orders do not encourage the Indian private industry and the MSME sector.

3.3.22 **Up-gradation of In-service Systems.** By encouraging Indian industry to undertake up-gradation of in-service systems, the process of familiarisation by the industry with the technologies, operating environment as well as user requirements can be accelerated. The services must draw up procedure for facilitating this aspect, and should be an integral part of the process.

3.3.23 **Long Term Planning.** The Indian private industry's participation in defence sector is in its early stages. Industry needs time to understand, assess, make a suitable business case and respond to meet the specific capability requirement of the services. It is therefore considered essential that the requirements of specific equipment / system / platforms or their upgrades are shared with the industry at LTIPP / SCAP finalisation stage. The proposal, at para 3.3.20 above for creation of industry facilitation desk could serve this purpose too. This will give the perspective participants adequate preparatory time to review / enhance their capabilities in areas of their competence, if necessary by forging collaborations with foreign OEMs.

### 3.4 **The Bottom Line – Self-Reliance in Defence Capability**

3.4.01 For achieving a high level of self-reliance in defence capability, as it has been depicted in Figure –I (para 3.1.02 above), It is desirable to take the industry to Segment IV of conceptual competence ladder in all areas of importance so that system design, development and production can be undertaken indigenously. During interaction with industry as also DRDO, it has been highlighted that Indian industry does not have access to certain material, component and sub-assembly level technologies. Shortfalls exist in test facilities also. Indian industry is completely

dependent on imports for electronic components, though every global chip manufacturer and many designers of electronic /telecom systems source their design from India. This needs to change through a well charted course of research and development as well as creation of manufacturing base to plug such technology support gaps.

**3.4.02 Procedure for ‘Make’ Category.** While the measures suggested above cater to the short and the medium term, in the longer run ‘Make’ category lies at the base of the creating credible indigenous capacity and a vibrant Defence Industrial Base (DIB). The current DPP provisions are essentially aimed at large projects. However, the make culture needs to percolate across entire range of products from spares to sub-systems to entire systems. Wherever possible, indigenous development as well as import substitution and indigenisation needs to be encouraged. This will call for a nuanced approach both to the development phase, including funding and the induction phase.

3.4.03 For the development phase, the resources of the Directorates of Indigenisation of Service Headquarters, of the Technology Development Fund, and those envisaged under the “Make” category need to be used synergistically. Likewise for the procurement phase, the Defence Procurement Manual (DPM) route, the delegated powers route under the DPP and regular procurement process under the DPP needs to be used.

3.4.04 The broad-basing of the scope under the ‘Make’ category now opens up the initiative to the following sub-categories:-

- i. Make (Large projects) with DRDO as the lead developer with support from the industry as co-producer
- ii. Make (Large projects) with DPSU / Private industry as the lead developer with support from the DRDO
- iii. Make (components and sub-systems or spares) by the Industry
- iv. Make (components and sub-systems) by the DPSU / OFB
- v. Make (components, sub-systems or spares) by the Service Workshops / Repair Depots

### **Large Aerospace Projects**

3.4.05 An elaboration of the sub category described at 3.4.04 (i) is given in the succeeding paragraphs with large Aerospace projects as an example.

### **Aerospace leads Defence Technologies**

3.4.06. Aerospace systems have the following unique characteristics which are not so critical in civilian and non-defence products:-

- i. Being weight sensitive, the latest in material science and technology needs to be harnessed.
- ii. Being highly performance sensitive, combining speed with minimum weight of propulsion system, agility with minimum power consumption, accuracy with light weight of devices etc, and the need to operate at the very limits with little margin of error, cutting edge technologies and extreme design requirements will need to be incorporated into the subsystems and systems.

- iii. Whilst being operated, the weapon systems will have personnel in close proximity, therefore, safety and reliability are of paramount importance in the design of rockets, missiles and aircraft.
- iv. Being very expensive to develop, produce, own and operate, they require to be in operational use for long periods, sometimes upto four decades. Many a time, these weapons and systems (Rockets, missiles, bombs) would be in storage and need to be deployed and operated at short notice. This throws up new challenges like long storage life, minimum maintenance and periodic product up-gradation to overcome technological obsolescence both in hardware and software.
- v. Being densely packed with subsystems, especially electronic subsystems, wherein problems of heat generation and dissipation, EMI/EMC etc come into play, access for maintainability becomes extremely difficult.

### **Industry lead – DRDO Supported**

3.4.07 So far, most of the R&D and D&D Projects in defence are by DRDO taking the lead role as a conceptualiser, designer and developer and involving an industry for fabrication, prototyping and subsequent ToT. This approach may leave engineering gaps between R&D Labs and industry. Across the world, the aircraft and propulsion system design houses are run within the aerospace industry, on a commercial basis with the efficiencies and discipline that come with this arrangement. The design and development carried out by an R&D lab needs engineering and production drawings for actual productionising, considering that the final product, either in small numbers or in larger numbers, has to be an industrial product. Therefore, an “Industry in the lead, DRDO as a partner” model will lead to quicker and more efficient realization of the objective. If necessary, a foreign technology partner could be considered.

### **Monitoring Mechanism.**

3.4.08 Instead of the current monitoring mechanism based on in house experts and peers, a preferred method would be to form a standing committee consisting of outside experts who would be able to critically and objectively review the programme preferably on a monthly basis, and provide recommendations and timely corrective actions. Such a committee could submit a monthly report to the RM through the SA to RM.

3.4.09 MoD may therefore consider reviewing the management model as well as the monitoring mechanism so as to achieve the capability to design, develop and subsequent production of aerospace platforms, and major assemblies. Once we get a grip on indigenous development of high technology aerospace products, the downstream benefits to be entire defence industry eco system would be phenomenal, both in terms of breadth and depth.

3.4.10 **Make by DRDO.** DDP has proposed an elaborate Make procedure to factor in most of the above categories. The views of the Committee on its contents are provided in the next chapter. The proposal by the DRDO for introducing a ‘Make by DRDO’ chapter as a separate procedure was discussed at this stage. It was felt that the concerns of the DRDO particularly in terms of selection of co-production partners and single vendor nurturing can be addressed as part of the Make procedure proposed by the DDP, and a separate “Make by DRDO”category / procedure was not required.

3.4.11 **Pre-positioning for Make.** Given that the ‘Make’ cycle requires considerable lead time, there is a strong need to pre-position ourselves for ‘Make’ activities based on the projections under the LTIPP particularly items required from the 6th year onwards. This is particularly so for the large projects under the ‘Make’ category. The requirements for the ‘Make’ proposals could come from the services as well.

3.4.12 **Make in India for 100% Export.** The issue of 100% export units for defence items or dual use items came up for discussions more than once. The Committee felt that such units, though welcome will need to be promoted under the general industrial policy and can perhaps not be linked with the DPP.

### 3.5 The Way Forward

3.5.01 The foregoing analysis brings out clearly the desirability and the feasibility of ‘Make in India’ concept in the defence sector. The road map in the short and the medium term requires that the trend seen in 2014-15 in terms of majority of the capital procurement being done from Indian vendors should be consolidated and strengthened. Simultaneously, steps have to be taken to increase the indigenous content (IC) in the procurement in all the four categories both on a case to case basis and across the board. In the long run, indigenous design and development capability needs to be addressed in all areas of defence applications through an expanded and simplified ‘Make’ procedure. The culture of increasing all our procurement through Indian vendors with increasing indigenous content, has to spread to all segments of the MoD, i.e. to the DPSUs, the OFB, the DRDO and also be incorporated in the DPM.

3.5.02 The framework suggested above would require certain changes in the DPP. These are elaborated in the next chapter. But it we will also require certain changes outside the DPP. These relate to the domain of the DDP, the MoD and the DRDO. Some of these may well be outside the domain of Defence Ministry in terms of skill development, taxation issues and similar other matters. These are indicated in a separate chapter. All these changes can be broadly classified into the following categories; the Policies, the Procedures, Institutions and the infrastructure. These are elaborated in Chapters 4, 5 and 6; and are listed below;

- i Procedures:
  - a Defence Procurement Procedure
- ii Trust and Oversight
- iii Institutions:
  - a Acquisition organisation
  - b Public Sector OFB /DPSUs
  - c DGQA/ Standardisation
  - d MSME participation
- iv Policies:
  - a Defence Production Policy
  - b Research & Development

- c Skill Development Acquisition Training
- d Facilitation and Incentives for private industry

3.5.03 It needs to be clearly understood however, that the spirit of ‘Make in India’ cannot be realised in isolation. All stakeholders and players must rise to the requirement of this transformative task and contribute their might in taking the process forward. The Committee is confident that these measures suggested will take us a long way in achieving the goal of ‘Make in India’ in the Defence Sector.

#### 3.5.04 Conclusion

3.5.05 Our examination of “Make in India” in defence sector has led to following conclusions:-

- i. Existing policies, organisations and procedures for defence acquisitions are already aimed towards maintaining the superior capability edge of our armed forces, widening the existing defence industrial base comprising mainly of DPSUs and Ordnance Factories, by encouraging enhanced participation by private industry in all areas and reducing dependence on foreign sources of supply.
- ii. ‘Make in India’ can potentially galvanise the struggling defence industry to consolidate and create fresh capabilities in all areas from life cycle support to design, development and manufacture of defence equipment / systems / platforms.
- iii. Deliberate policy initiatives are required to support the private industry, including MSME, who have ventured into defence business, on long term basis. Firstly by engaging with private industry by allocating projects in areas of its capability and competence. Secondly by extension of test and trial facilities including firing ranges. And thirdly, having brought them into defence industry fold, it would be imperative to nurture such industries, by forging strategic partnerships in certain select fields such as (i) Aircraft - fighter, transport and helicopters;(ii) Warships of stated displacements and submarines;(iii) Armoured Fighting Vehicles; (iv) Complex weapons which rely on guidance systems, to achieve precision hits, which may include anti-ship, air defence, air to air; air to surface, anti-submarine, land attack, (v) Command, Control, Communication and Computers, Intelligence, Surveillance, Target acquisition and Reconnaissance and (vi) critical materials.
- iv. Defence Procurement Procedure, since its inception in 2002, has evolved. Provision for preference for Buy (Indian) and Buy & Make (Indian) categories over the Buy & Make (Global) or Buy (Global) categories mandated under DPP 2013 has already set the tone for higher level of participation by Indian industry. AONs accorded in 2013-14 and 2014-2015 manifest this trend.
- v. This trend needs to be strengthened by suitably reviewing the existing policies, organisations and procedures pertaining to defence acquisitions. Defence Procurement Procedure is the key enabler and therefore needs to be taken up for review on priority.

### **3.5.06 The Next Chapter**

**3.5.07** In the next chapter we examine the Defence Procurement Procedure 2013 and enumerate the recommendations for amendment of certain provisions to improve the acquisition cycle time, to remove ambiguity as well as lend clarity to their interpretation and application; and to also to facilitate increased participation of Indian private industry.

**Annexure-I**  
**(Refers to para 3.2.01 Chapter 3 )**

Category	<b>CATEGORY WISE AONs (in Crores)</b>											
	Buy (Indian)		Buy & Make (In- dian)		Make (Indian)		Buy & Make		Buy (Global)		Total	
Year	No. of Propos- als	Cost	No. of Propos- als	Cost	No. of Propos- als	Cost	No. of Propos- als	Cost	No. of Propos- als	Cost	No. of Propos- als	Cost
2010-11	58	60835	02	16710	01	15845	08	19450	44	40547	113	153388
2011-12	28	28561	03	2032	00	0	01	5747	26	20500	58	56841
2012-13	29	18689	01	385	01	1004	04	13460	16	27114	51	60653
2013-14	25	21001	02	2733	00	0	01	3504	06	371	34	27610
2014-15	35	38318	04	72750	00	0	01	0	16	6759	56	117829
Total	175	167404	12	94610	02	16849	15	42161	108	95293	312	416322

**Annexure-II****(Refers to para 3.3.10(x) Chapter 3)****Strategic Partnership in Indigenous Warship and Submarine Building.****(Elaboration of the Idea)****1 Indigenous Warship Building**

1.1 There are two parts to Shipbuilding (Includes Submarines). The first is the design and the second is the production.

1.2 **Design Stages.** The design of any warship has to start with the Naval Staff Qualitative Requirements (NSQRs) of the ship or class of ships in question. These spell out the role of the ship including the equipment, weapons and systems fit of the platform. The first step is the concept design with initial sets of iterations to arrive at the size, shape, displacement and the hull form which suits the NSQRs. The hull form should be such that it meets the requirements of seakeeping qualities, stability, reserve buoyancy, stealth features, habitability, battle survivability and speeds attainable. This is followed by a working design which is a refinement of sorts with another set of iterations and tests to validate the design. The issues which arise out of this stage are addressed and further set of iterations and refinements are undertaken to arrive at the final design which too is validated against a set of rules. During such an exercise there may be some changes which may become necessary in the NSQRs so as to get an optimum final working design. However, such changes that would be acceptable should not alter the envisaged role of the ship in a major way. Once this exercise is completed, the final design is frozen and production drawings are generated which in turn lead to working drawings which the individual worker is given to execute the assigned task.

1.3 **Formulation of NSQRs.** Usually there are two approaches to make out the NSQRs. The first is centered around the weapon system to counter an appreciated threat and the platform is built around this weapon system to maximize its effectiveness. The second approach is to cater for a general purpose platform and then fit appropriate available weapon systems and equipment. Both the approaches have their advantages and disadvantages. Broadly, in the former the effectiveness of the platform is maximised, it leads to a proliferation of types of platforms to counter different threats. In the epoch prior to and during the WW II, Naval planning of this approach was predominant and so one had dedicated anti surface, anti-submarine and air defence ships etc. However, in the period after WW II with rapid technological advantages, computer aided design and availability of better materials, the trend of multi role ships occupied centre stage in naval planning. Whilst this ensures optimisation of resources there is a slight penalty to be paid in the effectiveness of each role. The old adage of 'Jack of all trades and master of none' does come into play. Therefore in planning a force level structure due thought and consideration, to threat perceptions, requirements, envisaged roles, maximisation of effectiveness vis a vis resources available, must be given. Ideally, a mix of force structures should lead to a balanced force which should be able to deal with all kinds of appreciated

threats. Simple as it may appear, it is a complex question as once decisions are taken; the course corrections are not always possible given the long gestation periods of shipbuilding. Further, in the present era, the technology fade being so rapid, this problem is further complicated.

1.4 **Modular Design and Construction.** As a consequence of the above, the Naval planners must be cognizant of the needs to have an inherent capability in design so that it is amenable to technological upgrades during its lifetime. The Modular approach to shipbuilding is in fact born out of this reality. Ships built with modular technology are easier to be modernised in their lifecycle. However, it must be remembered that even this approach can never replace the original designed role. It only facilitates incremental modernisation.

1.5 **Indigenous Existing Capability.** The Indian Navy can be justifiably proud of its record in this respect. It created the Directorate of Naval Design (DND) and Controller of Warship Production and Acquisition (CWP&A). Starting from the first forays in Ship design in early 1960s of the Leander class frigates, the design of which was bought from the Royal Navy, The IN has come a long way. It has graduated to making stealth cruisers with heavy armament of the Visakhapatnam class (Recently launched) as well as a medium sized aircraft carrier of 35-40,000 tons displacement (Launching of Vikrant last year). There have been design collaboration in case of the carrier with the Italians, however, it may safely be stated that the Directorate of Naval Design in the IN has reached a certain level of maturity and competence. With the progress of Project 28 anti-submarine corvettes wherein, the last of its class Kavaratti was recently launched, it may be safely assumed that the Naval Design Bureau is now fully competent to make ships purely of an indigenous design.

1.6 **Participation of Industry.** The Indian industry is also an active participant in supplying (To Mil Specs) necessary platform equipment and systems. The areas of deficiency, we are still grappling with, are in high tech sphere of weapons and their control systems. The DRDO has promised but has been short in delivery. As a result, we are still dependent on foreign vendors for missile systems specially in air & missile defence (Barak), anti-ship heavy weight torpedoes, Torpedo decoy systems (Indigenous efforts are mainly in Hardware but in control software we are not there), and Combat & Platform management systems. We have covered considerable ground in network centric warfare and electronic surveillance systems. These areas of deficiencies need to be addressed with greater sense of purpose and commitment. We did jointly develop the combat management system for the Project 17 ships, with the Russians, but our contribution was not so significant. However, all said and done, considering that at the turn of Independence we were nowhere, this by itself has been a remarkable journey for which the Indian Navy in particular and the country at large can be justifiably proud.

1.7 **Downside.** Whilst the above makes a good story, there is a downside too. There have consistently been time and cost overruns in almost all projects. However, it is not always the Defence Shipyards which have been on the wrong end of the stick, quite often the delays have been due to various factors such as change in NSQRs midway through the construction phase, effects of sanctions, technology control regimes, delay in availability of materials, labour and Trade union issues etc. There is lack of independence or the lack of it in decision making by the management. We have not been able to empower the CEOs of the concerned defence shipyards in financial and implementation aspects. More often than not, he has to run from MOD (DDP),

Service HQ, to get decisions even on mundane and routine issues. If he can be entrusted with the implementation of such high value projects / programmes, then there is no reason why he cannot be empowered financially, logistically and administratively to implement the project in schedule and in budget. The stake holders from the Navy, MOD(DOD, DDP, & Fin) etc could be represented in a Board constituted to oversee the programme with the CMD of the Yard as the Chairman. Thus a corporate decision making structure which the Board would represent go a long way in cutting delays. The example of the Collins Class submarine programme in Australia also suffered due to this anomaly. In that case an additional factor which contributed to this situation was the issue of the fixed price contract. Because it was fixed price and delays occurred due to various factors including the aspects of first attempts in cutting edge technology which led to price escalations, that the management had to, on each occasion, go to the CFA for price revision which took its own time.

1.8 **Fixed Price vs Cost Plus.** This issue also needs serious consideration. Whereas the former ensures efficiency and timely completion and the latter gives a sense of security to the yard of making a profit at all costs, the decision one way or the other is not a simple one. In Warship building with long gestation periods, a fixed price may not be the answer. So there would be a need to lay guidelines on Project periods where a fixed price could do and where not. In cost plus contracts, there must be a scheme of imposing penalties and liquidated damages where the delays are not justifiable. The guarantees of most equipment in such projects run out their course even before the ship is delivered. Therefore procurement sequences need to be tailored accordingly. Despite this it would not always be possible to have an equipment guarantee in date at the time of installation and setting to work. To obviate this, suitable safeguards should be inbuilt in the Contract. These could relate to storage conditions or increased guarantee periods with consequent increased guarantee costs. There is no single template but this factor must be borne in mind.

1.9 **Design Bureau as Part of The Yard.** Whether the Design bureau should be a part of the yard or not is a vexed question. The moot point is that whether it is or not, it must have a didactic relationship with the yard. It may be noted that in most countries where such activities are undertaken, design bureaus are independent of the yard and are usually Government owned. However, they are co-located with the yard related to their specific discipline and have a didactic relationship with the yard. One reason for such an arrangement may be that designs have an element of State's intellectual property and for reasons of information security. One has to look around to validate this fact. The design bureau 'Rubin' in St Petersburg, Russia is closely associated with the Admiralty Shipyard, the Krilovsky design Bureau with the Baltitsky Shipyard, the Cherbourg design bureau with the DCN shipyard, the IKL design bureau with HDW in Germany etc. Another fact to note is that in the design bureaus there is a continuity of personnel and designers. They are there for decades and the baton is passed from one generation to the other in a smooth manner. Unfortunately, in the IN this is not so. Personnel are rotated to enable fulfilment of criterion appointments in order to be eligible for promotion leads to such a situation. This needs correction and service conditions of Naval Architects and designers suitably recast. Continuity would ensure greater accountability, involvement in research, updating skills and to remain contemporary. Thus the design bureaus should be independent of the Yards and be under the concerned SHQ. The Yards must have their own design cells which are able to

interpret the working drawings and to effect minor changes in design which become necessary during the implementation. These changes do not affect the main design features but are more work related during the implementation phase. Such changes are later ratified and incorporated in the main design. A similar arrangement is in place under the Scorpene Programme.

1.10 **Harnessing Existing Skills Outside of the Naval Domain.** The design establishment must utilize all resources and knowledge pools within the country for their own improvement and enhancing effectiveness. These could be IISIT, science institutions, research centres whether in private or public sectors.

### **Indigenous Submarine Construction**

1.11 **Background.** Whilst the indigenous design capability in warship building has reached a level of maturity and one can with assurance state that we are capable of designing and building ships on our own, unfortunately, the same cannot be said for submarines. We are capable of building one based on a given design but the stage to be able to design one purely on our own has not been reached yet. A beginning was made in 1982 with the contract for 2+2 Type 1500 (209) HDW boats being signed with FRG. A design team had been deputed to Germany for training in the aspects of submarine design alongside the construction of the first two boats at HDW in Kiel. These personnel on completion of their training were to be associated on design aspects for the 3rd and the 4th boats construction in MDL, Mumbai. Truly speaking, we had received CKDs for the boats and the job at MDL entailed putting the kits together. However, the pressure hull sections were rolled and welded together by MDL. Thus it was one step ahead of assembling a CKD. It was envisaged that after construction of these boats, one would be able to make the 5th & 6th (Option Clause) boats with incremental design changes on our own. This would have been a natural progression but the appearance of the so called HDW scandal put paid our hopes of building the 5th & 6th boats which were kept in abeyance and precluded this vital progression to be realised. Thus after the 4th boat was launched in 1992, the assembly line at East Yard, MDL created at considerable expense went idle. The impasse lasted for nearly a decade during which period we saw erosion of skills and exodus of trained personnel from MDL as well as due to retirement from service of key personnel. We lost many a trained welder and fitter to South Korea, which embarked on submarine construction much later than us.

1.12 **Project 75.** This project was initiated to revive the assembly line at MDL with the construction of the 5th & 6th boats of the type 1500 with design changes made on our own specially related to noise reduction and modernised equipment fit. The P 75 initially was as a standalone Project which subsequently got subsumed in the 30 year Submarine Building Plan approved by the Cabinet Committee on Security in July 1999. The design changes were to be validated by a collaborator with proven experience in submarine design and construction. This would have given confidence to our own designers. However, the 5th & 6th boats which had been negotiated with French Collaboration in June '99 did not get final approval for the negotiated costs for one reason or another and later as the 30 year plan envisaged six boats of a Western design, we went for construction of all six based on the French Scorpene design and though the negotiations were completed in Feb 2002, the Contract could get concluded only on 05 Oct 2005.

1.13 **Transfer of Technology.** This time we went one step further than in 1982 compared to the contract with Germany. The TOT involved two packages viz; TDD or the Transfer of Design Documentation and TPD or the Transfer of Production Documentation. In addition we had also catered for the Maintenance documentation from level 1-5. Further, in addition to ‘Know How’ aspect some distance in acquiring ‘know why’ was also covered by contracting for access to the design data base at Cherbourg both from MDL and from Directorate of Naval Design (Submarine Design Group) in New Delhi. How much our designers are able to imbibe and absorb the design technology is yet to be seen but one hopes that they would have been true to their task. They will be tested for this in Phase II of the 30 year Plan when the boats are to be constructed on a purely indigenous design. They have been given full opportunity by the Government and the naval planners.

1.14 **Absorption of Build Technology.** With the undocking of the first Scorpene class boat recently, it can be safely concluded that as far as the build technology is concerned, MDL has been true to the task. In any case, MDL had to make up for a rather long interregnum, which they have done. The Scorpene has been built on raft (or cradle) technology thereby making it a very silent boat. All the equipment is mounted on virtually freely suspended rafts inside the pressure hull. There have been delays but these were mainly on account of delayed procurement of the platform equipment by the MDL on procedural issues which is why the independence and empowerment of the CMD of the Yard has been underscored in Para 7 above. In addition to MDL, capabilities also exist in Hindustan Shipyard (HSL) which has been involved in refit and Modernisation of an 887 EKM Submarine in collaboration with Russian Zvesdochka yard. HSL also has experienced in medium refit of Foxtrot class submarines.

1.15 **Indigenisation of Equipment.** The 30 year plan tasked the Department of Defence Production and Naval Headquarters with developing indigenous capacity both in public and private sectors to participate in the programme. It was aimed that from the 3rd submarine onwards, the indigenous content would be raised so as to reach at least 65-70% by the sixth boat. It is hoped that this would be achieved. The DMDE and ATV HQ have also been participating in indigenizing the equipment for the HDW Type 1500 boats and this should have a positive fall out effect on the P75 Project. In the earlier essay of type 1500 boats much of this was left to MDL and that is why not much success was achieved. The yard’s job is to build and not indigenize. This must be recognised. Much of the platform equipment such as HP air compressors, Hydraulic accumulators, specialised pipelines, cables, Pumps and valves, air conditioning equipment, Ac converters etc have been indigenised. Once again like in the surface ships, the main areas of deficiency are in high tech spheres such as periscopes, Combat and Platform management systems, telescopic masts, Permasyn propulsion motors, torpedo tubes, missiles, torpedoes etc. Beginnings have been made in indigenizing the platform management system, which takes care of motion control as well as control of onboard systems. It may be noticed that much of the deficient areas in indigenous development remains common to surface ships and submarines and mainly relates to weapons and their control systems.

## 2. **Participation of Private Yards**

2.1 With the ‘Make in India’ policy, it is a natural and logical step that Private yards with capacity should be involved in construction of warship and submarines. The policy would need

to be changed which has hitherto kept them out of this domain. They are keen to participate in the submarine construction under Project 75(I) which was the second leg of the Phase I of the 30 year plan. This should have taken off simultaneously with P 75 but for one reason or another has languished for over a decade.

2.2 **Picking a Collaborator.** The user must make up his mind as to what kind of platform fulfills his primary role of the submarine as envisaged in the NSQRs dovetailed with the principle considerations in respect of P75(I) in the CCS approved note for the 30 year plan. Thereafter the decision flow chart as elaborated by us in (Annexure I to IV of Chapter 4) needs to be gone through. This should lead us to a G to G negotiation involving a foreign OEM (of that particular country). Such an OEM would be the Collaborator.

2.3 **Picking a Prime Contractor.** Earlier or simultaneously, the user, keeping in mind the time frame for the completion of the Programme which would be dictated by, force level requirements, delivery schedules, Capability, Capacity and experience decide on the most competent Indian Prime Contractor to undertake the task. This could be the Strategic Partner (SP) as we have defined it in para 3.03 of Chapter 3, for the platform (in this case the Submarine). The selection procedure has been spelt out in detail in this Chapter. This SP would manage the “System of Systems” in a didactic relationship with the collaborator. A number of tierised firms would ultimately work with the Prime Contractor to provide systems and subsystems and elements and components.

2.4 **The next stage is for the negotiations.** First off the block should be the negotiations with the Prime Collaborator driven by the MOD, SHQ and the selected Yard(s) (Strategic Partner) on one side and the Prime Collaborator on the other. Since such programmes are long in gestation, involve transfer of technology and need sovereign guarantees towards meeting technical and commercial commitments as also political objectives, these negotiations must be on a Government to Government basis. Exchange rates variations must be foreseen to the extent possible and catered for. The Draft Contract must be finalised during these discussions. It is important that Collaboration Contract formalizes the relationship with the Prime Contractor to avoid any misrepresentations during the implementation phase in relation to their respective areas of responsibilities. This is precisely how it was done in case of P 75 and as they say the proof of the pudding is in eating it, the undocking of the first Scorpene is demonstrative of the success of this approach.

2.5 **Negotiations with the Prime Contractor.** The Contractual negotiations with the Lead yard or the Prime Contractor would then ensue. Since the Prime Contractor was on the side of the Government during the negotiations with the Prime Collaborator, he is in a better position to work out his estimates and formulate his bid accordingly. Also he is clear on the demarcation of contractual obligations of the Collaborator and his own. If needed and based on the lessons learnt from working the P 75 contract, an internal contract on working arrangements and scheduling could be concluded between the Prime Collaborator and Contractor. The aspects of fixed price component and cost plus component must be unambiguous.

2.6 **The CFA approval.** The CFA approval for the consolidated costs of the Project would then ensue followed by the signing of the contracts.

2.7 **Project Management Board.** An empowered Project Management Board must be constituted with the CMD of the Yard as its head. This Board must have the representations from the NHQ, MOD (DDP,Fin). Its Business rules and powers must be clearly enunciated with the sole objective of completing the programme on schedule and in Budget limits.

2.8 **Building Design Capabilities And Upgrades.** The ultimate aim is to build indigenous design capabilities and carry on the process of building our own submarines with our own designs. The technological prowess of a large number of tierised partners would also be built up.

2.9 **Sustained Order To Strategic Partner And Its Own Developed Partners.** This model presumes a long term covenant between Government, the Strategic Partner and the tierised partners; as such a model by definition cannot be for one contract. Seen from any perspective it is beneficial to the nation. It will build capabilities from design to life cycle support and to visualize futuristic platforms. Resources would be concentrated and channelised in a cost effective manner.

### 3. **General Considerations**

3.1 **Proliferation of Yards as Distinct Corporate Bodies.** No country can afford to have multiple yards dealing with the same disciplines just in the name of competition. The business of shipbuilding is too capital and labour intensive to be sustained only to ensure competition. This aspect needs to be kept in mind in the initial stages of selection of the yard. Thereafter it should be treated as a national asset and nurtured. Even in the United States, in respect of the Virginia Class submarines for the 21st century, the work is being shared between the Electric Boat Division of General Dynamics and the Newport submarine building facility. In FRG also consolidation has taken place between ThyssenKrupp and HDW. Similarly, in South Korea, Hyundai was nominated for submarine building and its one time competitor Daewoo was kept out. In Russia the submarine repairs are at Zvesdochka yard at Severdovinsk, Strategic boats are made in ‘Severny Machine Stroeniezavod’ or Sevmash, conventional submarines are made by Admiralty Shipyard in St Petersburg, Warships are made at Baltitsky Yard in St Petersburg or at Yantar Shipyard at Kaliningrad. The nuclear powered attack submarines are made in Nikolaevsky on Amur in the Far East etc. It makes strong economic sense to go along these lines in the long run to get the most optimum returns on investments. In India all public sector shipyards now working as distinct corporate entities would need to be merged. Similarly only two private shipbuilding companies at best, one for submarines and the other for surface ships, need to be nurtured under the Strategic Partnership initiative.



## **DEFENCE PROCUREMENT PROCEDURE**

“All human errors are impatience, a premature breaking off of methodical procedure.”

Franz Kafka



## CHAPTER 4

### DEFENCE PROCUREMENT PROCEDURE

#### 4.1 Introduction

4.1.01 Defence Acquisition wing was created in Ministry of Defence in 2002, in pursuance of the recommendations of the Group of Ministers on reforming the National Security System. The Defence Procurement Procedure (DPP), based on a comprehensive review of the earlier guidelines laid down in 1992, was promulgated in December 2002. DPP 2002 provided a set of guidelines to be applied to “Buy” category procurements as determined by Defence Acquisition Council (DAC).

4.1.02 DPP, since its inception, has continued to evolve in response to the feedback and needs of Services and industry, as well as experience gained by the acquisition executive in the implementation of the procedure. Amendments have been carried out regularly in 2003, 2005, 2006, 2008, 2011 and 2013. These were directed to address multiple and competing objectives of;

- i Expediting acquisition and scaling up of new technologies and capability of Services
- ii Facilitating wider participation of Indian defence industry
- iii Ensuring adherence to the high standard of transparency, probity and public accountability.

4.1.03 The salient evolutionary changes in DPP are briefly enumerated below so as to get an overall perspective:-

S.no.	Version	Salient Features Introduced
i	DPP 2002-2003	a) Applicable to ‘Buy’ Decision of the DAC b) ‘Buy & Make’ category included
ii	DPP 2005-2006	a) Included procurements under “Fast Track Procedure” (FTP) and “Make” category b) Procedure for shipbuilding incorporated c) Concept of Offsets introduced d) Transfer of Technology envisaged in ‘Buy and Make’ category
iii	DPP 2008	a) Concept of Offset Banking introduced b) Removal of offset obligation for contracts with at least 50% indigenous content c) Change in licensing policy with private company requiring license only if stipulated under licensing requirement for defence industry

S.no.	Version	Salient Features Introduced
iv	DPP 2009	<ul style="list-style-type: none"> <li>a) Buy &amp; Make (Indian) category introduced</li> <li>b) Decision to introduce a public version of Long Term Integrated Perspective Plan (LTIPP) of services, covering a period of 15 years, to be widely publicised for benefit of Indian industry</li> </ul>
v	DPP 2011	<ul style="list-style-type: none"> <li>a) Avenues for discharge of offsets expanded to include synergistic sectors viz. internal security and civil aviation as well as services</li> </ul>
vi	DPP 2013	<ul style="list-style-type: none"> <li>a) Introduced a preferred order of categorisation, in decreasing order of preference i.e. “Buy (Indian)”, “Buy and Make (Indian)”, “Make”, “Buy and Make”, and “Buy (Global)”</li> <li>b) Services Qualitative Requirements (SQRs) for “Buy” category cases to be finalised before accord of Acceptance Of Necessity (AoN)</li> <li>c) Validity period for AoN reduced from 02 years to 01 year for “Buy” category cases of equipment</li> <li>d) Offset guidelines revised (the provision of services as an avenue for discharge of offsets has been held in abeyance)</li> <li>e) “Make” procedure revised</li> </ul>

4.1.04 Before proceeding to discuss and recommend further changes to DPP, it is considered necessary to look at the progress made so far on the twin objectives of meeting the equipment / platform requirements, envisaged time-lines thereof, of the Services and enhancing participation of Indian industry in defence programmes as well as improving the industry’s capacity / capability to support the Services on a sustainable long term basis. On the positive side, the industry remains very enthusiastic about their participation in defence sector given the preferred categorisation in favour of Buy (Indian) and Buy & Make (Indian). Together with the provision of reduced validity period (01 year) of AoN, the pace of accord of AoN and issue of RFPs has improved. As brought out earlier at para 3.2.01 of Chapter 3, a clear trend of increased participation of Indian industry through Buy (Indian) and Buy & Make (Indian) cases is discernible. On the other side, feedback from the Services and industry reflects that the overall procurement process from RFP to Signing of Contract is still very prolonged, owing to delays attributable to various aspects of the process e.g. technical evaluation, field evaluation, rigidity of adherence to SQRs, resolution of complaints. While these process delays deprive the Services from acquiring the envisaged capability as per schedule, these also enhance the risk to the industry in terms of cost of carrying IPBG (for schemes beyond Rs 100 Crores), maintaining idle capacity / manpower, planning resource utilisation for other business, difficulties in negotiating with sub-vendors to hold quoted prices (in submitted bids)etc. for uncertain periods.

4.1.05 **Methodology for Interaction with Stakeholders.** Based on the Terms of Reference (TsOR) given at para 2 of Convening Order (MoD ID No. 1(3)/D(Acq)/15 dated 01.05.2015), the Committee forwarded a questionnaire to each of the stakeholders to solicit their feedback and inputs on the issues relevant to TsOR. This was followed by detailed interactions

with each of the stakeholders. As regards interactions with the industry, the Committee held discussions with Indian industry Associations. A separate session was held with the Associations representing Micro, Small and Medium Enterprises (MSMEs) in view of their special role resulting from their capability, size and financial limitations. The Committee also obtained views from foreign OEMs / trade bodies in separate discussions, organised under the aegis of Confederation of Indian Industry (CII), as also law and consulting firms who are advising them.

4.1.06 The Committee's interaction with the various stakeholders (the Services, HQIDS, industry as well as departments (DDP, DDR&D, DGQA, Directorate of Standardisation) & Acquisition Wing of MoD) has generated a very useful framework of issues that need to be addressed to consolidate the progress made so far. The Committee also received inputs of various individuals as well as institutions, through MoD Acquisition wing. Some members of the Committee participated in a workshop and round table discussion on 'Make in India' organised under the aegis of certain 'Think Tanks'. Some of the 'Think Tanks' gave written submissions.

4.1.07 We now discuss the various suggestions, which the Committee has received. The issues will be taken up, to the extent practical, in the order in which these appear in DPP 2013 for ease of reference as well as co-relation. The Committee's recommendations are enumerated for each issue in the relevant paras and also summarised in Chapter 7.

## 4.2 Laying down the Basic Architecture for Defence Procurement

4.2.01 There should be a PREAMBLE to the DPP as an integral part, explaining the distinctive features of Defence materiel and the nature of the Industry. It would also explain the dynamic relationship between weaponry and strategic and tactical thinking and the role of the political executive and Armed Forces in choice of systems based on requirements as well as on the inventory of adversaries. Such a preamble is considered crucial to bring out the differences between civil products, civil procurement procedures and the market prevailing in the civil sector and defence acquisition as the tendency is to apply general principles of civil procurement to the defence sector also. Many a time, such comparisons lead to inaccurate conclusions and wrong public perceptions about defence procurement in general;

4.2.02 The primary aim of the Procedure is to provide requisite defence materiel to the Armed Forces in the desired quantities and the desired time frame to enable them to perform their tasks efficiently;

4.2.03 However, there are supplementary aims which must be pursued through the DPP to achieve long term goals. Thus it must lead to self-reliance in defence equipment manufacture to provide strategic depth;

4.2.04 The system would have to provide for a large number of distinct entities with specialised roles which need to work together. An oft repeated criticism is that such entities work in their own silos, leading to conflicts and delays. In our model, we would like to give the analogy of a relay race in athletics in which the primary aim is to bring the baton across the finish line. There are a number of runners who should have trained together and whose aim is to do their part and pass on the baton. The focus remains squarely on the baton, for if it drops the race is lost. Thus each entity needs to have a defined task which needs to be completed and seamlessly passed on to the other. At this point there should be no need for scrutiny by the

entity which is taking over the next leg of the race. The element of trust comes into play here. To give an example after the TEC and Staff evaluations have been done and approved at senior level in the Services HQs, there is no need to “accept” them again by the entity taking over the commercial negotiations (the DG Acquisition). What is required is to merely note that activity has been “completed”;

4.2.05 The long and medium term planning as well as the annual action plan would give an idea on the time frame in which the equipment is to be inducted. Together with an assessment of indigenous capabilities the decision flow chart should lead to the category in which these products would be put and consequently the procedure which needs to be followed. This decision flow chart would result in an optimal choice which will take care of both the short term needs of providing the armed forces with materiel for immediate use and to build indigenous capabilities for the future.

4.2.06 The procedure should provide for the channel of procurement, i.e. Government to Government; multiple or limited vendors etc; once the category has been determined.

4.2.07 The idea of Strategic Partnerships must become an integral part of the DPP. This is a major departure from civil procurement. (This has been explained earlier in Chapter 3). The elements of user choice and familiarity, life cycle support and future upgrades (plus generational stages thereafter) all point to developing and nurturing sector partnership between Government, Armed Forces, foreign OEM collaborators, Public and Private Sector tiered industry and prime contractors, the R & D establishment and skill development agencies. Such partnerships would be bound and sealed through long term covenants.

4.2.08 To ensure that such long term partnership do not deteriorate into cozy arrangements, stringent audit and oversight mechanisms would be instituted to see that public interest is being served and value for money received.

4.2.09 Having taken care of high value, critical systems which will form the core of the DPP, market forces, competition and innovation would be encouraged to source all other items. It is expected that variety in products and quantities would ensure that a large number of MSME’s and knowledge based industries would find that they have a market for their products, either as direct suppliers to the Services or to other integrators in the value chain.

4.2.10 Whereas individual initiative will be encouraged, the DPP should provide for collegiate decision making. The reasons which prompted the 2002 reforms still hold good.

4.2.11 Without trust no worthwhile human endeavour is possible. However, since public interest remains paramount oversight and audit will remain as essential ingredients. The aim should be to ensure that procedures are meticulously followed, mistakes if any detected in time and corrective measures taken.

### **4.3 Indian Vendor – Definition**

4.3.01 The term ‘Indian Vendor’ has been mentioned in various sections of DPP, it has however not been defined. This situation permits different interpretations of the same term by different stake holders.

4.3.02 Eligibility criteria for Indian Offset Partner are laid down at para 4 of Appendix-D to Chapter I of DPP 2013. At para 4.2, it is stated, “The Indian Offset Partner shall, besides any other regulations in force, also comply with the guidelines / licensing requirements stipulated by the Department of Industrial Policy and Promotion as applicable.”

4.3.03 Eligibility criteria for participation of Indian industry in “Make” cases have been outlined in Appendix C of Chapter II of DPP 2013. Para (k) of Appendix C states that the Companies eligible for being considered as an eligible “Indian private Industry” for issue of EOI by IPMT and further participation in “Make” case shall possess a licence / LOI for production of defence items in accordance with the amendment to the Industries (Development and Regulation) Act 1951 notified by the Government vide Notification dated 03rd January 2002.

4.3.04 It is noted that similar eligibility criterion has not been laid down in DPP 2013 for participation of Indian private industry in Buy (Indian), Buy & Make (Indian), Buy & Make and Buy (Global) category cases. Only terms such as “Indian vendors”, “Indian industry” and “Indian vendor (including Indian company forming joint venture / establishing production arrangement with OEM)” have been used to describe the Indian entities who may participate in these category of cases.

4.3.05 List of defence items requiring industrial licence has been promulgated vide Press Note No.3 (2014 series) dated 26 June 2014. It is pertinent to note that there would be many defence products whose nomenclature does not appear as such in the list of items given at Annexure to Press Note No.3 (2014 series).

4.3.06 Revised policy on Foreign Direct Investment (FDI) in Defence sector has been issued vide Press Note No. 7 (2014 series). Apart from FDI cap (up to 49 % Government. route, above 49% to CCS on case to case basis, wherever it is likely to result in access to modern and ‘state-of-art’ technology in the country), the following conditions have been prescribed:-

- i The applicant company seeking permission of the Government for FDI 49% should be an Indian company owned and controlled by resident Indian citizens
- ii The management of the applicant company / partnership firm should be in Indian hands with majority representation on the Board as well as Chief executive of the company / partnership firm being resident Indians
- iii Chief Security Officer of the investee / Joint Venture Company should be resident Indian citizen
- iv Full particulars of the Directors and the Chief Executives should be furnished along with the application.
- v The Government reserves the right to verify the antecedents of the foreign collaborators and domestic promoters including their financial standing and credentials in the world market.

4.3.07 Further, Para 6.2.6.2(xxi) of Press Note No.7 (2014 series) also states that for the proposal seeking Government approval for foreign investment beyond 49% applicant should be Indian company / foreign investor. Further condition at para 4.2.06(ii) above {i.e. para 6.2.6.2(iii) of Press Note No.7 (2014 series)} would not apply on such proposals.

4.3.08 The situation which obtains from the above is that 100% FDI in the defence sector, for products not requiring license, is permitted by default. The moot question therefore is whether a 100% owned subsidiary of foreign vendor or for that matter a Joint Venture where the foreign vendor has more than 51% (controlling) stakes, which may be registered under the Companies Act 2013, would qualify as “Indian vendor” for participation in Buy (Indian), Buy & Make (Indian), Buy & Make or Buy (Global) category of cases for defence not requiring license. The other factor that will have a bearing on this issue is the requirement of license for the product line as a “defence product”.

4.3.09 It is the considered opinion of the Committee that the essential ingredient of the “Indian vendor” criterion is the controlling stakes of the Indian entity except cases where FDI above 49% has been allowed to an entity for a particular defence product and the entity is competing for supply of that product e.g. a UAV.

**The following definition of an Indian Vendor is therefore proposed;**

*“For defence products requiring industrial licence, an Indian entity/ Partnership firm, complying with, besides other regulations in force, the guidelines / licensing requirements stipulated by the Department of Industrial Policy and Promotion as applicable. For defence products not requiring industrial licence, an Indian entity/ Partnership firm registered under the relevant Indian laws and complying with all regulations in force applicable to that industry”*

The Committee would however, like to flag the need to put in place requisite safeguards so that a liberalised FDI policy does not render some of the high tech Indian private industry open to controls that could adversely affect the Indian interests. Such controls could be exercised through IPR controls on development or up-gradation of a product, discontinuation of production of certain crucial items on ostensibly commercial grounds and worse, invocation of extra territorial jurisdiction of the investing country’s laws. Our interests would therefore need to be safeguarded through requisite contractual provisions in the Standard Contract Document and use of existing legal provisions under the Acts such as The IDR Act, The Indian Patents Act, Semiconductor Integrated Circuit layout Design Act etc.

**4.3.10 Recommendations.**

- i. Definition of Indian Vendor as stipulated at para 4.2.09 above be incorporated at all relevant sections of DPP.
- ii. List of defence items requiring industrial licence, promulgated vide Press Note No.3 (2014 series) dated 26 Jun 2014, may be rationalised and nomenclature of such ‘defence products’ which merit licensing be incorporated.
- iii. In the long run, there is a need for adequate control by way of contractual and legal means for sourcing defence item from Indian industries. Mere financial controls based on the stakes in the company will not be sufficient to nourish strategic technologies.
- iv. There should also be legislative measures to protect Indian companies involved in design and manufacture of critical defence products from take over by foreign entities.

**4.4 Categories for Capital Acquisitions (Para 4 DPP 2013)**

4.4.01 The categories Buy (Indian), Buy & Make (Indian), Make, Buy & Make and Buy (global) for capital acquisitions are described in para 4 of DPP 2013. Vendors (Indian / foreign)

to whom Request for Proposal (RFP) can be issued, indigenous content to be achieved and method of its calculation, range and depth of Transfer of Technology (ToT), where applicable, for each category have been stated therein.

4.4.02 For 'Make' category, an additional qualification i.e. high technology complex systems or critical components / equipment for any weapon system" has been added at para 4(d) of DPP 2013. It has been stated at para 3(b) of Chapter II of DPP 2013 that "low technology mature systems" would be categorised as Buy (Indian). As per para 3(a) of Chapter II of DPP 2013 "strategic, complex and security sensitive systems" fall under the purview of DRDO.

4.4.03 As discussed in Chapter 3 of this report, the Committee received some suggestions on nomenclature of categories for acquisition and also reduce these categories to just two. Having considered these suggestions, the Committee opined that the existing categories i.e. 'Make', 'Buy (Indian)', 'Buy & Make (Indian)', 'Buy & Make', and 'Buy (Global)' for capital procurement have served well and need to be retained as such for the time being.

4.4.04 The committee however recommends that defining attributes of a category for a procurement case be stated clearly and unambiguously. These categories should be technology / complexity neutral (barring schemes to be allocated to DRDO). These should be based on readiness or otherwise of the Indian industry and R&D organisations to deliver a particular defence capability in a specified time frame. These should seek to assess for each scheme, the Indian industry's capabilities in the areas of design, development, system integration, testing and manufacturing; availability of enabling technologies and test / trial infrastructure, industry capability to deliver the required equipment, as per Services Qualitative Requirements (SQRs), with stipulated Indigenous Content (IC) firstly for trials and secondly for operational use as per indicated schedule and in requisite numbers. The appreciation of these defining attributes should enable the decision maker to assess the gaps in the required key technologies and capability / capacity of the industry as well as time frame available for each scheme. Decision to consider categories other than Make, and Buy (Indian) should be based on the necessity to close the identified gaps in technology / capability / capacity of Indian Industry while keeping in view the requirements of the Service i.e. stated capability and time frame to acquire it, through the appropriate ToT from foreign sources.

4.4.05 The proposed defining attributes for each category are outlined in the Table-1 below.

Category	Defining Attributes
Buy (Indian)	<p>a) The equipment / system / platform is already in service, having been produced by Indian industry based on in-house R&amp;D or ToT from indigenous / foreign sources or through “Make” scheme in the past.</p> <p>OR</p> <p>b) Though not in service, but is available in Indian industry for some other sector</p> <p>OR</p> <p>c) Though not in service, equipment / system / platform can be produced as all key technologies are available and Indian industry has capability to design, develop, manufacture, test and integrate the system.</p> <p>d) In case of upgrades of in-service equipment / system / platform, Indian industry has the requisite technology and capability to implement the upgrades sought</p> <p>e) In each of the above situations, the Indian industry can deliver the equipment / system / platform with the stipulated indigenous content, firstly for trials and secondly for operational use as per indicated time schedule and in requisite numbers.</p> <p>In case the above criteria is not satisfied, list the inabilities of Indian industry in terms of –</p> <ul style="list-style-type: none"> <li>• Gaps in key technologies</li> <li>• Gaps in expertise, skills, manufacturing and / or test facilities</li> <li>• Constraints in achieving the stipulated indigenous content</li> <li>• Gaps in capacity</li> <li>• Bottlenecks in fielding equipment for trials, final delivery in the specified time lines</li> </ul>
Buy & Make (Indian)	<p>a) The equipment / system / platform or the required upgrade is available with more than one foreign OEMs (whether in service in foreign country or not)</p> <p>AND</p> <p>b) Foreign OEMs are willing to give range &amp; depth TOT for indigenous manufacture as well as MToT as per industry needs (generated while application of criteria Buy (Indian) category)</p> <p>AND</p> <p>c) Indian industry can absorb the technology and create the necessary production, test and integration facilities and poise for the up-gradation needed</p> <p>AND</p> <p>d) Indian industry can deliver the equipment / system / platform with the stipulated indigenous content, firstly for trials and secondly for operational use as per indicated time schedule and in requisite numbers ( graded approach for indigenous manufacture i.e. Fully Formed (FF), Semi Knocked Down (SKD) Kits, Completely Knocked Down (CKD) kits, Indigenous Manufacture (IM) kits)</p> <p>In case the above criteria is not satisfied, list the inabilities of Indian industry as well as those of foreign OEMs in terms of –</p> <ul style="list-style-type: none"> <li>• Gaps in readiness of Indian industry in absorbing technology and / or creating production, test or life cycle support facilities</li> <li>• Constraints of Indian industry in achieving stipulated indigenous content / delivery schedule</li> <li>• Constraints emanating from shortfall in ToT offered by foreign OEMs</li> <li>• List of high cost assemblies / sub-assemblies / materials for which ToT is not available and perpetual import would be necessary</li> </ul>

Buy & Make	<p>a) The equipment / system / platform or the required upgrade is available with more than one foreign OEMs (whether in service in foreign country or not)</p> <p>AND</p> <p>b) Foreign OEMs are willing to give range &amp; depth of TOT for indigenous manufacture as well as MToT and technical assistance throughout the program (hand holding) as per industry needs (generated while application of criteria Buy &amp; Make (Indian) category)</p> <p>AND</p> <p>c) One or more than one Indian industry who can absorb the technology and create the necessary production, test and integration facilities have been identified as Strategic Partners (as selected by the procedure elaborated in chapter 3) or Production Agencies (PA). In case more than one PAs are available, foreign OEMs are allowed to select PA (but not Strategic Partners)</p> <p>AND</p> <p>d) Indian industry can deliver the equipment / system / platform with the stipulated indigenous content, firstly for trials and secondly for operational use as per indicated time schedule and in requisite numbers ( graded approach for indigenous manufacture i.e. Fully Formed (FF), Semi Knocked Down (SKD) Kits, Completely Knocked Down (CKD) kits, Indigenous Manufacture (IM) kits)</p> <p>In case the above criteria is not satisfied, list the inabilities and constraints of Indian industry as well as those of foreign OEMs in terms of –</p> <ul style="list-style-type: none"> <li>• Restrictions of foreign Govt. regarding ToT</li> <li>• Constraints in achieving delivery schedule, indigenous content, life cycle support.</li> </ul>
Buy (Global)	<p>I. The requirement of equipment / system / platform is not of strategic or long term nature which cannot be fulfilled through higher preference category.</p> <ul style="list-style-type: none"> <li>• Buy (Global) on multi or single vendor basis</li> <li>• Fast Track Procedure in case of urgent operational requirements</li> </ul> <p>II. The requirement is of strategic nature and /or of long term nature. A single foreign vendor or all foreign vendors of the same country can provide equipment / system / platform.</p> <ul style="list-style-type: none"> <li>• Buy (Global) under Govt. to Govt. arrangement</li> <li>• In case of multiple vendors, product may be selected before approaching the foreign Govt.</li> <li>• Conclude Inter Governmental Agreement if one does not already exist, as required.</li> <li>• Requirement of ToT / MToT as required / likely to be made available may be factored.</li> </ul> <p>III. The requirement is of strategic nature and /or of long term nature. More than one foreign vendors from different countries can provide equipment / system / platform.</p> <ul style="list-style-type: none"> <li>• Buy (Global) on competitive bidding basis</li> <li>• Note that Indian vendors, if any, meet the indigenous content requirement</li> <li>• Involve the Govt. of L1 bidder if required</li> <li>• Include ToT /MToT as necessary</li> </ul> <p><i>Note: ToT in Buy (Global) category cases is essentially to use the Buyer's leverage during negotiations or even post contract stages. It may cover only certain critical items of product such as fuel / warhead contents of a missile or ammunition of gun etc. It need not necessarily be as comprehensive in range or depth as in Buy and make (Indian) or Buy and Make category cases.</i></p>

Make	<p>a) The operational performance / capability or maintainability / supportability of an in-service equipment / system / platform is to be undertaken through insertion of contemporary / state of art technology.</p> <p>OR</p> <p>b) Design and development of sub-systems / sub-assembly / assemblies / major components is to be undertaken to reduce dependence on foreign sources</p> <p>OR</p> <p>c) The in-service equipment / system / platform is to be replaced on account of obsolescence, with new one with contemporary / state of art technology with or without enhancement of capability.</p> <p>OR</p> <p>d) The new equipment / system / platform of contemporary / state of art technology with enhancement of capability is required to be inducted</p> <p>AND</p> <p>e) The equipment / system / platform or their upgrades or their sub-systems / sub-assembly / assemblies / major components, as the case may be, would be designed and developed using matured technologies which are available to Indian industry through indigenous or foreign sources</p> <p>AND</p> <p>f) Research &amp; Development (R&amp;D) of fundamental technology or materials is not envisaged</p> <p>AND</p> <p>g) Indian industry has the requisite capability for design, development, manufacture, test, integration and production</p> <p>AND</p> <p>h) Adequate time is available for induction of capability</p> <ul style="list-style-type: none"> <li>• Make ( Indian)</li> </ul> <p>Notes:-</p> <ol style="list-style-type: none"> <li>1. The feasibility of adopting 'Make' procedure should be assessed by HQIDS in early stages of finalisation of LTIPP, looking 5 to 8 years ahead (or more, based on the nature of capability and availability of requisite technologies)</li> <li>2. In case of capabilities of strategic nature or involving critical / sensitive technologies, projects should be assigned to DRDO, again in early stages of finalisation of LTIPP.</li> <li>3. Therefore, feasibility of adopting 'Make' procedure must precede other categories for acquisition i.e. Buy or Buy &amp; Make by at least one plan period (05 years).</li> </ol>
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**TABLE-1: Defining Attributes of categories for capital acquisition schemes**

**4.4.06 Recommendation.** The Committee recommends that defining attributes of categories for capital acquisitions be incorporated in DPP to lend rationality, clarity as well as transparency to the decision making processes of acquisition.

#### **4.5 Linkage to Acquisition Plans (Paras 8 to 11 Chapter I DPP 2013)**

4.5.01 The linkages of the acquisition process of equipment / systems/ platforms under capital head of defence budget have been described at paras 8 to 11 of Chapter I DPP 2013. Para 9a stipulates that future needs of Armed Forces should be shared with the industry. Further the need for bringing out a public version of 15 years Long Term Integrated Perspective Plan (LTIPP), to be widely publicised and made available on MoD website, has also been highlighted. These

provisions in DPP were to facilitate the Indian industry to evaluate the requirements of Services against its own capabilities and then proceed to fill the identified gaps. This assumes importance as identification of foreign partners and assessment of Transfer of Technology (ToT) based on identified gaps in industry and establishing Memorandum of Understanding (MOU) etc. takes considerable time.

4.5.02 The Committee noted that towards this end, MoD has published a Technology Perspective Capability Road map (TPCR) outlining the nature of futuristic technologies which would be required to meet the envisaged capabilities of the Services.

4.5.03 During the Committee's interaction with the Industry associations, it has been highlighted that TPCR in its present form is considered very broad and information therein is not actionable by the industry to make investment decisions. It also does not enable the industry to plan and get technology partnerships firmed up for specific programs. It has been suggested that sharing of Preliminary Staff Qualitative Requirements (PSQRs), along with required quantities and time frame, for specific schemes in the time horizon of next 5 to 8 years would be more pragmatic approach to initiate preparatory activities i.e. capability / capacity assessment and enhancements required thereof, in industry.

4.5.04 The Committee considered these suggestions. The points raised by the industry are considered valid from business angle. While non-disclosure of exact future capabilities envisaged to be acquired by the Armed Forces is a matter of government policy, it limits and restricts the industry's initiatives to prepare in advance to meet such future capability requirements. A suitable mechanism for regular and meaningful interaction with the industry therefore needs to be established.

**4.5.05 Recommendations.** The Committee recommends the following arrangements:-

- i. The publication of TPCR may be continued. Its content may however be made specific w.r.t the nature of equipment / systems that would be required to be inducted / up-graded during the next 15 years.
- ii. The details of schemes, which are considered amenable for 'Make' procedure, should be shared with the industry during regular interactions. The industry may even be involved at feasibility stage itself.
- iii. The details of other schemes which are to be included in 05 years Services Capital Acquisition Plan (SCAP) should be shared with the industry. Indicative time frames, PSQRs and quantities envisaged may also be given, to the extent practicable and actionable by the industry.

#### **4.6 Request for Information (RFI)(Para 15 Chapter I DPP 2013)**

4.6.01 The functions for the acquisition process for 'Buy (Indian/Global)', 'Buy & Make' and 'Buy & Make (Indian)' category schemes are listed at para 12 of Chapter I of DPP 2013. Request for Information (RFI) function, which creates first contact with the industry has however not been listed.

4.6.02 The nature of industry inputs required to be gathered during RFI, by the user Service, have been mentioned in paras 14 & 15 of Chapter I of DPP 2013. These inputs

include technical information for preparation / refinements of PSQRs, other elements such as requirements for range and depth of ToT including key technologies, maintenance infrastructure / product support etc. These are to serve as guidelines for preparation of a comprehensive Request for Proposal (RFP). Details of interested vendors are also sought to be furnished as per Appendix E to Chapter I of DPP 2013.

4.6.03 The Committee has analysed these provisions in DPP as well as inputs received from industry. The Committee opines that RFI function should be made a structured interaction with the Indian industry and should be conducted after placing the broad details of the scheme under consideration on MoD website. Adequate time should be given to industry to comprehend the scheme.

4.6.04 The information generated from RFI function should be meaningfully utilised for preparation of SQRs / refinement of PSQRs into SQRs, assessing the capability / capacity of industry or shortfalls thereof, preparation of the Statement of Case (SOC) for seeking Approval of Necessity (AoN) which includes categorisation and subsequently for preparation of RFP. Capacity / capability of industry has been explained as an important defining attribute for each category of acquisition scheme at para 4.3 above. In fact, information on capacity / capability of industry so derived should be utilised to update the 'Competency Map', if one already exists. And if such data has not been collated, suitable process should be instituted to maintain an up-to-date 'Competency Map' of the Indian industry.

4.6.05 **Recommendations.** The Committee recommends the following with regard to RFI function:-

- i. RFI be listed as the first function in the acquisition process described at para 12 of Chapter I of DPP 2013.
- ii. The RFI function be described under a separate para, before SQR function, in DPP. Its scope should include capability / capacity assessment of Indian industry.
- iii. A suitable process should be instituted to maintain an up-to-date 'Competency Map' of the Indian industry.

#### **4.7 Services Qualitative Requirements (SQRs) (paras 13 to 17 Chapter I DPP 2013)**

4.7.01 For 'Buy (Indian/Global)' and 'Buy and Make' categories of acquisition, attributes, process of preparation and approval as well as sanctity of SQRs have been described in paras 13 to 17 of Chapter I of DPP 2013. Salient aspects, as extracted from DPP, are as follows:-

- i. The SQRs should lay down the user's requirements in a comprehensive, structured and concrete manner; in terms of capability desired with minimum required verifiable functional characteristics, the performance parameters in the SQRs should be verifiable and classified as 'Essential Parameters'
- ii. 'Essential' classification to a requirement must result from an in-depth critical analysis of necessity of requirement
- iii. Should be prescribed in clear cut terms and should not be vague or ambiguous

- iv. Should be broad-based and realistic, must not prejudice the technical choices by being narrow and tailor made
- v. Required inputs to be obtained from RFI function and also from Defence Attaches, internet, defence journals / magazines / exhibitions and previously contracted cases in such category
- vi. Draft SQRs to be circulated widely in MoD (Other Services, DDP, DRDO, QA Agencies etc.)
- vii. Deliberated upon and approved by Staff Equipment Policy Committee (SEPC) or Joint Staff Equipment Policy Committee (JSPEC), as the case may be
- viii. SQR to be invariably finalised prior to seeking AON. To be included with SOC for seeking AoN
- ix. However for 'Buy & Make (Indian)' cases these are to be finalised prior to issue of RFP as stated at para 25a(i) of Chapter I of DPP 2011
- x. No amendment to SQR is permitted thereafter. If amendment to SQR becomes necessary after accord of AoN, the case should be re-submitted for revalidation of AoN earlier accorded.

4.7.02 Comments and suggestions received during the Committee's interaction with the stakeholders, including industry, in the acquisition process have highlighted the potential of this function to cause un-anticipated delay in the acquisition process or even derail the same. It is therefore considered appropriate to record these in this report before giving the Committee's recommendations.

#### 4.7.03 Comments & Suggestions from Stakeholders.

##### **IHQMOD(Army)**

- i. **Comment.** Non-compliance to minor accessories or minor parameters which do not materially affect the equipment to the extent that it becomes operationally non-viable, results in fore closure of cases which needs to be avoided.

**Suggestion.** The performance parameter given in SQRs to have 'Operational' and 'Technical' parameters. The technical parameters to be restricted to those not affecting operational parameters of the main equipment. Should there be aberrations noticed in technical parameters, it should not be a rejection clause, and a commitment for adherence to technical parameters be taken from vendors.

##### **Air HQ**

- ii. **Suggestion.** (With reference to DPP clauses which lead to delays or even stall procurement process) While due diligence is exercised in preparation of the SQRs, flexibility should exist in amending trivial and insignificant errors / omissions in the SQRs once RFP has been issued. The amendments in SQRs due to minor errors and omissions that do not materially alter the operational requirement or the scope and intent of the procurement, DG(Acq) may be authorised to approve such amendments to SQRs.

**DRDO**

iii. **Comment.** A number of procurements are sometimes delayed because of optimistic / ambitious QRs.

**Suggestion.** A separate committee may be constituted by RM with Secretary R&D and other stakeholders to examine the feasibility of realisation of QRs and suggest revisions keeping in view the need for increased indigenous content with the 'Make in India' policy.

**Industry**iv. **Suggestions.**

- a Interaction with industry representatives on draft QRs would enable SHQ to formulate a realistic SQR which will be attainable during the trial and evaluation.
- b Performance parameters should be divided into two categories i.e. operationally inescapable parameters and other Essential parameters
- c SQRs may include "desirable parameters" which are not required to be verified during trials but vendor should give an undertaking to include them during production stage.
- d Vendor certification / documentation / simulation for certain parameters may be accepted which cannot be verified during trials by nature of the parameter (e.g. shelf life) or due to non-availability of test facilities. Details of these should be included in the RFP to ensure transparency and level playing field.
- e AoN may be accorded based on draft SQRs which can be finalised before issue of RFP.
- f Amendment to SQRs and amendment to RFP clauses may be sought before receipt of techno-commercial bids as it will not affect transparency. DG(Acq) may be authorised to issue such amendment on recommendation of committee involving all stake holders

4.7.04 The Committee has deliberated upon these comments and suggestions. Our opinion is enumerated below:-

- i. SQRs should accurately describe all essential operational as well as technical characteristics of the capability (of equipment / system / platform or their upgrades) envisaged to be inducted by the user Service.
- ii. These should be **realisable** in the time frame envisaged for acquisition of the capability. To that extent, it is necessary that relevant inputs on the technologies including materials, manufacturing and testing facilities etc. is obtained from all possible sources, particularly during RFI.
- iii. Technologies which go into making defence equipment are evolving at a fast pace, it is not practical to make the acquisitions 'future proof'. To that extent, it would be pragmatic to specify acceptable range of the parameters, wherever practical.

- iv. Competition facilitates price discovery in market place. But as it has been discussed in Chapter 1 of this report, defence acquisitions do not follow dynamics of commercial markets. And in many situations ‘capability’ sought by the Service should not be negotiated in favour of ‘best price’. Therefore, ‘broad’ vendor base requirement should not lead to reduced or sub-standard capability. Single vendor situations, even at ab-initio SQR stage, should not always be construed unacceptable.
- v. SQRs once approved by the designated authority, should not be changed, except with the explicit approval of the same authority.
- vi. The Committee is given to understand that the provision of finalising the SQRs, prior to accord of AON, was incorporated in DPP 2013 after extensive deliberations while considering recommendations of Ravindra Gupta Committee Report. It has also significantly improved issuance of RFPs within the stipulated period after accord of AON.
- vii. Accepting amendments to SQRs (for that matter even any other parameter given in RFP) at any stage after issuance of RFP would certainly have implications, depending upon the stage at which these amendments are sought to be made. Disturbing the “level playing field” lies at the heart of these implications. Such changes could also undermine the process of selection of L1 vendor.
- viii. However, applying the same yardstick to every situation may also not be a pragmatic approach. Minor deviations from SQRs at technical or field evaluation stages, correction of typographical errors or minor omissions without which statement of SQRs would not be complete, need to be accepted to avoid setting the acquisition clock back by many years. Suitable mechanism however needs to be instituted to address such situations. Such a mechanism should firstly establish that no vendor would have been put to a disadvantage at any stage (vendor selection, TEC, FET, Staff Evaluation) due to such changes in SQRs.

#### 4.7.05 **Recommendations.**

- i. The existing provisions in DPP 2013 i.e. (i) The performance parameters given in the SQRs should be verifiable and classified as “essential Parameters”, (ii) finalising the SQRs prior to accord of AON, (iii) No amendment of SQRs is permissible thereafter, and (iv) If an amendment to SQR becomes necessary after accord of AON, the case should be resubmitted for revalidation of AON earlier accorded; are considered robust.
- ii. The Committee recommends institution of a suitable mechanism to address the situations such as minor deviations, typographical errors or minor omissions which would not have put any vendor, during any stage of acquisition process starting from vendor selection, to a disadvantage and also that such changes do not materially alter the character of RFP in terms of capability being sought, associated deliverables or have major commercial implications. Such changes could be approved by the DPB.
- iii. Paras 13 to 16 of Chapter I of DPP 2013 be re-organised for clarity. The contents may be organised under sub-headings characteristics / attributes of SQRs, preparation and approval.

#### 4.8 Acceptance of Necessity (AoN) (Paras 18 to 20b Chapter I DPP 2013)

4.8.01 Given an approved AAP, accord of AON, based on the Statement of Case submitted by the User Service is the first and the most crucial step in the acquisition process. 'Categorisation' i.e. assignment of a category to each capital acquisition scheme, provisions such as type of ToT (Indigenous Manufacture or Maintenance) along with its range and depth, methodology for selection of Indian Production Agency for 'Buy & Make' category, approach for indigenous manufacture i.e. spread of FF, SKD, CKD, IM phases etc. get decided during this phase. The AoN process, validity period of AoN and preferred order of categorisation to be followed are elaborated in paras 18 to 20b of Chapter I of DPP 2013. Interaction with the Indian Industry, where their participation is probable, is also stipulated prior to internal discussions / decision making stage of Categorisation Committee meeting.

4.8.02 AoN Validity period of one year for Buy (Indian), Buy & Make and Buy (Global) categories and two years for Buy & Make (Indian) category has been promulgated in DPP 2013.

4.8.03 **Feedback.** In response to the questionnaire given by the Committee, all stakeholders including industry have indicated that the aspects of reduced period of validity of AoN (from two years earlier to one year) together with SQR finalisation at AON stage and preferred order of categorisation have made a significant positive effect on the acquisition process. A few more suggestions / observations have also been made by industry, IHQMOD (Army) and Air HQ. These are listed below:-

##### **IHQMOD (Army)**

- i Revalidation of AoN could be taken directly from the original approving authority without going through the complete SCAP cycle.
- ii The Lead agency to give eight weeks for scaling to be completed by other service HQs before fielding the case for grant of AoN.
- iii In an eventuality where the overall quantity of a particular scheme gets reduced after grant of AoN, the case may be moved on file to Chairman SCAPCHC for approval.
- iv For cases where requirement of other services / agency comes up after fielding the case in SCAP cycle for accord of AoN, the RFP to be issued for the quantity which is duly vetted by MoD(fin). The balance quantities could be addressed in Option clause / Repeat Order, as the case may be.

##### **Air HQ**

- v In response to the Committee's questionnaire and elaborating on the causes of delay in acquisition process, it has been observed that comments / observations on the SOC by other agencies to whom the SOC is circulated are often delayed and forwarded to SHQ in piecemeal fashion.

##### **Industry**

- vi Recommendations of the Categorisation Committee may be placed on the MoD website on the next working day
- vii Production Agency and ToT approval by SCAPCHC should be made public

viii Participating foreign vendor should be allowed to select Indian partner of his choice from public / private firms for ToT. Essential requirements of Indian partner should be specified in RFP to ensure that the selected Indian partner is suitable for absorbing ToT.

ix Indian industry be more closely associated with the process of categorisation. Industry view on categorisation must be formally obtained as part of RFI response.

x Decisions of DAC / DPB must be shared with the industry without compromising security concerns.

4.8.04 The Committee has considered the feedback as well as suggestions / observations of the stakeholders. The points pertaining to scaling and putting together comments of stakeholders so as to place the SOC before SCAPCC, which lead to delays in acquisition process, are essentially related to internal interaction amongst constituents of MoD. To avoid delay in acquisition process, suitable instructions need to be issued. As regards making public the decisions of SCAPCHC / DPB / DAC, on categorisation or selection of PAs, as suggested by the industry, the Committee is of the opinion that institutionalised processes of decision making based on the laid down criteria, which are followed in MoD, encourage independent application of mind by competent personnel in the context of sufficient data. The suggested stage-wise communication to industry is required. With regard to a specific scheme of acquisition, interaction with industry through the formal processes laid down in DPP i.e. RFI, consultation prior to categorisation, RFP etc. are considered adequate and appropriate. The Committee has in Chapter 3 highlighted the requirement of regular structured interactions with industry for information exchange as well as facilitating the industry.

4.8.05 Considering that SQRs for Buy (Indian), Buy & Make and Buy (Global) are required to be finalised prior to accord of AoN, and that sl 4 of Appendix C to Chapter I of DPP 2013 stipulates issue of RFP within 08 weeks from accord of AoN, the period of validity of AoN could be reduced further to 06 months from the existing one year.

4.8.06 There could be genuine situations which may have led to delay in issue of RFP within the validity period (06 months). The Committee considers that in such situations, the authorities which are empowered to approve issue of RFP may also be delegated the authority to accord extension of validity period for a further 08 weeks, provided that conditions of original decision and categorisation have not changed. Such a provision would facilitate certain discipline in adhering to reduced time lines while avoiding the necessity to revisit the complete categorisation cycle, which may itself take 08 weeks.

**4.8.07 Decision Flowcharts.** ‘Categorisation’ entails assignment of a category to each capital acquisition scheme. The provisions such as type of ToT (Indigenous Manufacture or Maintenance) along with its range and depth, methodology of selection of Indian Production Agency for ‘Buy & Make’ category, or assignment of the scheme to a Strategic Partner as elaborated at para 3.3.03 of Chapter 3 of this Report, approach for indigenous manufacture i.e. spread of FF, SKD, CKD, IM phases are also deliberated and finalised. This is therefore a crucial step in the acquisition process. The Committee has analysed the process and considers that the same needs to be structured and institutionalised so as to lend high credibility and consistency. At section 4.3 above, we have explained the concept of “Defining Attributes” for

each category of acquisition scheme. We propose that these should be evaluated by SCAPCC / SCAPCHC at this stage while considering categorisation. The “Decision Flowchart” for each category are Annexed as follows:-

- i Annexure-I : Buy (Indian)
- ii Annexure-II : Buy & Make (Indian)
- iii Annexure-III : Buy & Make
- iv Annexure-IV : Buy (Global)

4.8.08 The decision flowcharts facilitate assessment of readiness or otherwise of the Indian industry and R&D organisations to deliver a particular defence capability in a specified time frame. These seek to assess for each scheme, the Indian industry’s capabilities in the areas of design, development, manufacturing, system integration and testing; availability of enabling technologies and test / trial infrastructure, industry capability to deliver the required equipment as per Services Qualitative Requirements (SQRs), with stipulated Indigenous Content (IC) firstly for trials and secondly for operational use as per indicated schedule and in requisite numbers. The appreciation of the defining attributes would enable the SCAPCC / SCAPCHC to assess the gaps in the required key technologies and capability / capacity of the industry as well as time frame available for each scheme. Decision to consider categories other than Make or Buy (Indian) should be based on the necessity to close the identified gaps in technology / capability / capacity of Indian Industry while keeping in view the requirements of the Service i.e. stated capability and time frame to acquire it, through the appropriate ToT from foreign sources.

4.8.09 The flow charts generate inputs for lower preference category (say Buy& Make (Indian)) if the higher preference category (say Buy (Indian)) is found not suitable for a given scheme. For example, existing gaps in technology, capability as well as capacity in Indian industry would get identified while running the Buy (Indian) decision flow. These gaps are then addressed by running the Buy & Make (Indian) decision flow, before considering any lower preference category e.g. Buy & Make or Buy (Global). The decision flow charts address the necessity to assess the requirements of the range and depth of ToT prior to proceeding with Buy & Make categorisation. Further, if the equipment / system or platform has earlier been produced by the Indian industry through ToT, the decision to process necessitates consideration of upgrade of such equipment / system or platform through the same Indian industry unless the identified gaps in technology / expertise / facilities demand another ToT from identified foreign sources.

4.8.10 The decision of adopting ‘Make’ procedure must precede other categories for acquisition i.e. Buy or Buy & Make by at least one plan period (05 years).The feasibility of adopting ‘Make’ procedure should be assessed in early stages after finalisation of LTIPP, looking 5 to 8 years (or more based on the nature of capability and availability of requisite technologies). The decision process for ‘Make’ has been covered in the revised procedure under preparation in MoD.

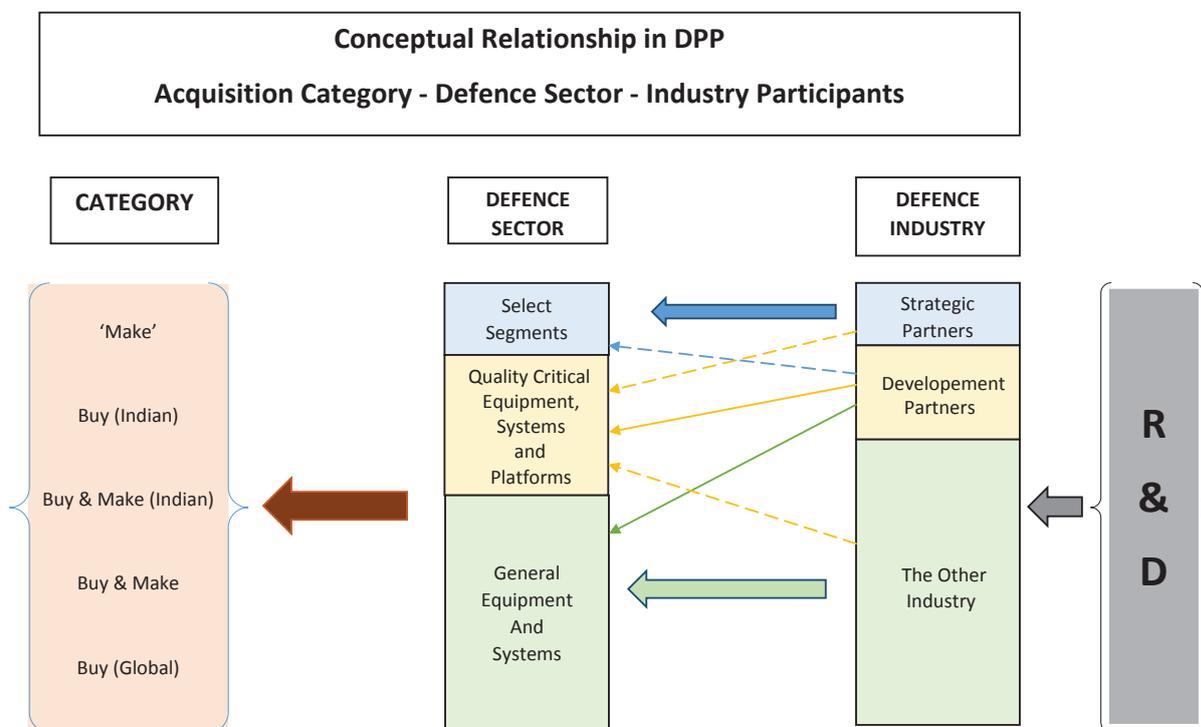
4.8.11 In the light of elaborations in preceding paragraphs, the Committee considers that to lend high credibility and consistency to the categorisation process, the structured procedure of assessment of defining attributes needs to be adopted during preparation of Statement of Case. Further, the outcome of the decision flow for each of the higher priority categories should

be annexed to the SOC (Appendix 'A' to Chapter I of DPP 2013). These outcomes should be deliberated upon by SCAPCC / SCAPCHC before deciding in favour of any lower priority category and or making recommendations for the same to DPB / DAC.

4.8.12 The CC would need validated input to make effective decisions. To aid this process there is a need to develop a Registry of Indian Defence Industry cataloguing its capability. This document be published by DDP and updated on annual basis.

4.8.13 **Conceptual Relationships – Acquisition Category, Defence Sector and Industry Participants.** Having described the categorisation process, it would be apt to look at the relationships between a defence product, its category in an acquisition scheme and industry participants. It would be necessary to appreciate the nuanced approach, articulated in this Report. Table-2 below represents these conceptual relationships in DPP.

**Table-2: Conceptual Relationships in DPP**



4.8.14 It is worthwhile to recapitulate the formulation of the terms 'Defence Sector', 'Category' and 'Defence Industry Participants' as we have described in earlier Chapters / Sections of this report. This will provide a complete perspective and also the 'course to steer'.

i **Defence Sector.**

a. The defence sector covers the complete array of equipment, systems, platforms, their sub-systems/ sub-assemblies and parts or components required for building capability of the Services. It also includes services of a diverse provided by industry for repair, maintenance and life cycle support, spanning the whole spectrum of industry – engineering, and metallurgy, automobile, electronics, avionics, telecommunication etc.

- b. Strategic segment: There are six segments identified as being of strategic importance. These are (i) Aircrafts and their major systems, (ii) Warships of stated displacements, submarines and their major systems, (iii) Armoured fighting vehicles and their major systems, (iv) Complex weapons that rely on guidance system, (v) C4ISTR and (vi) Critical materials (special alloys and composites). These form one strategic space. (Refer Para 3.3.04 Chapter 3).
- c. Quality critical or limited competition segment: Each defence asset be it an aircraft, warship, submarine, tank, or a command and control system, is a complex network of numerous systems. Propulsion, control system, navigation, suite of weapons, sensors and communication equipment – each is critical to attain the envisaged capability of the platform. This is a large and extremely diverse space. Every conceivable and available technology finds application in this product space. Design capabilities, expertise and skills required for this defence space are equally diverse. A sub set of this space will form the ‘critical equipment, systems, and platforms’ space given that quality of certain components at least is of critical consideration. The available vendor base for such components is understandably very narrow. Not so complex platforms could also be included here.
- d. Open competition segment: Then there is equally large space which comprise of general use machinery / materials / items / products, which are required for making of systems and platforms. Many of these may come from general engineering and electrical industry. This may also include services for design, manufacture as well as repair / maintenance
- ii **Industry Participants.** A Defence Industrial Base necessarily includes all participants – large, medium and small scale, and both public as well as private. Based on the defence sector space in which an industry participates, it may be assigned a status of a Strategic Partner, Development Partner, or other industry.
- a. **Strategic Partner.** The industries who participate in the space described at para 4.8.14 (i) (b) above would be given the status of Strategic Partners. There would be just one or two in each of the six segments. They would be selected through a comprehensive transparent procedure. (Refer Para 3.3.03 to 3.3.07, Chapter 3). Strategic Partners may also participate in other spaces, depending upon their competence and capacity.
- b. **Development Partners.** Industries that participate in the space marked ‘Critical Equipment / System / Platforms, described at para 4.8.14 (i) (c), are given the status of Development Partners. Given the quality criticality of the product / system required, the number of such partners in any particular area (equipment / system etc.) would depend upon the size of market but would typically be limited. Many Development Partners could aspire to attain the status of ‘Strategic Partner’, depending upon their core competence and capacity. It would be a ‘fluid’ space which the industry can navigate by building their competence and capacity and quality of the product.

c. **Other Industry.** All other industry participants; large, medium and small, come under this category. They are required to quality on the basis of being cost-competitive. The vendor base for a given system in this case will be adequately large. This segment of the industry also includes approximately 6000 to 8000 MSMEs who support the large industry including DPSUs, Naval Dockyards, Base Workshops, Base Repair Depots, and Directorates of Indigenisation of the Services etc.

iii **Categories.** We have explained the ‘Categories’ for capital acquisitions in para 4.4 of this chapter. It has been elaborated that these categories should be based on technology / complexity neutral (barring schemes to be allocated to DRDO). These should be based on readiness or otherwise of the Indian industry and R&D organisations to deliver a particular defence capability in a specified time frame. Acquisition schemes, for which gaps in technology, capability or capacity are identified in Indian industry, appropriate category is assigned so as fill such gaps.

4.8.15 **Analysis.** We can now analyse the relationships among category, defence sector and industry participants. The following conceptual relationship can be inferred from the above narrative:-

i. Category of an acquisition scheme is decided based upon the assessed competence, capability and capacity (or gaps therein) of the industry participants. ‘Defining Attributes’ given in Table I under para 4.4.05 highlight this aspect. It is neither related to the positional space of the product i.e. whether it is in the selected segments, quality critical segment or competitive segment, nor to the status of the participant i.e. whether Strategic Partner, Development Partner or other industry.

ii. To illustrate the above, let us consider a product in the strategic segments (4.8.14 (i) (b) above). When this product comes up for acquisition for the first time, one may categorise the scheme as ‘Make’, Buy (Indian), Buy and Make (Indian), or Buy and Make, based on the assessed competence, capacity and capability of Indian industry participants. However, when the same product would come up again in future, the category - Buy (Indian); and the vendor – Strategic Partner would be a natural choices subject to the conditions related to available public sector capacities and non-monopolistic behaviour. The decision flow charts at Annexure I to IV would bear out these conclusions.

iii. In the defence sector space of ‘quality critical equipment, systems or platforms’, the similar process as described above, would be followed. Initial selection is through the wider and transparent competition. Successful industry participants are given the status of ‘Development Partners’. Subsequent acquisitions are made from these partners on single vendor basis or on a limited tender basis depending upon the number of ‘development partners’ for that specific product. A ‘development partner’ today may therefore become a ‘Strategic partner’ in future

4.8.16 **Prognosis.** Presently, the defence sector, except general equipment and systems, is dominated by DPSUs, a few PSUs and OFB. There are very few private industry participants in the spaces marked ‘select segments’ and ‘equipment /system / platforms’. Further, the capacity constraints of DPSUs / OFB are evident in many acquisition schemes.

Therefore, while existing DPSUs, PSUs / OFB would continue to occupy the pole position in the area of their core competence, within the limits of their existing capacity, there is a need to encourage the private industry to create the much needed fresh capacity. Private enterprises would therefore augment the existing competence and capacity of industry and also expand the existing defence space. More variety of equipment / systems / platforms would be produced by Indian industry. Each industry participant would grow, both in competence as well as capacity, in its chosen field to meet the requirements of Indian Armed forces and possibly explore the export avenues, in accordance with the extant policy of GoI.

#### **4.8.17 Recommendations.**

- i The period of validity of AoN for 'Buy (Indian)', 'Buy & Make' and 'Buy (Global)' categories be reduced to 06 months from the existing one year.
- ii The authorities which are empowered to approve issue of RFP may also be delegated the authority to accord extension of validity period of AoN for a further 08 weeks for the above categories. For Buy and Make (Indian), Make or shipbuilding cases for which AON validity period is two years, it should be ascertained that conditions of original decision and categorisation have not changed, before grant of such extension.
- iii With regard to a specific scheme of acquisition, interaction with industry through the formal processes laid down in DPP i.e. RFI, consultation prior to categorisation, RFP etc. should be streamlined. The Committee has in Chapter 3 also highlighted the requirement of regular structured interactions with industry for information exchange as well as facilitating the industry.
- iv To lend high credibility and consistency to the categorisation process, the structured procedure of assessment of defining attributes needs to be adopted during preparation of Statement of Case. Further, the outcome of the decision flow for each of the higher priority categories should be annexed to the SOC (Appendix 'A' to Chapter I of DPP 2013). The 'Decision Flow Charts' may be included in DPP as Annexures to Appendix 'A' to Chapter I of DPP 2013. The conceptual relationships amongst acquisition category, defence sector and industry participants described in Table-2 above be taken cognisance of.
- v A Registry of Indian Defence Industry needs to be published annually by DDP.

#### **4.9 Technical Evaluation (paras 34 – 36, Chapter I, DPP 2013)**

4.9.01 Technical bids received in response to Request for Proposal (RFP) are required to be evaluated by Technical Evaluation Committee (TEC) as per guidelines given at paras 34 to 36 of Chapter I to DPP 2013. Salient points to note are as follows:-

- i Examine characteristics of equipment offered in bids with reference to QRs as given in Appendix 'A' to RFP
- ii Examine compliance of bids w.r.t provisions of Appendix 'B' to RFP
- iii Non-compliance to any of the provisions would lead to rejection of the bid at this stage

- iv Ensure that the same equipment has not been offered by two or more vendors. In such situation, equipment offered by OEM will only be accepted.
- v Minor variations which do not affect the basic character / profile of the offer may be acceptable, equal opportunity for revision of minor technical details to be given to all bidders simultaneously. No extra time to be given to any bidder to make his product SQR compliant and no dilution of SQRs.
- vi If only one vendor is found compliant to SQRs, RFP to be retracted. TEC to review the acquisition scheme to derive causes of such single vendor situation and details to be brought out in report.
- vii The DG (Acq) will formally accept TEC report on recommendations of the Technical Managers (TM).

4.9.02 Technical evaluation of the received bids is the first insight into the products on offer. A time period of 16 weeks (12 for TEC report + 04 for acceptance process) has been indicated at Appendix 'C' of Chapter I to DPP 2013.

4.9.03 During our interaction, it has been highlighted that dwell time of a scheme on this function is usually much longer than that which is stipulated, due to reasons attributable to the intricacy of the technical evaluation function as well as to the delayed response of bidders in furnishing the clarifications on points raised by TEC. It has also been commented that TEC report is approved at the Vice Chief/ Deputy Chief / Director General level in the Service, therefore necessity for it to be accepted by DG(Acq) through TMs needs review. The major issue raised by the SHQs is related to the DPP stipulation to retract the RFP in case only one vendor qualifies at this stage. This provision sets the clock back by at least 36 weeks even for the most efficiently conducted case.

4.9.04 IHQMOD (Navy) have also brought out peculiar situations which emerge out of processes of 'Buy & Make (Indian)' and 'Buy & Make' category cases.

4.9.05 In 'Buy & Make (Indian)' case, the Indian vendors who receive RFP, are expected to submit their bids based on ToT / Technical Assistance agreement with their foreign partner(s); who would generally be OEM(s). The scenarios that emerge could be:

- i An Indian vendor may have technical arrangement with more than one OEM and therefore may submit multiple bids, each of which may be for the product of different OEM. Two or more bids submitted by only one Indian bidder may become the only TEC qualified bids. Will this be treated as Single Vendor situation?
- ii One foreign OEM may choose to enter into collaboration with multiple Indian vendors. All such Indian vendors therefore submit bids for the same product of one OEM. How does one therefore consider applicability of provision of DPP 2013, which is mentioned at para 4.8.01(iv)? Such a situation will also raise a related issue of methodology to be adopted for field evaluation since effectively only one product would be on offer by all Indian bidders.

4.9.06 In 'Buy & Make' case, the foreign bidders who receive RFP, are expected to submit their bids based on ToT arrangement with an Indian vendor, who will be the Production

Agency (PA). **Two or more foreign bidders may choose the same Indian vendor as their perspective Production Agency. And only bids of two or more foreign OEMs with the same Indian PA qualify TEC. How does one weigh such a situation?**

4.9.07 Suggestions given by the stakeholders are summarised below:-

#### **HQIDS**

i If a single vendor qualifies (TEC) entire case is reverted back, sets back by 36 weeks. Defence procurement is a special need. 70% procurements are SV based. Inclusion of GFR para 4.2 in DPP will help in approval of SVC at TEC stage.

ii TEC report acceptance by TMs (sic.) may be done away with and same may be evaluated at the time of GS / Trial Evaluation report acceptance by TMs.

#### **IHQMOD (Army)**

iii In a multi-vendor case, if the bids are submitted by more than one vendor, the case should be continued to be processed even if a resultant SVC emerges at any stage after submission of bids, with the approval of DG (Acq) and condition that vendor is not allowed to change commercial quote, thereafter.

#### **Air HQ**

iv The resultant single vendor cases at any stage must be progressed till the CFA approval stage. The approval of case by CFA should be based on the merit of the case and if justified can be processed further on approval by DAC on recommendation of DPB.

#### **IHQMOD (Navy)**

v In special cases, SVC situation arises post receipt of RFP response / TEC, and reformulation of SQR is not considered feasible or re-tendering is unlikely to increase the vendor base; feasibility of progressing such cases on 'Resultant Single Vendor' basis needs to be explored.

vi TEC's authority needs to be recognised and it must have the mandate to examine the proposal and give its recommendations towards acceptance. In addition to evaluating the compliance of Technical bids, the TEC should also be empowered to subjectively evaluate and analyse related issues so that a considered decision can be arrived at on acceptability of the proposal from technical perspective.

#### **Industry**

vii It should be allowed for multiple vendors to bid with sub-systems offered by a common OEM. It should also be allowed if one such vendor is OEM itself.

viii In case of Buy & Make (Indian) cases there may be only one OEM but several Indian vendors for the same product from the same OEM but with different technical and commercial bids. A live example of Pilatus project has also been given. Similarly up-grades may require Indian vendors to tie up with the same OEM but in different technical and commercial arrangements. Hence the restriction that same equipment being offered by two or more vendors should be removed.

ix Prior to the decision on retraction of RFP, due diligence on SQR, details of technical bids received should be carried out with the user directorates in order to ensure that the retraction of RFP is deliberated and considered.

4.9.08 The Committee has analysed the existing provisions of DPP 2013 and the comments and suggestions of the stakeholders. The Committee's views and recommendations on the related issues of RFI, SQRs and process of preparation of the same have been elaborated at paras 4.5 & 4.6 above in this Chapter. The Committee feels that with the meaningful interaction with the perspective vendors during RFI process and improvements in SQR preparation process, the instances of deviations in bids vis a vis SQRs, as well as those of single vendor situations, would be minimised.

4.9.09 The Committee's views, based on the above, are as follows:-

i The existing provisions of DPP regarding due diligence of TEC are reasonable and necessary to ensure credibility and fairness of the acquisition process. Minor variations in bids vis a vis RFP which do not materially alter the character of RFP are permitted as long as equal opportunity is given to all vendors.

ii Despite due diligence during RFI process, SQR formulation and preparation of RFP, there may still be instances where only one vendor qualifies the technical evaluation. To consider this as an aberration of the acquisition process may not be the correct conclusion in every case. The other participants viz. vendors may have also erred in their appreciation of the total requirements of the scheme. Considerable time invested thus far to progress a scheme should not be allowed to go waste, without adequate analysis. To that extent, retraction of RFP as a rule may not serve the intended purpose of MoD's efforts to provision requisite capabilities to the Armed Forces as per envisaged time frame. Such provisions lead to uncertainty in the acquisition process.

iii The situations in 'Buy & Make (Indian)' and 'Buy & Make' cases which are described at paras 4.8.05 and 4.8.06 above need to be clearly addressed in DPP, rather than being left to interpretation. That would only cause delay. In our view, multiple bids of same Indian vendor for different products (of different or same OEM) should not be treated as single vendor, single bid situation. Similarly, multiple bids for the same product of one OEM also should not be given the treatment of "the same equipment being offered by two or more vendors". It needs to be appreciated that such provisions in General Financial Regulations (GFR) are necessarily laid out for guiding "purchase" decisions, whereas "Defence acquisition" decisions are highly nuanced. ToT, subsequent manufacturing and life cycle support issues are involved. Each Indian vendor would have different technical / commercial arrangements with the OEM. Each proposal should therefore be considered on its own contents and merit.

iv Technical evaluation is an intricate and specialist function. It is considered that it should be undertaken entirely by the User i.e Service Headquarters. Approval of TEC report by an authority in SHQ and followed by "acceptance" by DG(Acq), as is the case for schemes under MOD powers, is duplication and avoidable. Similarly, for cases under delegated powers of SHQs, routing of such reports through TMs, for approval of relevant SHQ authorities is also not considered necessary.

#### 4.9.10 Recommendations.

- i In a single vendor situation, post technical evaluation by TEC, retraction of RFP may be resorted to as an exception rather than a rule. Causes as may have been brought out by TEC may be examined by SHQ. And if reformulation of SQR is not considered feasible or re-tendering is unlikely to increase the vendor base; the case may be submitted for acceptance of TEC report and progressing the case. It may be noted that in such a situation efforts should be made to complete the acquisition process before expiry of original validity of the commercial bid. Vendor should not be afforded an opportunity to revise his commercial bid.
- ii Suitable provisions need to be made in DPP to address “single vendor, multiple bids” and “multiple vendors, single product” as are likely to emerge in ‘Buy & Make (Indian)’ or ‘Buy & Make’ cases.
- iii Existing authorities for acceptance of TEC report may be reviewed. This technical function should be carried out entirely at SHQs for all cases of capital acquisition including approval by DCOAS / VCNS /DCAS. Due care would need to be taken to ensure that Technical & Commercial bids for offsets have been submitted by the vendors, where applicable, while processing TEC report for approval.

#### 4.10 **Field Evaluation Trials & Staff Evaluation (paras 37 to 44, Chapter I, DPP 2013)**

4.10.01 The process of field evaluation trials & staff evaluation, including the scope of the trials as well as methodology, are outlined in paras 37 to 44 of Chapter I DPP 2013. The salient features are as follows:-

- i To be conducted on the basis of “Trial Methodology” given in the RFP.
- ii Formulate “Trial Directive”, in conformity with the trial methodology given in the RFP, to validate “essential” parameters.
- iii Parameters not in the RFP should not be considered for field evaluation.
- iv The field evaluation shall be conducted by the user in all conditions where the equipment is likely to be deployed
- v After TEC report, all selected vendors would be asked to provide their equipment for trials simultaneously in India (except when trials are to be conducted at vendor’s premises)
- vi Initial grace period – 15 days, an additional period up to 30 days by Vice Chiefs keeping in view practical time period necessary for trials
- vii Wherever feasible, the entire trials viz. user, technical, maintainability trials and EMI/EMC would be conducted simultaneously in order to save time
- viii Based on field evaluation, SHQ to carry out a staff evaluation, which gives out the demonstrated performance of the equipment vis a vis SQRs
- ix Staff evaluation to be approved by SHQ and forwarded to DG(Acq) for acceptance

x In case the equipment of only one vendor shortlisted at this stage, it would not be considered as a single vendor situation (Para 70(a), Chapter I, DPP 2013)

4.10.02 While the technical evaluation is the first insight into the products on offer, field evaluation facilitates its thorough assessment of the demonstrated performance in the specified mission environment, maintainability and qualifying standards / specifications of its design / manufacture vis a vis SQRs. Considering this to be a comprehensive and extensive process many times spanning the summer – winter seasons, and involving many agencies such as DGQA, DRDO as well as specialist agencies for MET, EMI /EMC etc., a time frame of 20 – 45 weeks for trials and additional 04 weeks each for evaluation by staff and for acceptance of staff evaluation report has been stipulated.

4.10.03 During the Committee's interaction, it has been brought out by all stakeholders that FET is a critical process. It has also been brought out that maximum delays occur during the field trials. The industry has highlighted the necessity to reduce the scope as well as duration of trials as it is a major cost to vendors. These views of the stake holders are enumerated below:-

#### **HOIDS**

i A major reason for delay in trials is non submission of equipment which results in extension of period of trials. The permission for seeking extension itself takes a long time. It is recommended that the powers to grant extension be delegated to Vice Chiefs of Services / Chairman DPB.

#### **Air HQ**

ii The existing system which is established and time tested should continue. The FET is dependent on several external factors. In order that the equipment is fielded for FET, the vendor requires multi-agency co-ordination across the geographical borders adhering to both international and national rules and regulations. Besides, the FET is to be conducted in an environment in which the equipment is likely to be deployed. These variables involved in fielding the equipment for trials and the conduct of the trials are applicable to each vendor. Notwithstanding the above, there have been efforts made to ensure that elements of FET for some non-IAF procurement cases are repeated by different agencies for the same project. Such repetitions not only delay the evaluation but add to the overall procurement costs, since vendors cater for such extended and repeated trials.

#### **IHQMOD (Navy)**

iii Equipment in most shipbuilding cases (especially submarines) is customised in accordance with the platform design and does not exist in the required configuration for conduct of FET. This creates needless delays in the acquisition process since vendors are not ready to incur expenditure on developing a customised system only for the purpose of trials. It is, therefore, recommended that provision of according special dispensation on case to case basis for FET of equipment being inducted in respect of shipbuilding cases in the DPP could be examined by the Committee.

### **Industry**

iv In most cases, it is possible to accelerate acquisition by looking at 80 to 90% of parameters that are critical for system performance. Enormous amount of extra time and effort is lost in 100% parameters being evaluated in trial-fielded equipment of all vendors, and multiple evaluation agencies. This can be done to full rigour for the finally selected equipment at Bulk Production Clearance stage, thereby dramatically accelerating the acquisition process.

v It has been observed that ambiguity arises on evaluation of QR parameters under various types of evaluation. Since QRs are known the broad scope of various trials should form part of RFP, so that any clarification required can be obtained in the Pre-bid meeting.

vi All field trials must be budgeted by both cost and time. Local trial teams are not sensitised to cost and time and incur costs on both MoD and Vendor. A clear understanding of the time and cost of trials should be made possible at the RFP stage.

vii Only essential operational parameters should be verified and self –certification supported by documentation in respect of EMI/EMC, Temp Test etc. should be adequate. Such tests which are part of Quality Assurance and elaborate in nature can be carried out on 1<sup>st</sup> off production lot under the authority of DGQA /DGAQA.

viii Trial directive indicating how individual technical parameters will be evaluated should be formulated prior to release of RFP. Trial directive should be included in RFP, frozen by TEC completion stage and shared with all vendors. Vendors should be permitted to submit supplementary technical and commercial offer based on changes, if any, in the trial methodology. Field evaluation will be conducted by the User Service on the basis of trial directive given in RFP.

4.10.04 The Committee has considered the inputs enumerated above and noted that User Services have not given any specific suggestions for reducing the overall duration of field evaluation trials and / or optimisation of the trial methodology. The Committee has been informed that field evaluation is the longest activity in the run up to contract negotiation stage. In certain cases field trials have taken over two years. Services have brought out the delays which are caused by vendors in not positioning equipment in time, as indicated in trial directive. Multi - agency trials which are to be conducted in different locations, during different seasons as well as different terrains should be expected to be such protracted effort.

4.10.05 This aspect of protracted field evaluation of equipment for ‘selection’ as one of the major factors of delay in acquisition process, has also been highlighted in Ravindra Gupta Committee report. It is understood that such aspects have been deliberated in the past at MoD also.

4.10.06 We find merit in the industry’s view that trial methodology should be stated in the RFP in very clear terms so that the overall scope and duration of such trials can be assessed by the vendors before submission of bid. Though the trials are to be conducted on ‘NCNC’ basis, it is cost to all bidders except L1, who gets opportunity to recover some of it while executing the contract. The bidders may see the overall delay as cost to their business in many ways; but for the user service cost due to non-availability of capability or delayed induction

of capability cannot be easily calculated. The Committee is of the view that major initiative to optimise the field trial process should actually come from the Services. The acquisition set up should facilitate such initiatives.

**4.10.07 Recommendations.** The Committee recommends the following:-

- i Scope of field trials to be undertaken should be optimised to cover all ‘essential’ operational parameters, under all field conditions as applicable. Emphasis on environmental tests, maintainability trials, EMI/EMC trials etc. needs to be weighed, based on the criticality for a particular equipment. Much of this evaluation can be done at TEC stage based on the documents / certificates, rendered by accredited international laboratories / agencies, to be furnished by the vendors. Such trials could be undertaken or witnessed on 1<sup>st</sup> off production piece of equipment.
- ii Trial methodology given in the RFP should be comprehensive. It should also be unambiguous in its scope and procedure for each parameter so that vendors can fully understand the implications.
- iii Finalisation of trial directive should be undertaken in consultation with all TEC qualified vendors, as is the present practice.
- iv Though it is the Services who conduct the trials, it is in their interest to constitute a group of competent personnel, including QA, MET, EMI/EMC who work with the acquisition agencies of the service HQs till the completion of trials. Infrastructure and logistics needed for the conduct of trials must be co-ordinated by the acquisition group with the appropriate establishment as necessary. A single composite trial report must be progressed with acquisition group of the Service HQs up to Vice Chief. The requirement of conducting trials with precision and completing in time must rest solely with the controlling acquisition agency.
- v In case of ‘multiple vendor single equipment’ situation in Buy & Make (Indian) cases, as explained in para 4.8.05 above, only one joint trial should be carried out.
- vi Approval of Staff Evaluation Report may be done in Service Headquarters at Vice Chief level, on the same lines as recommended by us for TEC report.

**4.11 Technical Oversight (para 46, Chapter I, DPP 2013)**

4.11.01 A Technical Oversight Committee (TOC), comprising three members – one each from Service, DRDO and DPSUs, is required to be constituted for selected acquisition proposals in excess of Rs 300 Crores and any other case recommended by DPB. Salient features of this function are:-

- i Whether the trials, trial evaluations, compliance to QRs and selection of vendors were done according to prescribed procedures
- ii Provide oversight on the adopted methodology during trial vis-à-vis given in the RFP and trial directive
- iii Ruling based on a majority decision within 30 days, which shall not be extended.

4.11.02 The Committee has noted the suggestions given by the stakeholders. HQIDS have suggested that scrutiny of technical evaluation trial and staff evaluation report be combined with technical oversight to reduce the acquisition cycle (Appendix 'C', Chapter I, DPP 2013) by 08 weeks. On the other hand, IHQMOD (Navy) have suggested to either do away with technical oversight or raise the threshold from the existing Rs 300 Crores. The processes of technical evaluation and staff evaluation are adequate. Industry have felt that the presence of DPSU member in TOC may bring conflict of interest. They have suggested to include another officer from another relevant service, in place of DPSU member.

4.11.03 The Committee has analysed the provisions of technical oversight given in DPP. This function is in aid of the senior executive (Defence Secretary) in the defence procurement organisation, who would be otherwise too occupied to be able to peruse volumes of technical data, which an acquisition scheme may generate. How does the senior acquisition executive, be it Defence Secretary or for that matter a CFA in Service Headquarters who has been delegated financial powers, ensure that the integrity of the acquisition process as laid down in DPP has not been breached and that evaluations have been fair, un-biased and SQRs / provisions of RFP have not been compromised. It has been highlighted that many schemes have been held up / delayed due to complaints / representations from competing vendors or individuals. It is also responsibility of the senior executives / authorities to ensure that these have been appropriately examined and addressed at relevant levels in MoD before proceeding with contract negotiations / CFA approval process.

4.11.04 The Committee has noted that integrity of the acquisition process as well as trust in components of the system which implement this process, both are important attributes of robust system. Over-scrutiny does not lead to robustness. On the other hand, it might make the system sluggish and its executive complacent because scrutiny is the task of someone else. The Committee has in paras 4.9.10(iii) and 4.10.7(vi) recommended that technical evaluation and staff evaluation reports be scrutinised and approved at appropriate levels in Services headquarters.

4.11.05 In the light of the above, the Committee considers that a single stage scrutiny by Technical Oversight Committee on completion of evaluation of SHQs and prior to commencement of contract negotiations would be adequate and also necessary. Apart from the scope as outlined in para 46 of Chapter I of DPP 2013, the TOC may also review and bring out the status of complaints, if any, pertaining to the scheme to the notice of the senior executive.

4.11.06 DPP stipulates that officers nominated for this task should not have been involved with the acquisition case. However, it has been sensed that in the present form, TOCs have not been able to perform the assigned task, else why should there have been so many cases, some of which may be in the category of Rs 300 Crores or more, held up on account of complaints pertaining to aberrations in the acquisition process. Further the officers so nominated to be on TOC may not have had the knowledge of DPP and / or experience in defence procurements. The composition of TOC itself, therefore, needs to be reviewed. A standing Panel of Specialists (service officers, scientists, bureaucrats; serving as well as retired) needs to be available to undertake this task. During the period of 04 weeks that is given to TOC, scrutiny of the assigned case would be the only task to be undertaken. Further, not only cases beyond Rs 300 Crores,

the Committee suggests that any case, where the senior executive / CFA has any doubt, may be entrusted to the TOC, members of which may be drawn from the standing Panel of specialists considered suitable for the particular scheme.

#### **4.11.07 Recommendations.**

- i. The existing provisions, in DPP, regarding TOC may be continued.
- ii. All schemes in excess of Rs 300 Crores and any other cases selected by the CFAs, Defence Secretary or DPB may be brought under the purview of TOC.
- iii. The charter of TOC be enhanced to review and bring out the status of complaints, if any, pertaining to the scheme.
- iv. Members of TOC be drawn from a standing Panel of Specialists (comprising of serving or retired officers of Services, DRDO and bureaucracy). The term of such a panel may be two years.
- v. The report of TOC be accepted by the authority, who constituted the TOC.

#### **4.12 Contract Negotiations (para 47 to 59, Chapter I, DPP 2013)**

4.12.01 Paras 47 to 59 of Chapter I of DPP 2013 elaborates all aspects of contract negotiations. From constitution of Contract Negotiation Committee (CNC) to the contents of its report to be submitted to seek approval of the Competent Financial Authority (CFA), requirements of each stage is clearly outlined.

4.12.02 The Committee, through interaction with the stakeholders and industry, has noted the following observations:-

- i. Constitution of CNC is linked to acceptance of TOC report.
- ii. In a multi-vendor competitive bidding, after selection of L1, price negotiations are still undertaken based on its variation from the 'benchmark price' fixed by the CNC.
- iii. In first time procurements, the estimation of benchmark by CNC is done without any reliable pricing data. In best case scenarios, the process is largely based on some historical data available with the user and certain industrial indices prevalent in the country of the vendor.
- iv. One of the concerns of the industry is the long delay, even beyond 12 months in some cases between conclusion of contract negotiations and signing of contract. It has been highlighted that the price bids submitted by the vendors are based on the fair assessment that broad time frame for procurement activities given in Appendix C to Chapter 1 of DPP 2013 would be adhered to. This itself does not happen in many cases. Therefore, the industry have stated that such delays add to financial stress. A provision for price escalation needs to be made in RFP to address this. Such price escalation could be given at the SBI benchmark interest rate prevalent on the date of conclusion of CNC and on the final negotiation price, for delays beyond one year between conclusion of CNC and signing of the contract. It is pertinent to note that GFR allows such price escalations.

4.12.03 The above mentioned activities take considerable time and expand the acquisition cycle by many months. Such a situation neither serves the acquisition executive / user service or the vendor.

4.12.04 The Committee therefore recommends that these aspects of contract negotiation process be reviewed as follows:-

- i. Constitution of CNC be not linked with the acceptance of TOC report. CNC may be constituted on acceptance of the Staff Evaluation Report, with the caveat that opening of commercial bids and negotiations with the vendor would not be done till acceptance of TOC report by the Defence Secretary or CFA as the case may be. The interim period be utilised by CNC to prepare 'benchmark' price in a single vendor case or analyse any other aspect of the scheme in other case.
- ii. In a multi-vendor situation, at CNC stage, price negotiation with the L1 vendor should not be required. Benchmark price should also not be required.
- iii. In a single vendor situation, 'benchmark' price be fixed by CNC prior to opening of commercial bid.
- iv. For the purpose of benchmarking, with the approval of DG (Acq), services of experts could be utilised by CNC and/ or training could also be imparted to acquisition executive, where ever felt necessary.
- v. A provision for price escalation to address the unforeseen delays beyond one year between conclusion of contract negotiation and signing of contract may be made and stated up front in the RFP.

#### **4.13 Single Vendor Situations (paras 14, 36, 64 to 70 and 73, Chapter I, DPP 2013)**

4.13.01 DPP 2013 comprehensively addresses the various Single Vendor situations, both at ab initio categorisation stage as well as during the acquisition stages i.e. bid submission, technical evaluation and staff evaluation stages. These are recapitulated in the succeeding paragraphs.

##### **Existing Provisions in DPP 2013 (Chapter I)**

4.13.02 Para 14 guides the SQRs preparation process. It states, "Prior to according approval to the SQRs, SEPC should assess that it would result in multi-vendor situation. If a single vendor is likely then the reasons for formulation of such SQRs be recorded. Such cases would be debated in the SCAPCHC meeting while seeking AON and approved by DAC / DPB.

4.13.03 Para 36 addresses single vendor situation at technical evaluation stage. It stipulates that if only one vendor is found complying with all the SQR parameters, then the RFP would be retracted on approval of DG(acq).

4.13.04 Paras 64 to 68 deal with the cases of subsequent procurements already contracted. Such cases have been termed as 'Repeat Order' and not 'Single Vendor' as long as SQRs of the equipment are as per previous order. It is noted that para 67 stipulates that if repeat order is to be placed for equipment / system which have been indigenously developed or for which ToT has been obtained earlier by a DPSU / OFB, it would not be treated as a 'single vendor' case, provided technology absorption levels agreed while concluding ToT contract have been achieved.

4.13.05 The provision in para 69 facilitates procurement of certain state-of-the-art equipment being manufactured by only one vendor, to get qualitative edge over our adversary.

4.13.06 The type of cases not falling under single vendor situation have been described in para 70. These include (i) single vendor at staff evaluation stage, (ii) design and development projects by DRDO / DPSUs / OFB, and (iii) equipment offered by DPSU / OFB based on MOU with foreign firm for co-production / ToT with approval of DAC.

4.13.07 **Comments / Suggestions from Stakeholders.** During interaction with the Committee, the Service Headquarters have highlighted the implications of single vendor situations at bid submission and technical evaluation stages, for which existing stipulations in DPP call for retraction of RFP. Suggestions from industry seek the same treatment to private industry as is being given to DPSUs/OFB for Single vendor selection.

**4.13.08 The Committee's Views.** In the previous Chapters, the Committee has elaborated various important aspects of defence materiel and defence market, which by their very nature do not permit development of a competitive multi-vendor environment for all segments of military products on the same lines as other commercial markets. In para 3.3.16, we have explained these issues and formulated our views on the necessity to incorporate provisions for 'ab-initio' single vendor situation in DPP.

4.13.09 Further, in section 4.8 of this chapter, we have given recommendations for dealing with single vendor at technical evaluation stage (para 4.8.10(i) and also for dealing with cases such as "single vendor, multiple bids" and "multiple vendors, single product" as are likely to emerge in 'Buy & Make (Indian)' or 'Buy & Make' cases. The Committee has suggested that in such cases "Purchase" and "Defence acquisition" decisions need to be differentiated.

4.13.10 Existing provisions of DPP recognise DPSUs and OFB as bona fide source of defence equipment. Existing policies on defence production seek to enhance participation of private defence industry also, in all categories of defence acquisition schemes. Therefore in due course, the private industry would also need to be treated in the same way as we do for DPSUs / OFB now for areas of their core competence. The strategic industry partners, from both public and private industry, in selected areas of defence systems / platforms would need to be given due recognition in 'single vendor' provisions of DPP.

**4.13.11 Recommendations.**

i The DPP provisions regarding 'ab-initio' single vendor situations should also cover equipment / systems produced by Indian private industry under 'Make', 'Buy & Make (Indian)' or 'Buy & Make' categories and those being produced under ToT from DRDO.

ii A provision to consider single vendor situation at bid submission stage needs to be made for cases where there may not be a scope for review of SQRs or other vendors may have abstained from submitting their bids on account of own inabilities. A Committee approach to assess such situations may be adopted.

iii Single vendor situation at technical evaluation stage in all categories of acquisition be included under the scope of para 70 of DPP 2013. "Single vendor, multiple bids" and "multiple vendors, single product" as are likely to emerge in 'Buy & Make (Indian)' or 'Buy & Make' category cases also need to be included.

iv Considering that private industry's participation under 'single vendor' provisions would be inevitable, there is a case for making suitable contractual and legal measures so that Government can enforce cost control, its verification / audit and also take punitive steps in case of violation by participant industry.

#### **4.14 Indigenous Content (Appendix F, Chapter I, DPP 2013)**

4.14.01 Each category of defence acquisition category described in DPP 2013 has Indigenous Content (IC) as one of its pre-requisites.

- i Buy (Indian) – 30% on cost basis
- ii Buy & Make (Indian) – overall 50% of total contract value, 30% in first basic equipment
- iii Make – 30% in successful prototype, higher IC in subsequent manufacturing stages
- iv Buy & Make – 30% of the relative cost of licensed product for CKD kit based ToT and 60% of the relative cost of the licensed product for IM kit based ToT. Overall percentage of IC would vary based on the range & depth of ToT as well as ratio of FF, SKD, CKD and IM mix. Offset obligations at 30% of FE component.
- v Buy (Global) – For Indian bidders, offset obligation not applicable if indigenous content is 50% or more.

4.14.02 Further, explanation of the term 'cost basis' has been given in Appendix 'F' to Chapter I of DPP 2013. It states that 'Indigenous Content' for an equipment or an item shall be arrived at by excluding from the total cost of that equipment / item the following elements at all stages (tiers) of manufacture, production or assembly:-

- i Direct and Indirect costs (including freight / transportation and insurance) of all materials, components, sub-assemblies, assemblies and products imported into India;
- ii Direct and Indirect costs of all services obtained from non-Indian entities / citizens;
- iii All licence fees, royalties, technical fees and other fees / payments of this nature paid out of India, by whatever term / phrase referred to in contracts / agreements made by vendors / sub-vendors; and
- iv Taxes, duties, cesses, octroi and any other statutory levies in India of this nature.

4.14.03 The stipulation as stated above essentially captures the import or foreign exchange component as well as local taxes / cess etc. Various reporting, certification, audit requirements as well as penal provisions are explained in Appendix F to Chapter I of DPP 2013.

4.14.04 The questions that need to be addressed by the Committee are; (i) Should IC be a parameter for Indigenous manufacture? (ii) If so, how should IC be measured and enforced? And (iii) what should its threshold be for various categories of procurements under DPP?

**4.14.05 Comments & Suggestions.** The committee received numerous comments and suggestions from all quarters – the services, DRDO, industry, individuals and other organisations

(through communications addressed to MoD and forwarded to the Committee). The diverse range of comments are:-

- i 30% IC in Buy (Indian) category is too less.
- ii In certain schemes such as aircraft, helicopters etc. it may not be feasible to achieve stipulated IC even under Buy & Make (Indian) categories.
- iii For equipment / systems; designed and developed in India, it is possible to achieve 75 – 80% IC.
- iv Method of computing IC, as stipulated in DPP 2013, is too stringent. It is also not practical to capture IC at tier 3, 4 or 5.
- v Components (electronic / microwave) and all raw materials are necessarily required to be imported.
- vi For schemes under Buy & Make (Indian), 30% IC in first basic equipment is difficult to achieve.
- vii Quantities for a given scheme do not allow economic manufacture at component / sub-assembly level in view of high capital cost and little assurance of future business.

4.14.06 Comments received from DRDO and industry are summarised below:-

- i **DRDO.** The issue of indigenous content, if defined purely based on commercial value of imported items, fails to capture the aspect of dependency and risk associated with import of defence system. Given the need for sourcing basic components from outside the country, the strategic benefit from doing a top level system design and integration without dependency on any single source for a critical component must be considered for doing cost benefit analysis of indigenous development vis a vis import. IPR and other hidden costs of components / sub-system should be included while arriving at indigenous content of any system.
- ii **Industry.**
  - a. While this categorisation (under DPP 2013) may well work in the case of defence trucks or artillery guns / tanks etc. the same will not work in the case of aircraft and helicopters. Aerospace industry is high technology industry with parts, process and material requiring strict certification from authorised agencies. Its value chain is characterised by long project life cycle spanning R&D, engineering design, manufacturing, assembly, maintenance, repair and overhaul.
  - b. IC for aircraft procurement should therefore be decided on case to case basis.
  - c. Minimum 60% IC for Buy (Indian) category under Chapter I and minimum 40% IC for purchases under Chapter III (shipbuilding). These percentages should have tolerance of +/- 5% for individual heads (i.e. basic cost, spares, test jigs / tools, documentation etc.)

d. Under Buy and Make (Indian), 50% IC on basic cost of equipment to be reached on final basic equipment delivery. For the cases of helicopters and aircraft procurement, IC should be 20%. It should also be ensured that 'Buy' portion is included in every such program.

e. For acquisitions covered under Make procedure, developed equipment should have 50% IC in Mark I, 70% in Mark II and 80% for future requirements of Mk III.

4.14.07 The qualitative description of IC as given by DRDO and measurable percentage figures for various schemes / categories, with the justification there of, given by industry; provide a useful framework to review the existing provisions of DPP.

4.14.08 **Analysis.** The Committee has formulated its views on the concept of 'Make in India' in Chapter 3. The salient aim is to reverse the current imbalance between import of defence materiel and indigenous manufacture without adversely affecting the requirements, capability and preparedness of the Services. The several aspects of indigenous capability include 'design, develop and manufacture' at the upper end and 'provide life cycle support' at the lower end. We reckon that industry, R&D organisations / academic institutions and Service (Base Workshops, Base Repair Depots, Naval Dockyards and Naval Aircraft Yards) possess varying degree of competence across these aspects of indigenous capability. In para 3.1.04 of Chapter 3, the correlation between various categories of capital procurement with those of existing competence levels is also described. A graded approach to enhance the industry competence levels in all areas of defence applications has also been outlined.

4.14.09 In paras 3.2.02 to 3.2.04 of Chapter 3, various issues related to IC, approaches to progressively increase (to the extent feasible) the threshold for the same have also been discussed. The Committee considered that minimum IC level in Buy (Indian) and Buy & Make (Indian) categories may now be increased to 40% and 60% on cost basis (as described in Appendix F to Chapter I of DPP 2013). The Committee does not propose to change the criteria for measuring IC. It was also noted that during revision during revision of DPP 2011, the low threshold of 30% in Buy (Indian) category was kept while the criteria for IC was refined to capture the realistic value added in all tiers of the supply and manufacturing chain.

4.14.10 The Committee has also considered that in rare cases where it is not possible to adhere to the norms of IC mentioned above, the CC could record their specific opinion and progress the case for eventual approval of the lower IC norm as a deviation as per extant procedure at AoN stage itself.

4.14.11 In section 4.3 of this Chapter, we have explained the 'defining attributes' of various categories of acquisition schemes. Further, in section 4.8, the 'Decision Flowcharts' for categorisation in AoN process have also been presented. These are in aid of 'putting into practice' the approach for perpetuating the concept of 'Make in India' and progressively enhancing the competence levels through defence procurements. Higher IC is the by-product of these efforts and not the sole, non-negotiable goal.

4.14.12 **Taking Stock.** It is necessary to take cognisance of the reality that many of the vital material inputs are not available in India. A small illustrative list is as follows:-

- i Electronic and microwave components
- ii High quality printed circuit boards
- iii CRGO steel sheets for transformers
- iv Aluminium alloys for aero structures
- v Carbon composites for aviation and missile applications
- vi Nickel and Cobalt super alloys for high temperature applications
- vii Titanium alloys

4.14.13 The lack of system level design capability in many areas of defence applications precludes initiatives to undertake design at sub-assembly levels, and development of materials. Therefore in initial stages, industry is constrained to import sub-assemblies / assemblies. Quantities for a given scheme do not allow economic manufacture at component / sub-assembly level in view of high capital cost and little assurance of future business.

4.14.14 It is understood that even for platforms (ships, aircrafts) as well as equipment (radars, electronic warfare systems etc.), which are being produced by DPSUs for a considerable period of time, indigenous content is still low. For fighter aircrafts, it may be as low as 25%. On the other hand, in areas where top down system design approach has been adopted, IC is relatively high. Though the Committee has not obtained specific data in this regard to substantiate the figures, but it appears to be so by general comments by stakeholders.

4.14.15 It has been also noted that requisite expertise and mechanisms for assessing and measuring IC is lacking in the defence production and acquisition wings of MoD.

4.14.16 **Recommendations.** In the light of deliberations, the Committee's recommendations are as follows:-

- i Existing method of measuring IC, as given in Appendix F of Chapter I of DPP 2013 is considered sound and robust. It should be retained as such.
- ii Minimum IC threshold for Buy (Indian) and Buy & Make (Indian) categories should be revised to 40% and 60% respectively. For Make category, Minimum IC for prototype stage should also be revised to 40%.
- iii Categorisation Committee, in cases where it is found not feasible to adhere to the above norms of IC, be empowered to give their specific recommendations for lower or higher IC threshold for the total contract value and /or individual components of contract value (i.e. basic cost of equipment / platform, spares, test jigs / tools / fixtures, test equipment, documentation etc.) Likewise where higher IC is considered achievable, floor could be correspondingly raised.
- iv There is a need to create adequate mechanism in defence production so that such provisions of IC as outlined in DPP can be effectively assessed, monitored as well as enforced during execution of contracts for defence procurements. It assumes even more importance in the light of penal provisions, for not achieving IC stipulated in contracts, which are included in DPP.

#### 4.15 Transfer of Technology (Appendix 'L' to Schedule I' Chapter I, DPP 2013)

4.15.01 The general guidelines for defining requirements for Transfer of Technology (ToT) for SKD / CKD/ IM kit based manufacturing are given in Appendix 'L' to Schedule I of Chapter I of DPP 2013. These are expected to be tailored to make them specific to equipment / system / platform under consideration. These guidelines are considered comprehensive and cover all aspects of ToT. The salient provisions contained in Appendix 'L' are as follows:-

- i The ToT shall be comprehensive, covering all aspects of design, manufacturing know-how and detailed technical information which will enable the Production Agency (PA) to manufacture, integrate, test, install and commission, use, repair, overhaul, support and maintain the license product from SKD / CKD/ IM kit. Design data shall include the details that are needed to give design disposition during production on deviation, concession; modify / upgrade the license product and substitute parts and systems of licence product as required by the certifying and the production agency.
- ii The vendor should undertake to provide and support complete ToT for phased manufacture to the PA for the system and its sub-systems, modules, assemblies and detailed parts / components. Support should be provided for a minimum period of 20 years on long term basis after the last unit is produced under the scheme.
- iii The vendor should provide total support and facilitate ToT of sub-systems from his sub-vendors / OEMs if desired by the Buyer.
- iv To assess the depth of technology being transferred, the vendor is required to identify each item (system, sub-system, assembly, sub-assembly, module, detail parts, PCB etc.) in product structure under different categories and provide relative price of each item as a percentage of product cost.
- v These categories are as follows:-
  - a. **Category-1.** Items for which complete ToT is provided by OEM
  - b. **Category-2.** Items manufactured by OEM's sub-vendors (Build to Print) and complete ToT is provided
  - c. **Category-3.** Items developed and manufactured by OEM's sub-vendors based on specifications (Build to Specifications) only limited ToT for maintenance provided, with arrangement for long term supply
  - d. **Category-4.** Items including catalogue / standard items sourced by OEM against procurement specifications as fully finished or may be called 'bought out' items and limited ToT for maintenance provided.
  - e. **Category-5.** OEMs Proprietary items for which TOT is not provided. However, no item which is considered critical either from technology point of view or its relative cost is more than 10% of the cost of product can be allowed to be termed as proprietary.
- vi The vendor has to ensure that the depth of ToT shall enable the PA to achieve value addition commensurate with a minimum 30% of the relative cost of the licensed

product in case of CKD based ToT and a minimum of 60% of the relative cost of licensed product in case of IM kit based ToT.

vii No single sub-system, assembly or sub-assembly, which constitutes more than 10% of the cost of licensed product shall be without ToT option to the PA.

4.15.02 ToT evaluation criteria are also elaborated in Appendix 'L'.

4.15.03 DPP stipulates that assessment of requirements of ToT i.e. its type, range and depth, key and critical technologies etc. is undertaken at RFI stage. Requisite details are presented in Statement of Case prepared by the User. The same, including the selection of PA for Buy & Make category cases, is deliberated during the categorisation stage by SCAPCHC for seeking approval of DPB / DAC.

4.15.04 There are three provisions of DPP, in respect of TOT, which in the view of the Committee, require deliberations and amendment. These are; (i) selection of PA for Buy & Make category cases, (ii) selection of Indian entity for receiving Maintenance ToT in Buy (Global) category cases, and (iii) keeping the option of negotiating the ToT at a date later than the main contract.

4.15.05 Para 19 of Chapter I of DPP 2013 states that in cases where ToT is being sought, appropriate PA would be approved by DAC based on the recommendations of the SCAPCHC. The PA could be selected from any of the public / private firms including a joint venture company based on inputs from DDP and, if required, from DRDO. The issues are:-

i The eligibility criteria for selection of PA, in case of private Indian industry, has not been given. It is understood that thus far only DPSU / PSU / OFB have been nominated as PAs for such cases to receive technology.

ii One suggestion is that the choice of selection of PA be left to the OEM, and MoD may specify the eligibility criteria in the RFP.

iii The Committee has described the concept of Strategic Partnership in paras 3.3.03 to 3.3.15 of Chapter 3 for certain defence segments viz. Aircraft, warships & submarines, Armoured fighting vehicles, complex weapon systems, C<sup>4</sup>ISTR systems and critical materiel technologies. For receiving ToT in these segments, essentially a Strategic Partner in that segment should be the automatic choice.

4.15.06 Para 28 of Chapter I of DPP 2013 states that in Buy (Global) cases, the vendor would be required to give ToT for maintenance to an Indian entity which would be responsible for providing base repairs and the requisite spares for the entire life cycle of the equipment and cost of such ToT would be borne by the private Indian bidder. The Indian entity could be a company incorporated under the Companies Act, including DPSUs or entities like OFB / Army Base Workshops / Naval Dockyards / Naval Aircraft Yards / Base Repair Depots of Air Force. Again, the issues are akin to the ones stated above in respect of selection of PA. It has also been observed by industry that foreign OEMs may already have made arrangements with various Indian entities for different reasons and programs. To earmark an entity at the AoN stage would again possibly exclude private Indian industry and also deny full ToT for maintenance.

4.15.07 Para 30 of Chapter I of DPP 2013 states that normally, ToT will be negotiated along with the first procurement. However, there may be occasions where it is not feasible to negotiate

the ToT simultaneously. To cater to such contingencies, the RFP should clearly indicate that the Government reserves the right to negotiate ToT terms subsequently and that availability of ToT would be a pre-condition for any further procurements. In such cases, terms and conditions of obtaining ToT would be included in subsequent procurement. Similar proposition is also made in para 48 of Chapter I of DPP 2013. This does give a sense that the vendor would be bound to keep his commitment since it is a pre-condition for future procurements. However, its relevance needs review in keeping with the goals of 'Make in India'.

#### **4.15.08 Recommendations.**

- i The general guidelines for ToT given at Appendix 'L' are considered comprehensive, covering all aspects. These provide flexibility to be tailor the requirement of TOT for specific equipment / system or platform. These be retained as such.
- ii Eligibility criteria for selection ( from amongst private Indian industry) of PA to receive ToT in case of Buy & Make category schemes and Indian entity to receive ToT for maintenance in case of Buy (Global) category schemes need to be devised and promulgated
- iii Provisions for ToT to Strategic Partners in the specific segments as mentioned at para need to be made in DPP, after promulgation of relevant policy guidelines.
- iv Existing technical arrangements, if any, of the foreign OEMs with Indian industry be taken cognisance of while selecting an Indian entity to receive ToT for maintenance in Buy (Global) category schemes.
- v Provisions for keeping the option of negotiating ToT at a date after signing of main contract may be reviewed. In case such provisions have not been made use of since their incorporation in DPP, these may even be removed.

#### **4.16 Turnkey Projects (Para 45, Chapter I, DPP 2013) – A provision for ICT Projects**

4.16.01 Para 45 of Chapter I of DPP 2013 outlines the provisions for turnkey projects. The nature and characteristics of the projects as well as the process for taking up schemes under these provisions are clearly stated. The Committee, during interaction with the stakeholders, was also informed that the nature / characteristics of projects has been further refined and enhanced to include setting up of requisite specialised technical infrastructure. The MoD instructions for the same have been issued in October 2014.

4.16.02 This is considered an enabling provision to ensure that creation of requisite infrastructure of applicable specifications for sensitive equipment / high value platforms / test / maintenance facilities etc. can be synergised with the schedule for induction of such assets through the OEMs themselves or through professional agencies.

4.16.03 During our interaction with IHQMOD (Army), it was highlighted that difficulties were being experienced by the Service in implementation of Information Communication Technology (ICT) based projects under the provisions of DPP due to very peculiar requirements of such projects. Rapid technology obsolescence is in the nature of such projects. Software applications and the hardware therefore are often in obsolescence zone at the time of induction, if one were to view the project implementation cycle of 5 to 7 years, from accord of AON

(frozen SQRs) to delivery i.e. deployment of the system. The Service therefore suggested that a separate Chapter outlining procedure for ICT projects be incorporated in DPP.

4.16.04 The Committee interacted with industry representatives under the aegis of National Association of Software & Service Companies(NASSCOM). As participants in the ongoing / earlier completed projects of defence services, and executing such projects for other clients, they presented a concise perspective on the peculiar character of an ICT project. This is briefly described as follows:-

- i An ICT project is user requirement based – a perceived solution. It is difficult to create exact Qualitative Requirements in the form of specifications of software applications, operating system, middleware, Application interfaces or hardware since the user requirements at the concept stage are rather broad. Detailed Design Specifications are generated during the well-established software design cycle.
- ii Obsolescence rate of ICT products, both software as well as hardware is fast usually 3 – 5 years, especially hardware. Though the legacy systems continue to perform, higher capability (faster clock speed, better resolution, improved user interfaces etc.) products in the form of higher versions get introduced by the vendors.
- iii Most ICT projects involve development (of proprietary applications) and deployment phases. Software development may entail ab-initio development or customisation of commercially available software products to realise the user requirements. Duration of a project is linked to the complexity of application software as well as system architecture.
- iv It is therefore a standard practice to delineate development and deployment phases. Positioning of hardware and requisite software licences is linked with deployment, lest it becomes obsolete.

4.16.05 The specific features of ICT contract viz. suitable provision for changes (in features of applications which was explained as ‘design creep’), project management structure with authority for decision making, development linked payment schedule etc. were also explained. An additional budget of 10-15 % of estimated cost should also be provisioned to address the ‘design creep’. They suggested that Standard Clauses for ICT projects have been prepared by Min. of S&T. These could be adopted.

**4.16.06 Recommendations.** The Committee recommends that the peculiar requirements of ICT projects be taken cognisance of and suitable provisions for the same be made in DPP. Enlarging the scope of para 45 of Chapter I of DPP 2013 to include ICT projects is therefore recommended. Similar provisions are understood to have been proposed for inclusion in Defence Procurement Manual (DPM). Relevant details are placed at Annexure V to this Chapter.

#### **4.17 Bid Evaluation Criteria**

4.17.01 There are numerous methods in vogue for evaluation of techno-commercial and price bids. These aim to capture “Best Value” as the combination of price, technical merit, quality, operational performance, life cycle cost, total cost of acquisition etc. Even non-price parameters as past delivery performance of vendors, management capability, life cycle support

network in the country etc. could also be included. We discuss some of these methods in the succeeding paragraphs.

4.17.02 **'L1' – Method.** DPP 2013 lays down a simple 'L1' criterion for evaluation of bids. Only those bids, which are found to be fulfilling all the eligibility and qualifying requirements of the RFP, both technically and commercially, are opened. The bidder, whose price is arrived at as the lowest as per evaluation criteria given in RFP, is declared 'L1'. Subsequent contract negotiations are undertaken with 'L1' bidder only. It is also pertinent to mention that a thorough RFI process is gone through to select the vendors to whom RFP is issued. This process takes care, to a large extent, of the technical suitability of the products being offered. Plainly speaking, having selected the products and vendors, to whom the RFP is issued, all technical and operational parameters have to be met and are given equal weightage. Thereafter, price competitiveness takes over.

4.17.03 **L1 – T1 Method.**

4.17.04 During interaction with the industry, as also in many representations received through MoD, it has been commented that 'L1' concept is not the most appropriate method for evaluation of bids for technologically complex state-of-the-art, equipment / system or platforms of the military. Technically superior products on offer could get side-lined on account of price considerations, which at times may be marginal. It has also been suggested that the industry needs to be incentivised for technical innovation by enabling acquisition of technically better products, even if, at higher prices. The Committee was also informed that similar recommendation was also made by the Ravindra Gupta Task Force on Defence Modernisation and Self-reliance. It is understood that this aspect, along with other recommendations of the Task Force, has already been deliberated upon in MoD.

4.17.05 The Committee has deliberated upon this matter, on more than one occasion with different stake holders. The Committee has also noted that different bid evaluation methods, which seek to obtain "best value" in accordance with technical, cost and other factors that may have been set forth in the tender, have been adopted by other institutions in India and abroad. The other factors may also include past performance history, delivery performance, management capability and logistic capability etc. In such cases, 'relative importance' of each factor/ sub factor is clearly specified in the tender.

4.17.06 The Committee reckons that 'L1-T1' or for that matter any other such scientific method which makes use of 'weighted' parameter evaluation process; would no doubt be better than simple 'L1' method. However, even if one were to assign a mere 5% weightage to 'technical' parameters and the remaining 95% weightage to 'price', it would be still a fairly complex task to grade the 'technical' part of the bids. First of all, each technical parameter would need to be assigned a weight or a grade or both.

4.17.07 Subjectivity, thus, could creep in here itself. A user might like to assign higher weight for operational performance parameters; on the other hand a maintainer would like to assign higher weight for parameters such as maintainability, 'Mean Time Between Failures' (MTBF) etc. Then one has to specify the minimum qualifying mark for technical evaluation.

4.17.08 Another simpler version of ‘L1-T1’ method was also discussed. In this, ‘minimum essential’ technical parameters have to be met by all bidders. A few measurable and verifiable technical or performance parameters are given additional weightage, when they exceed a base line value, have to be decided based on a rational set of criteria and set out in RFP. For example, if minimum ‘detection range’ of a sensor is specified as ‘X’ kilometres, an equipment achieving 1.1 ‘X’ kilometres may be given additional marks. Higher the number of parameters, higher would be the complexity in evaluation.

4.17.09 Theoretically, many such ‘best value’ approaches are available and can be considered. In fact, one can design different approaches for different kind of procurement e.g., commodities, services, infrastructure, technical equipment etc. The DPP 2013 itself lays down a fairly comprehensive two tier approach for selection of entities for issue of ‘Expression of Interest’ (EOI) and evaluation of ‘Detailed Project Report (DPR) submitted by them.

4.17.10 The Committee considers that existing bid evaluation criteria, which comprise of two stage technical evaluation and then choosing ‘L1’ amongst the technically qualified bidders is comprehensive, objective, simple and therefore easy to implement. The existing acquisition set up is comfortable with it. Therefore, it is meeting its intended purpose. More complex methods could be adopted in future as the acquisition set up gains experience and competence in these areas and costing structures are built into the defence acquisition system. It may be adopted as an experimental measure.

#### 4.17.11 **Performance Based Logistics (PBL)**

4.17.12 The essence of PBL is buying performance outcomes, and not individual parts and repair actions. Instead of buying set levels or varying quantities of spares (Manufacturer’s Recommended List of Spares (MRLS)), repairs, tools and data (Maintenance Contract), the focus is on buying a pre-determined level of availability of the “Asset” to meet the buyer’s objective. PBL, therefore, results in optimising the total system availability and at the same time minimising costs and logistics foot print. The main goal of PBL is to achieve overall optimal performance.

4.17.13 The concept of PBL in the acquisition schemes, therefore, adds another parameter to bid evaluation criteria. Apart from direct costs (of acquisition), deferred costs which would become payable in future (based on the performance outcomes) are suitably (Net Present Value) added to select ‘L1’ bidder.

4.17.14 The performance outcomes, to be included in an acquisition scheme, vary from one domain to another. For example, for an aviation platform, these could be to achieve a defined level of operational availability / number of flying hours per calendar month. For a naval platform, these may be in terms of availability for deployment (number of engine operation hours / number of days at sea with a certain pre-defined capability). Invariably, response time to restore the asset’s operational availability / capability in case of a reported shortfall (defect) is clearly stipulated.

4.17.15 Where to apply the PBL concept? As stated at para 4.18.12 above, PBL is aimed to leverage the capability and scale of the OEM to provide life cycle support and achieve

assured performance levels, while reducing / minimising the buyer's logistics foot print i.e. scale and range of spares, maintenance infrastructure as well as skilled manpower. Therefore, for situations where setting up of complete maintenance infrastructure is not envisaged by the Service and options for maintenance support from sources other than OEM either do not exist or are limited, it would be beneficial to incorporate PBL into the acquisition scheme. Aviation assets of Coast Guard could be placed in this category. Similarly, this could be applied for any other class of non-strategic assets also. Other simple version of PBL may involve certain pre-specified level of performance for provision of spares alone so that the user with his integral resources can maintain envisaged levels of operational availability of assets.

4.17.16 The Committee considers that PBL concept is an effective approach towards optimising an "asset's" defined level of operational availability on a long term basis and minimising the logistic infrastructure costs. This is also considered a better option as compared to Annual Maintenance Contract (AMC) model.

#### 4.17.17 **Life Cycle Cost Concept (LCC)**

4.17.18 Life Cycle Cost (LCC) is defined as the sum of all non-recurring (one time, direct cost) and recurring (operation, maintenance and disposal) costs of an asset. Therefore, LCC is a concept to determine total cost likely to be incurred over the life of an asset. An LCC analysis can clearly highlight an asset where the initial 'acquisition' cost may be low but subsequent operating / maintenance cost may be high, thereby resulting in a higher 'cost of ownership' over its life cycle. It could also have implications on the overall 'operational' availability of the asset also.

4.17.19 Life cycle costs of an asset are closely linked with the design philosophy adopted and technologies employed. Superior design and technology may lead to higher acquisition costs but result in higher reliability of operation and lower operating costs. Therefore, for very high value assets of the Services, which demand very high level of operational availability as well as mission capability decisions based purely on 'acquisition cost' model may not be most optimum. As much higher costs may have to be incurred to operate and maintain the asset during its life; 'capability' as envisaged may not be achieved. LCC model enables more realistic evaluation of competing options in such a scenario.

4.17.20 In order to perform an LCC analysis, 'scoping' is critical – what aspects of the asset are to be included and what not? Each parameter so chosen should be quantifiable, verifiable and relevant. If the scope becomes too large, the analysis may become impractical to use and of limited ability to help in decision making and consideration of alternatives; if the scope is too small then the results may be skewed by the choice of factors considered such that the outcome becomes unreliable or partisan.

4.17.21 LCC model is prevalent in many countries since 1980s. Various nomenclatures for this model include 'Cost of Ownership' (COO) and 'Total Cost of Acquisition' (TCA).

4.17.22 Where to apply the LCC model? Ideally, LCC model is an apt tool for all high value assets. However, in the initial stages such assets, where 'deterministic', rather than 'probabilistic' models can be used, are considered more amenable. In this respect, aviation assets i.e. fighter / transport aircraft, helicopters etc. would permit a good starting point.

4.17.23 The LCC model has been extensively deliberated in MoD since 2005. A committee was constituted at MoD in 2007, consisting of members from MoD (Finance) and Air HQ, to suggest suitable model for the MMRCA case. The Committee analysed various elements that contributed towards the LCC and thereafter, recommended inclusion of all such major elements that were quantifiable, verifiable and relevant. LCC has also been referred to as TCA.

4.17.24 The above cited Committee after detailed studies and deliberations proposed a Total Cost of Acquisition (TCA) model for inclusion in the MMRCA RFP which was approved by the DAC. TCA, so proposed, included following elements:

- i. M1 - Direct Cost of Acquisition
- ii. M2 - Cost of Total Technical Life (TTL) based reserves
- iii. M3 - Cost of Time Between Overhaul (TBO) and Mean Time Between Failures (MTBF) based reserves
- iv. M4 - Cost of 'I' level servicing
- v. M5 - Cost of 'D' level servicing
- vi. M6 - Operating cost
- vii. M7 - Cost of Transfer of Technology

Note: - Cost of TBO / MTBF based reserves (M3) and cost of ToT (M7) is included only where applicable.

4.17.24 We have considered these aspects of Life Cycle Cost or Total Cost of Acquisition models. We believe that 'L1' determination using TCA model will result in significant cost saving over the life of an asset. TCA model further provides the cost 'parameters' and 'specifications' of all elements with a strong 'MTBF' linked warranty. Thus, it would provide much better visibility and price discovery for future reference Revenue Contracts.

**4.17.26 Recommendations.** 'L1-T1', 'PBL' and 'LCC' or 'TCA' are concepts which have proven potential to generate 'Best Value' decisions in acquisition. As we make progress and consolidate our defence acquisition set up, there would be a need to adopt these scientific and well established models. The Committee therefore recommends that:-

- i. 'L1' method of bid evaluation as is prevalent now may be continued with.
- ii. 'L1-T1' concept be taken up for some specific cases in which number of parameters to be weighted are manageable (say 5 or less) and their effect clearly quantifiable. For example, a laser guided bomb with "Circular Error of Probability" as a parameter could be put through such a process. There is a need to build expertise in this area of bid evaluation for complex systems.
- iii. PBL model is recommended to be adopted for all acquisition schemes, as considered necessary by Service HQ. (AMC provisions already exist in DPP. Adoption of DCF technique is also permitted for evaluation of such bids.)
- iv. TCA model be adopted for all platforms / systems such as aircrafts, helicopters, Main Engines / Gas Turbines of Ships. For these, major elements of cost are quantifiable

and verifiable either on time basis or running hour basis. 'Kit' based logistics approach is also relevant. Importantly 'deterministic' models are quite applicable to lend credibility to the decision made. The formal procedure may be brought into DPP, after fine tuning the same through iterations over a few schemes.

#### **4.18. Offset Guidelines ( Appendix 'D', Chapter I, DPP 2013)**

4.18.01 **Background** Defence Offsets Obligations became mandatory contractual obligations under DPP 2005. The Offsets Guidelines have since been revised during each revision of the DPP after necessary interactions with and inputs from all stakeholders. This has resulted in a gradual fine-tuning of the procedures to address the difficulties encountered in implementation of Offsets. The current guidelines incorporate a number of global best practices like Banking of Offsets, provision for Multipliers as incentives for Technology and engagement with Small industries, eligibility of offset products to include Inland Security and Civil Aviation, removal of mandatory licencing condition for IOPs and streamlining the monitoring and penal arrangements.

4.18.02. Presently, 25 Offsets Contracts valued at approx. USD 4.87 Billion have been signed. There are 44 more contracts under various stages of procurement with a potential value of USD 15 Billion for discharge until the year 2028, in a phased manner. All of these are governed through offset guidelines in different versions of the DPP.

4.18.03. However, over the years, experience indicates that the execution and monitoring of the offset contracts has been fraught with complexities. While offset implementation commenced in 2008, Foreign OEMs were able to report only 51.5% achievement until last year against contracted obligations. Moreover, in ongoing cases, technical and commercial evaluation has become a long drawn process due to inability of Foreign OEMs to ensure conformance to guidelines. As such, offsets contract negotiations, monitoring and implementation has not been a smooth process thus far. As on 31 march 2014, Offset Contracts for a value approximately USD 4.87 Billion had been signed. According to the available figures as on 31 January 2015, offsets credit for USD 20 - 25 Million have been approved against the claims worth USD 921 Million , submitted by the vendors. Claims for approximately USD 676 Million are under Audit. For the balance claims of approximately USD 220 Million, communication with the vendors are 'on' and thereafter, these would move to audit section.

#### **4.18.04 Major Concerns with Guidelines in DPP 2013**

Stakeholders in the offset process comprise mainly of MoD, the Foreign OEM and Indian Offset Partner (IOP). Although offset guidelines have been liberalised and scope for discharge widened from time to time, the resultant complexity in the procedures was an unintended consequence with a heavy emphasis on documentation, paper work and adherence to procedures. Some of the issues affecting various stakeholders that emerged during consultations are enumerated below:-

- i. Given the emphasis on procedures, with little flexibility or delegation of power in decision-making, activities like seeking deviations from guidelines, audit of offset claims, granting approvals for offset contract amendments, change of IOPs or products (amongst eligible ones) etc, take considerable time leading to delays in implementation of the contract.

- ii. A majority of current offsets contracts are governed through DPP version 2008 or earlier. These contracts encounter persistent issues during implementation due to the limited flexibility provided to the OEMs.
- iii. Retrospective application of progressive offsets guidelines is not being made applicable. Benefits of learning and improvements are not enabled, thus depriving OEM and Indian industry of later developments.
- iv. Proposals made by OEMs for Banking of offsets do not get approvals notwithstanding the stipulation in para 3.2 (Appendix D to Chapter 1 and its earlier version since DPP 2008). This has consistently been seen as a weak area and needs to be addressed on an urgent basis.
- v. Offsets credits for discharged offsets are not being intimated to the vendors resulting in considerable uncertainties. What is worse is surprise rejections communicated after a long time gap with avoidable consequential penalties.
- vi. The present abeyance order on discharge of offsets through Services has caused considerable loss of opportunity for the Indian industry. The abeyance order needs to be reviewed at the earliest.
- vii. MSMEs are not able to directly interface with OEMs. There is no institutional mechanism to guide small players into offsets. They need hand-holding and a facilitating mechanism. Any of the industry chambers with a focus on MSMEs can be nominated for this purpose.

**4.18.05 Overview Of New Offset Guidelines.** Given the need to simplify offset implementation and make it outcome based instead of procedure heavy, the DDP has proposed new offset guidelines. Under these guidelines, defined offsets commitment are proposed to be specified upfront as part of the RFP. Only three avenues for discharge of offset obligations, i.e. (i) Technology Acquisition (ii) Direct discharge onto the platform under procurement and (iii) Skill development are permitted. This is likely to create a focus on indigenous capacity building. Further, being part of the RFP, there will be less ambiguity and divergence in interpretation.

**4.18.06 Recommendations Of The Committee.** The Committee has studied the existing guidelines in DPP 2013 as well as the new proposed Directed Offsets Policy. In addition, committee has interacted with all stakeholders, including industry associations representing overall industry, sectoral industry, small industry and foreign OEMs. Based on inputs from industry, OEMs and MoD, the overall recommendations broadly the Committee fall in three categories

- i. To fine-tune the present policy to make it more easily implementable,
- ii. Suggest measures for improvements in the future policy and
- iii. Addressing certain procedural concerns.

**4.18.07 Fine Tuning Offsets In DPP 2013**

- i. DPP 2013 specifies that the offset offer has no bearing on determination of the L-1 vendor. Nevertheless, post award of contract, changes to the terms and conditions

specified in the offset contract may be necessary in the interest of the MoD or for developing certain local capacity in R & D and in the domestic industry. The extant practice of seeking approval of the competent Authority for changes to the terms and conditions of the offset contract should therefore continue, taking into consideration the progressive liberalised features and with more delegation

**ii. Services.** Abeyance order on discharge of offsets, through the avenue of Services needs to be reconsidered and services like Maintenance, Repair, Overhaul, (MRO) and Up-gradation / Life Extension, which are much more akin to manufacturing activity, setting up testing infrastructure and Engineering Design limited to 30% of the overall obligations in the concerned project, be allowed as eligible offsets.

**iii. Differentiating between Direct Purchase and Executing Export Orders.** Para 3.1(a) of offset guidelines combine the two functions i.e. Direct Purchase of and execution of export orders. These two functions are distinctly different. The role of the OEM in bringing about 'Execution of export order' needs to be substantiated before granting offsets credits. This needs to be explained in more detail.

**iv. Supply Chain.** OEM may be allowed to discharge his offsets obligations by effectively utilizing the capabilities in his entire supply chain (Tier 1, Tier2 and tier 3 companies). This will also enable supply chain on both sides to interact for mutual benefit. Similar dispensation may be allowed for the Group Companies as well, provided this is stated up front in the offset proposal and further provided that the primary responsibility for discharge of offset obligations rests with the vendor.

**v. Period of Performance.** (Extended period of Performance for Offsets) Present disposition of contract period (which includes warranty period) with an two year additional period from discharge is considered adequate. However, there would be cases of offsets execution such as establishment of MRO etc, which could demand more time for establishment. In such cases, should the OEM seek additional period of discharge, this may be granted on merits of case. This will help OEMs to identify projects that are beneficial in the long term. OEMs are discharging offsets world-wide and consequently have their supply chain competing for work in different geographies. Some of the OEMs may not have a presence in India, this complicates their effort in finding compliance to Offsets policy. In either cases, an OEM is required to identify his IOP, match the product and qualify the IOP. This is a time-consuming process generally in the range of 2-3 years. It is therefore essential to allow a longer period of discharge for OEMs, say a minimum of 10 years. Also, the OEM may be allowed to plan for the additional 2 years ab initio.

**vi. Offsets Process.** To simplify the submission and evaluation process, instead of declaration of IOPs ab initio, an undertaking to comply with offsets obligations may suffice at RFP response stage. The vendor should be required to submit the "Techno-Commercial" offset offer within 8 weeks of completion of the TEC. This will make the offer more realistic, closer to contract stage, and will make processing more efficient.

a. The Offset Contract for compliance of minimum percentage of Offsets may be signed with the main contract. Period of discharge of offsets will be determined at the CNC stage and form part of the Offset Contract.

- b. At the time of signing of the main contract, OEM may furnish a Master Offset Plan, to indicate qualified IOPs, products and services in broad detail, tranches of discharge by value year-wise. OEMs may ensure that at least 20% of Offset obligation is completed within 40% of contract period and rest of obligation is phased out over the remainder period of the contract.
- c. OEM may furnish a two-year roll on offset plan for consideration of MoD. This process could be repeated every year, till culmination of contract.
- d. The tranches of 2-year roll on plan will be in conformity with the Master Offset Plan. This could be regulated to conform to calendar years or FYs as convenient to MoD and OEM.
- e. Determination of penal clauses will flow from the Master Offset Plan submitted by OEM.
- vii. Technology Acquisition.** TA is a very sensitive and a crucial avenue for discharge, for both the OEM and MoD/DRDO. It may not be possible to place the entire requirement of technologies sought under offsets on the website. Committee recognizes that all technologies needed may not appear on the DRDO portal. DRDO may discuss with OEMs available technologies and once interest of DRDO is established in the same, the TA process can proceed.
- viii. Banking of Offsets for TA.** Offsets Banking be permitted for all avenues of discharge, especially for TA since this involves time in determination and conclusion of TA proposals. Also, in many cases, valuation may render the offset project in excess of mandated values, this must be allowed to be carried forward for banking.
- ix. Removal of the Cap of 30% for Discharge of Offsets for Government Institutions in Specific Cases.** It is now recognised that Technology acquisition is important for “Make in India” particularly for provision of equipment to government institutions and acquiring MToT for the services. Hence removal of restriction of 30% as the upper limit for discharge through certain avenues under serials 3e and 3f in Appendix D, for services / Institutions will be in consonance with our overall objective of offsets discharge.
- x. Flexibility with IOPs.** Shifting of pre approved work, amongst the pre-approved IOPs, may be allowed in an automatic manner. OEM needs to seek approvals only for adding either new IOP (for sake of due-diligence by MoD) or adding new products/services (for sake of ensuring conformance with eligible products/services).
- xi. Delegation of Powers for Approvals.** All approvals for any changes proposed by OEMs, if conforming to the policy, may be allowed under department channels/Armed Forces. Proposals that need a deviation from DPP Guidelines, need to be presented to DAC through DPB, for approval. This will facilitate faster decision making.
- xii. Raw Materials.** For enabling production of imported raw materials required for production of defence equipment / systems, in the country itself, offsets credits may be allowed, as an avenue of discharge.

**xiii. Value Addition.** For purposes of calculation of value addition, it is proposed that the minimum value addition demanded from the Indian vendor in Buy (Global) category be the reference point for granting full offset credit to the foreign OEM. The floor level can be gradually stepped up. This will incentivise creation of higher indigenous content in the concerned products / sub-systems and pave the way for their inclusion under Buy (Indian) category in future procurements.

**xiv. Offsets Ombudsman.** There have been many recommendations with respect to Offsets discharge and the difficulties faced by Foreign OEMs. These arise due to lack of clarity in the policy or interpretation of the policy by the procurement executive. In order to expeditiously resolve issues arising out of offsets, opinion of an Offsets Ombudsman, so nominated may be sought. The existing institution of Independent Monitors could be appropriately enabled for this purpose and can take up cases either as single monitor bench or a three monitor bench as the case may be. Although the recommendations of the Ombudsman are not binding on the MoD, it will prove to be helpful and provide necessary confidence to the procurement executive.

#### **4.18.08 New Draft Offset Guidelines**

**i. Outcome Based.** An outcome based policy is in the interest of capability building and is recommended. It is important to ensure that this remains outcome oriented rather than process oriented.

**ii. Committees.** The draft guidelines stipulate three separate committees one for each avenue of discharge i.e. directed offsets, technology transfer and skill development. It may be important to lay down ground rules for coordination and apportionment, which is expected to be in the domain of the Forces.

**iii. MSMEs.** Incentives may be thought of for encouraging participation of MSMEs in Offsets Contracts with OEMs.

**4.18.09. Processing Concerns:** Certain concerns have been expressed by the Industry regarding processing of their off-set proposals. The Committee has considered these and we recommend as follows:

**i. Creating a Green Channel:** As our experience in handling the offsets increases, it is possible to create a 'green channel' for the Indian IOPs with a proven track record. This will allow the DOMW officials to reduce the paperwork in respect of IOPs where information is already available. The IOP only needs to intimate the factual and material changes that may have occurred. The MoD should also host and update every quarter, a list of all IOPs on their website. A similar arrangement could also be made for eligible products.

**ii. Banked Offsets – Approved List:** Another green channel will be in terms of the approved list of banked offsets. This will also ease the processing time and effort. This will in fact encourage OEMs to invest in keeping a pool of banked offsets.

**iii. List of Approved Offsets:** MoD should also put the information regarding approved offset projects / products without revealing the identity of the OEM, the IOP and the value of the offset. This will give the vendors an idea of the types of projects that pass muster.

iv. **Projection Profile of the Offset Products.** Given the dynamic nature of the technology and products, it is unrealistic to expect the vendor to give details of the products 8-10 years in advance. It is therefore suggested that the vendor should provide a detailed offset plan for the first five years while for the 6th year onwards only the yearly value of the products need be projected which should be firmed up two years in advance i.e. in the 4th year, the vendor should give the detailed plan for the 6th and the 7th year, while in the 5th year he will give the detailed plan for the 7th and the 8th year and so on.

v. **Communication of Offset Discharge Approval.** The vendors submit a six monthly report on fulfillment of offset obligation (Annexure 5 to Appendix D). As brought out earlier, there is an avoidable delay in communication of the acceptance of the claims and consequent penalty at times. It is recommended therefore, that the status of offset credits should be communicated to the vendor on an annual basis.

vi. **Technical and Commercial Offer.** During discussions with the stakeholders it emerged that the technical proposal for the offset undergoes modifications during the TOEC deliberation. However, the original commercial offset offer submitted along with the original bid remains intact till the date of opening of the bids. This is bound to result in a mismatch between the two i.e. the final technical offset offer and the original commercial offset offer. It was therefore felt that the vendors should be asked to submit a revised commercial offset offer corresponding to the revised technical proposal in a sealed cover post TOEC within 15 days after formation of TOC. This will minimize, if not eliminate, the mismatch between the final offset technical proposal and the commercial offset offer. It will also make the commercial offer more up to date and realistic.

vii. **HR Management.** The personnel posted in DOMW are OSDs drawn from the Forces, DPSUs and OFB. This could perhaps be made more broad based to include Officers from other sister agencies like Railways, Space or the DRDO or Energy sector.

viii. **Innovative Funding Mechanism**

a Presently, as stated in the Offsets Guidelines, FOEMs can fulfill their obligations by one of the avenues specified in para 3.1(b), which reads as under:-  
“Foreign Direct Investment in joint venture with Indian enterprises (equity investment) for the manufacture and / or maintenance of eligible products and provision of eligible services. Such investment would be subject to the guidelines /licencing requirements stipulated by the department of Industrial Policy and Promotion.”

b A suggestion was made that there could be other innovative measures that could increase FDI not directly but through a privately managed Venture Capital fund. FOEMs with offsets obligations who have contracts with MoD, could subscribe to such a fund. The fund thereafter in consultations with FOEMs invests into production units which are expected to be mostly MSMEs.

c We have carefully considered this proposal. IOPs who are also MSMEs are always in need of funds and any innovative measure which open up avenues of funding needs to be encouraged. Private funds which can be Venture Capital Funds and Angel Funds, SME Funds, Social Venture Funds and Infrastructure Funds are pooled in India through an Alternative Investment Fund (AIF) which is a vehicle which is incorporated / established under the relevant laws and can be in the form of a trust / company / LLP/ body corporate, and which

- (i) Has collected funds from investors (domestic and foreign) and
- (ii) Invests in line with a defined investment policy for the benefit of its investors.

These are regulated under SEBI (Alternative Investment Funds) Regulations 2012 and can be of various categories. Category / IAIF are funds that the Government considers inter alia as economically desirable. These funds are managed by an “Investment Manager” who for key decisions on investments and exits makes recommendations to an “Investment Committee” which decides the final course of action.

d We hence recommend that:-

- (i) Investments by FOEMs in AIFs, whose objective will solely be to invest in IOPs eligible under the Defence Offset guidelines, should be considered as eligible means of fulfilling offset obligations.

(ii) Fifty percent of the offset obligation would be deemed fulfilled when the AIF invests in the IOP’s;

(iii) The balance fifty percent could be gradually liquidated when IOPs start producing and in such cases a multiplier of 1.5 would be applied (as applicable for buyback from MSMEs);

(iv) AIF structured for acting as a vehicle for fulfilling offset obligations should also be structured such that the Investment Manager for these AIFs should be at least 51 percent owned directly or indirectly by an Indian resident.

(v) Where the AIF has a majority stake in the IOP at least half of the Investment Committee members should be Indian nationals.

#### **4.19 Guidelines for Putting on Hold, Suspension and Debarment of Entities**

4.19.01 The Committee has deliberated upon the contents of the draft guidelines for putting on hold, suspension and debarment of the entities dealing with MoD.

4.19.02 The committee concurs with the premise that misdeeds of an entity or its employees should not be visited on the equipment / system or platform which have been carefully chosen by the Services after following the prescribed procedure.

4.19.03 Further pragmatism demands that such issues be decided taking national and public interests into account.

4.19.04 The Committee recommends the following amendments:-

i Para F.5

a **Comment**. The provision in draft guidelines essentially would lead to ‘keeping in abeyance’ or ‘cancelling’ any other contracts involving such entity (Put on Hold / Suspended / Debarred) till Government decides on a case to case basis.

b **Recommendation**. The last line of text of F.5 is recommended to be amended as follows:-

“However, other contracts involving such entity shall continue till a decision to the contrary is taken by the Government” on a case to case basis.

ii **Para D.5: Effect of Suspension & Para E.6: Effect of Debarment**. The draft guidelines provide for progressing the ongoing procurement processes involving suspended / debarred entity where L1 determination has not yet been done, after excluding the suspended / debarred entity. Draft guidelines further provide that, in case there are only two bidders, one being suspended / debarred entity; procurement will be progressed as per provisions of DPP with specific reference to para 36 or para 70 thereof.

a **Comment**. In case there are only two bidders, one being suspended / debarred entity; application of provisions of para 36 would result in single vendor situation at TEC stage and therefore entail retraction of RFP. This would lead to avoidable loss of time (could be 8 -12 months or more depending upon the progress of the case). It is felt that in this situation, since the competitive bids were invited in multi-vendor environment, TEC / FET should be progressed with. And if the other vendor’s proposal is found technically acceptable, contract negotiations should be undertaken and contract finalised in a time bound manner to be completed within the period of original validity of bids. Such a step would ensure that the remaining qualified vendor is not given any grounds to seek revision of his original bid.

b **Recommendation**. In view of the above, the Committee recommends to amend the second line of text of paras D.5 and E.6 as follows:-

“In case there are only two bidders, one being suspended / debarred entity, the procurement will be progressed as per provisions of DPP without this being treated as a single vendor at TEC stage.”

iii **Para A.4**. The text of para A.4 may be amended for clarity, as follows:-  
“Effect of actions, viz. Put on Hold, Suspension and Debarment on an entity in accordance with these guidelines will apply even when it participates in the procurement process as a vendor or sub-vendor or technology partner or member of consortium”

iv **Para B.1 (c)**. The words “in the contract” may be added after the words “Standard Clause”.

4.19.05 The issue of ‘Single Vendor’ situation has also been discussed in para 4.13 in this Chapter. The Committee’s recommendations on the issue are also listed therein.

#### **4.20 Agents / Marketing Intermediaries**

4.20.01 The Committee has also deliberated upon the draft proposal of MoD for engagement of Agents by Foreign Vendors for capital procurements. Our comments and suggestions on the various provisions contained therein are elaborated as follows:-

##### **i. Comments.**

a. The engagement of Agents/Marketing Intermediaries by Foreign Vendors (applicable for capital procurement) would typically be done as follows:-

(i) Omnibus for all defence equipment and services of the Vendor either globally; for the region (of which India is a part) or specifically for India.

ii Only for a particular RFP.

(iii) Only for civil equipment and services of the Vendor (which is engaged in defence and civil products) again either globally, for the region or specifically for India.

b. Since the appointment of Indian Agents for defence products had been prohibited no appointments under 1(a) and 1(b) categories above were being declared. However instances of category 1(c) above have come to notice where no declaration was made and complications have arisen because appointments of such Agents for civil equipment and services by Foreign Vendors engaged in business with DPSUs have contaminated the defence business of the DPSUs. It has been noted that the phrase “this equipment” has been replaced by “their equipment” in the first sentence of Para 14 (Page 81 of draft RFP format), and this is how it should be.

##### **ii. Suggestions**

a. In Para 14 (page 81 of Draft RFP Format as modified).

(i) In the first sentence after the phrase “their equipment” the words “including equipment and services which are exclusively for civil applications” may be added.

(ii) After the word “India” in the same sentence the words “either on a country specific basis or as part of a global or regional arrangement” may be added.

b. Such information as mentioned at sub-paras (i)(a) and (i)(b) above be also sought through an explanation against Item 6 (scope of work and responsibilities) of the proposed Appendix N to Schedule I to chapter I and the proposed enclosure 14 to schedule to chapter III.

c. In proposed Para 14(e) (page 81 draft RFP) the word “been” should be replaced with “be” (a grammatical error).

## 4.20.02

- i. **Comment.** A distinction is to be made between payments to the Agent and other monetary and non-monetary incentives which are liable for misuse. The various clauses should be clear and unambiguous. Terms like ‘fees’ and ‘legitimate fees’ are confusing.
- ii. **Suggestions** Proposed Para 8.1(d) (Integrity Pact page 121).
  - a The words in parenthesis in sentence 1 need to be substituted by the words “other than payments declared in Appendix N to Schedule I.
  - b There is a grammatical error in the first sentence. This needs to be corrected by inserting a comma after the close of parenthesis and by deleting the word “made” in the sentence.

**4.20.03 General Observation.** There should be uniformity in the text of the relevant clauses pertaining to Agents / Marketing Intermediaries throughout the DPP. The proposed provisions related to engagement of Agents / Marketing Intermediaries appear in various sections of DPP viz. Standard Clauses of Contract, Integrity Pact, and in RFP at paras related to Integrity Pact, Standard Clauses of Contract, Offset Contract, Agents / Marketing Intermediaries. It is considered essential that the text of all these sections is uniform, harmonious and not prone to differing interpretations. For example while the text of Para 9 of Standard Clauses of Contract is proposed to be amended, the same changes have not been suggested to be factored in Para 8 of the same document wherein sanctions for violation of IP have been listed. These should not be at variance. Similarly, Para 10.1(ix) of Pre Contract Integrity Pact prescribes that the vendor shall at the time of filing of bid disclose if the bidder or any employee of the bidder or any person acting on behalf of the bidder, either directly or indirectly, closely related to any of the officers of the Buyer, or alternatively, if any close relative of an officer of the Buyer has financial interest/stake in the bidder’s firm. This aspect does not explicitly appear in the Standard Clauses of Contract. It may be noted that Pre Contract Integrity Pact is in force during the bid evaluation stages as well as throughout the validity of the contract.

4.21 **Integrity Pacts.** Integrity Pacts (IP) as propagated by Transparency International have been adopted by the MoD, DPSU’s and OFB at the behest of the Central Vigilance Commission since 2007. They appear to have had a salutary effect. We have two suggestions in this regard:-

- i Industry representatives have drawn attention to the unworkable, and sweeping ambit of clause (ix) of Para 10 (under the heading ‘Sanctions for Violations’) of the IP under which the Bidder is presumed to have prior knowledge of the relationship of all his employees with officers of the BUYER, as also of the financial interest of the officers of the BUYER with the BIDDER company. The term close relative has also been defined quite broadly, thus further expanding the number of persons about whom the BIDDER should have knowledge about. We agree that such a clause is unworkable and that companies are agreeing to such clauses as perhaps they have no choice, hoping that they could handle the situation if and when it arises. However, there are many large and reputed Indian companies who mentioned to the Committee that

they were reluctant to do business with the MoD because of this clause. The IPs being entered into by DPSU's do not have such a clause under the heading of 'Sanctions for Violations', we recommend that this clause be discontinued.

ii DPSU's / OFB have a number of vendors who have proprietary products who necessarily have to be issued a large number of RFP's during each year. With such OEMs, the DPSU/ OFB have long term arrangements also. Consequently a number of contracts are being entered into with each such vendor (which by definition is a single vendor case). Whereas, the contracts by themselves are specific in content the accompanying IP remains the same. There is no need to sign multiple IP's with the same OEM, who has proprietary items. It is suggested that with such OEMs an OMNIBUS IP valid for each financial year (or any such stated period) should be entered into which will be applicable to all RFP's / Contracts with that vendor for the period. This will save a lot of unnecessary paper work.

#### 4.22 Standard Contract Document (Chapter V, DPP 2013)

4.22.01 A 'Standard Contract Document' has been included at Chapter V of DPP 2013, which indicates the general conditions of contract that would be the guideline for all acquisitions. The draft contract is required to be prepared as per these guidelines. Further text of certain clauses regarding laws, agents / agency commission, penalty for undue influence and Integrity Pact, access to books of accounts, arbitration and force majeure are also included in Schedule I to Chapter I and Schedule to Chapter III (shipbuilding) of DPP 2013. Financial aspects such as payment terms, liquidity damages etc. have also been given in "Commercial Clauses" of these schedules.

4.22.02 The stakeholders, including Indian and foreign vendors, have made certain observations as well as suggestions, regarding the text, content of the clauses in Standard Contract Document. It was also commented that though this is stated to be guideline document, the executive is often reluctant to make even minor textual change, even in error of spelling / grammar, to lend clarity without impacting the meaning of the clause. Foreign vendors also suggested that the clauses in the Standard Contract Document need to be reviewed and updated to conform with the best international business practices, as have also been adopted by foreign Governments.

4.22.03 The Committee reckons that some of the suggestions of Indian / foreign vendors require detailed scrutiny from financial and legal experts. The analysis of these suggestions be therefore undertaken in MoD.

4.22.04 Notwithstanding the above, salient suggestions made by the industry are enumerated below:-

i **Definitions.** Add 'Definitions' section to Standard Contract Document to provide clarification of key terms and consistency of terms throughout the contract document.

- ii **Article 2 – effective date of Contract.**
- a. Allow flexibility to incorporate language that clarifies Seller’s export approval requirement to ensure the ability of the parties to execute the contract.
- b. In the last line of Article; the text “shall commence from the effective date of contract” be replaced with “shall be as per schedule given in the contract”.
- iii **Article 3 – Advance Bank Guarantee & Article 4 – Performance cum Warranty Bond.**
- a. The methodology for calculating Advance Bank Guarantee Bond reduction values should be added as reductions to the Bonds are not automatic. Banks require MoD’s approval to reduce Bonds.
- b. The provision that the Advance Guarantee Bond will be subject encashment by the Buyer provided the Seller has received written notice of breach from Buyer dated at least 60 days prior to Buyer’s draw against the Advance Bank Guarantee, may be added in Article 3.
- c. Allow the Seller to utilise internationally recognised banks without confirmation, subject to the advice of SBI.
- iv **Article 5 – Payment Terms.**
- a. DPP should allow flexibility to incorporate payment terms and language that clarifies unique program requirements. DPP should provide for interim stage / milestone payments.
- b. Only Performance Guarantee and Advance Guarantee should be required in order for Seller to receive the Advance Payment. Due to export approval process in many countries, linking Advance Payment to an export license may substantially delay the effective date of contract, affect the delivery schedule and ultimately, contract performance.
- v **Article 13 – Liquidated Damages.**
- a. Any withhold of payment should be limited only until time as the delay is rectified for which payment must then be made.
- b. Article should be amended to limit the penalties for late delivery of contract deliverables and also it should constitute the sole and exclusive remedy between the parties for contract delays.
- vi **Article 15 – Warranty.**
- a. Article should be amended to clarify that the Seller’s warranty pertains to defects of materials and workmanship and provides for the repair or replacement of defective parts accordingly.
- b. The Article is silent regarding allocation of post-delivery risk between the Buyer and the Seller. Text should be added to the Warranty Article that clarifies responsibility of post-delivery risk including (i) post-delivery product

loss and (ii) special damages. Vendors have also suggested to include a separate Clause - "Limitation of Liability".

vii **Article 18 – Taxes and Duties.** Language changes made to add clarity by defining responsible parties to import tax obligations on military sales to the Govt. of India.

viii **Article 19 – Termination.** Existing provisions do not allow bilateral termination of contract, but allows only the Buyer to terminate contract. The Seller should also be allowed to terminate the contract if the Buyer commits a material breach of contract.

ix **Article 24 – Force Majeure.** Article to be amended to add "acts of Government" and "sub-contractor delays due to force majeure events".

x **Article 32 – Option Clause.** It is not feasible to maintain a fixed price for a major weapon system procurement for an extended period of time without recognising the risk of price fluctuations that may be encountered by the Seller. Existing Clause be amended to establish the process that any additional follow on orders will be subject to a separate Seller proposal and mutually agreed to price and schedule.

xi **New Clauses.**

a. **Serviceability.** The parties to the contract expect that it is the intent of each to give full force and effect to their obligations. If one or more clauses to the contract are held to be invalid or un-enforceable, the inclusion of "Serviceability Clause" permits assurance that the entire contract will not be set aside.

b. **Complete Agreement.** The contract is the entire agreement between the parties and any oral communications, negotiations, or the other agreements are superseded by the contract.

c. **Survival after Cancellation or Expiration.** A "Survival Clause" ensures that critical contract clauses remain in effect after the contract has ended in order to mitigate potential risks or issues.

4.22.05 **Recommendation.** The Committee recommends that suggestions of industry, as enumerated at para 4.20.04 above, be examined by financial and legal experts. The feedback of the executives of acquisition wing of MoD as well as user services, who are responsible for management of defence contracts, be also duly factored while considering the suggestions of industry and deciding upon the changes to the Standard Contract Document.

4.22.06 **Payment Terms.**

i The Committee received a specific proposal for considering 'Payment Terms' for Indian vendors under Capital Acquisition, Category Buy (Global) (other than Defence PSUs in ab initio Single Vendor cases or as a nominated production agency). It has been proposed to insert the same as an Article under "Payment Terms" in the "Standard Contract Document" (Chapter-V of DPP 2013).

- ii The proposal seeks to create a level playing field for Indian vendors' vis-à-vis foreign vendors under Buy (Global) category cases by allowing the facility of Letter of Credit (LC) payment to the Indian vendors, as already available to the foreign vendors. The vendor would have the option to either opt for payment through LC or continue with the current procedure of payment through bank transfers.
- iii The Committee noted that the existing payment terms available for foreign vendors as per Article 5(A) under Chapter-V of DPP-2013 have been sought to be extended mutatis mutandis to Indian vendors.
- iv Broadly, suggestions of industry are as follows: –
- a. Letter of Credit (LC) payment should be extended to Buy (Indian) and Buy & Make (Indian) categories and under fast track policy;
  - b. Exchange rate variation (ERV) should be admissible to private sector and included in the total contract cost;
  - c. Working capital cost to be included in the total contract cost;
  - d. Advance payment should be 30% of the total value of the goods; and
  - e. LC establishment charges should be borne by the Buyer and not by the Seller.
- v The Committee has been informed that a decision has already been taken for extending ERV benefits to the private sector. The Committee has considered the other suggestions. The working capital cost, being internal to the vendor concerned, may not be included in the total contract cost. The existing provision provides a flexibility in deciding upon the advance payment for each case and the Committee would not want to stipulate a fixed percentage as suggested by the Industry except for MSME in which case the recommendation at para 4.22.05 iv. d. be considered.
- vi **Recommendations.** On the issue of expenses connected with the establishment of Letter of Credit, the Committee finds some merit in the suggestion at 4.22.05(iv)(e) above. The Committee recommends that all expenses connected with the establishment of Letter of Credit in India should be borne by the Buyer and the Seller in equal proportion.

#### **4.23 Removal of Uncertainty in Tax Regime.**

##### **4.23.01 Royalty / Fee for Technical Services**

- i Defence being a capital as well as technology intensive industry entails payments to foreign companies on account of technology transfer, maintenance services, training, consultancy etc. which broadly are classified under the ambit of royalty or Fee for Technical Services ('FTS').
- ii In order to provide an incentive to the foreign companies having such technology, the extant provisions of the Income Tax Act, 1961 ('the Act') provide a specific tax exemption under section 10(6C) of the Act in relation to Royalty and FTS income arising to the foreign company received in pursuance of agreement entered into with the

Government of India ('GoI'). The exemption is available for services provided within or outside India for projects connected with the security of India provided a specific exemption notification is issued by the GoI in the Official Gazette.

iii Section 10(6C) of the Act provides as below:

“any income arising to such foreign company, as the Central Government may, by notification in the Official Gazette, specify in this behalf, by way of royalty or fees for technical services received in pursuance of an agreement entered into with that Government for providing services in or outside India in projects connected with security of India;”

iv Issues which may arise are :-

a. Issue 1 – Availability of 10(6C) exemption to foreign company where royalty/ FTS income is earned from an Indian DPSU

The Government, through the MoD generally executes direct contracts with foreign companies for defence procurement. Where such contracts require sharing of technology or joint collaboration, DPSUs are nominated by MoD as the lead agency on behalf of the GoI. In future in addition to DPSUs, Strategic Partners (SPs) would also be involved. The question may arise as to whether such concessions can be given to include user of service beyond GoI i.e. DPSUs or SPs. Issues have already arisen with regard to DPSUs.

b. Issue 2 - Challenge to determine the consideration towards Royalty/ FTS where the Government to Government contract provides for a consolidated consideration for supply and services

In all the Government to Government contracts involving supply of equipment and provision of services, executed by GoI, typically:

- (i) a consolidated consideration is provided for supply as well as services; and;
- (ii) a combined scope of the contract is specified

v In such cases, Central Board of Direct Taxes faces a practical challenge in determination of the scope of services and the corresponding amount of royalty/ FTS earned for the purpose of 10(6C) exemption.

vi Hence, in the absence of bifurcation of the payments pertaining to Royalty/FTS, the foreign companies are left in a state of uncertain tax environment leading to avoidable litigations.

vii It is hence recommended that at the time of entering of such Government to Government agreement, the GoI should clearly provide the following in the agreement executed with the foreign company:

- a. Separate scope of work in relation to the equipment supplied and services rendered by the foreign company; and
- b. Split of the total contract price between supply of equipment and provision of services

### **Income Tax incidence on Foreign Supplier under G to G Contract**

- viii The Defence Procurement Procedure 2013 specifies a tax clause which governs the contractual understanding on taxes in relation to the acquisition by the MoD, GoI India from foreign as well as domestic sellers.
- ix The subject clause specifies as below:
- “ARTICLE 18**
- TAXES AND DUTIES**
- 18.1 All taxes, duties, levies and charges which are to be paid for the delivery of goods, including advance samples, shall be paid by the parties under the present contract in their respective countries.”
- x The subject clause represents the understanding on tax obligation in case of acquisition of equipment and/ or provision of services pursuant to a:
- a a direct contract executed by GoI with a foreign company; and
- b a contract executed by the GoI with Government of another country (typically referred to as a Government to Government contract)
- xi The issue is that in case of a Government to Government contract, the above clause has been interpreted by the Indian Revenue Authorities in the following manner:
- xii Custom duty exemption is available to the foreign company in relation to the supply of equipment. It is available to the foreign seller based on a Custom Duty Exemption Certificate issued by the Ministry of Defence, pursuant to a specific notification issued by the Central Board of Excise and Customs.
- xiii Income Tax arising on account of the sale of equipment and / or provision of services shall continue to be an obligation of the foreign company and no exemption would be available to the foreign company for income tax purposes. The Act does not provide a specific provision which exempts the income arising to the foreign company from the sale of equipment under a Government to Government contract.
- xiv A government to government contract, does not provide any opportunity to the foreign company to negotiate / represent its case during the course of discussion between the two governments at the time of Request for Proposal and / or execution of the final contract. The consequence of the same is unanticipated tax costs and tax litigation for the foreign company in India.
- xv In view of the above, it is for consideration of MoD that appropriate modification in the language of the tax clause in DPP to cover both direct as well as indirect taxes may be incorporated. Relevant clauses in Income Tax would also need to be amended.
- xvi A government to government contract, does not provide any opportunity to the foreign company to negotiate/ represent its case during the course of discussion between the two governments at the time of Request for Proposal and/ or execution of the final contract. The consequence of the same is unanticipated tax costs and tax litigation for the foreign company in India.

xvii In view the above, it is for consideration of MoD that appropriate modification in the language of the tax clause in DPP to cover both direct as well as indirect taxes may be incorporated. Relevant clauses in Income Tax would also need to be amended.

4.23.02 **Recommendations.** The Committee recommends that suggestions of industry, as enumerated at para 4.23.01 above, be examined by financial and legal experts. The feedback of the executives of acquisition wing of MoD as well as user services, who are responsible for management of defence contracts, be also duly factored while considering the suggestions of industry and deciding upon the changes to the Standard Contract Document.

i. FOEMs are of the view that the no Income Tax arising out of sale of products which have been fully manufactured outside of India should be payable by the company in India. However, tax authorities consider this otherwise. That the Foreign companies have a local office, which partakes in discussions and other facilitation activities, part of the income arising to the FOEMs should be classified as income arising in India, of the local office. There have been a number of disputes where the quantum of such income attributed to the local office is thought to be disproportionately high, sometimes the entire amount has been attributed to the local office.

ii. There are cases where the tax authorities looking at certain procedures like trials within India, handing over of keys, etc, are interpreting that part of the sale took place in India. They are also attributing part of the sales, to the efforts put in by the local offices of the FOEMs. Based on this, Income Tax has been levied on the local office of the FOEM, which is quite disproportionate to the efforts put in by them. In one of the cases brought to the notice of the committee the incidence of Income Tax transcended the value of the contract itself.

iii. The power to tax or not to tax a particular activity and the determination of its incidence is that of the government. The committee's intention in drawing attention to these matters is to highlight the need to have clarity in contractual clauses and avoid uncertainty in taxation.

#### 4.24 Procedure for 'Make' Category (Chapter II of DPP 2013)

4.24.01 The Committee has discussed the requirements for achieving self-reliance in defence capability in Chapter 3. At a conceptual level, it has been brought out that it is necessary to enhance competence and capacity of Indian industry so that design, development, engineering and production of equipment / systems can be undertaken indigenously. For a vibrant and responsive 'Defence Industrial Base', it would be necessary to involve industry on long term basis as equal partner in creating and maintaining defence capability. The procedure for 'Make' category schemes forms the base of this partnership.

4.24.02 In earlier sections of this Chapter, we have addressed the acquisition processes which would enable the defence executive as well as the user Services to assess the existing capability and capacity of the Indian industry while deciding the category of a scheme. The basic principle is to meet the requirement of capability of the services, in the projected time frame, concurrent with development of industry competence. Decision flowcharts (Annexures I to IV to this chapter)

facilitate a critical evaluation of industry capability / capacity, and gaps therein, for each scheme. Linkage of procurement decisions to the long term plans of Services has also been highlighted. While for short / medium term requirements, 'Buy' and 'Buy & Make' categories can be chosen, for long term requirements, it would be essential to adopt 'Make' procedure for creating the projected defence capability. Therefore, It has been stressed that 'Make' decision must precede other categories for acquisition by at least one plan period (05 years) or longer depending upon the nature of capability sought, technologies involved and the existing capability / capacity of the Indian industry.

4.24.03 The key question that begs answer is, 'why has the 'Make' procedure not taken off?' There are barely 04 schemes underway. Is it the procedure or the Industry or the stakeholders which is holding up progress?

4.24.04 The Committee has interacted with all stakeholders to seek their views. Industry as well as individuals and institutions, all have forwarded their appreciation of the procedure as well as suggestions for simplifying the same and enabling wider participation of the industry. One common observation has been that the procedure in its present form addresses large projects. Eligibility criteria (public limited company, net worth, credit rating) exclude the innovative and agile industry space comprising the 'not so big' and Small & Medium Enterprises (SME).

4.24.05 The Committee has deliberated upon the provisions contained in the draft 'Make' procedure, prepared by MoD. In the light of feedback given by the stakeholders as well as industry, and the suggestions, we broadly agree with contours of the revised, simplified procedure. It aims to encompass a much larger spectrum of defence requirements from design, development and manufacture of major equipment to import substitution level innovations at assembly / sub-assembly level. The eligibility criteria for SMEs has been made liberal. Organisation for implementation is also sought to be strengthened with formation of Project Management Units (PMU) under SHQs to lend focus and continuity for 'Make' schemes, which by nature would be of long term.

4.24.06 The Committee reckons that in addition to the provisions proposed in draft 'Make' procedure, the following aspects may also be considered and incorporated.

#### **Eligibility Criteria for Issuing Expression of Interest (EoI)**

4.24.07 The draft proposal, stipulates two categories to be eligible for issuance of EoI;

- i Indian public limited companies (registered under the companies Act) having minimum credit rating equivalent to CRISIL / ICRA – "A", minimum net worth equivalent to 5% of the indicative cost of 'Make' scheme at AON stage or maximum Rs 1250 Cr and profitable financial record showing profits in at least three of the preceding five years.
- ii SMEs having credit rating "B++" and profitable financial record showing profits in one year of the preceding three years. Credit rating "B++" would underline the positive net worth, though specific criteria is not applied.

4.24.08 As a result of this stipulation, Companies which are not SMEs but fall short of the net worth criterion in the non-SME segment will become in-eligible even for getting an EoI. This is anomalous, particularly when this segment, and not the large player, is known the world

over to be more nimble footed in innovation. It is again this segment, which moves from the grant of licence phase to creation of production infrastructure in a short time, unlike big players in the field. A glance at the list of Indian industry who have participated in the offset program during the last five years will bear this observation out.

4.24.09 An additional point worth considering is the small base of license holders for defence products. As such, for any given 'Make' scheme, the number of vendors eligible for receiving the EoI is likely to be low, at least in the near future. The industry segment, which is in-between the large industry and SME space, would be able to participate in areas of their specialisation.

4.24.10 The net worth in the present stipulation is linked to the indicative cost of the 'Make' scheme, as accorded at the time of AoN. This could be disproportionate to the actual investment required for 'Development & Engineering' (D&E) cost of the product and its subsequent production to meet the delivery schedule. For example, in a scheme for Rs 100 Cr for quantity, say 50, actual product cost may be less than Rs 1.5 Cr per item ( balance projected cost would comprise of spares, test equipment, tools, documentation, services for installation / commissioning as the case may be, training, post-delivery warranty etc). D&E cost of such a product may be 4 to 8 times (i.e. 6 to 12 Cr) the product cost, depending upon its complexity and nature of development effort required. Therefore, companies with a net worth between 2 to 4 Cr, considering the requirement to contribute 20% of D&E cost and bear additional expenses for arranging working capital till stage payments of the balance 80% materialise. Therefore, linking the net worth to D&E cost appears a more pragmatic metric, in addition to credit rating & profitability record, for considering the financial capability of the company to participate in the scheme. Technological capability, in respect of the product, of the company would provide further differentiation among the participants.

4.24.11 Further, minimum credit rating equivalent to CRISIL / ICRA – 'B++' should be considered adequate for most of the schemes. These metrics could be tailored for each scheme, based on the outcome of the Feasibility Study, and submitted for consideration of the SCAPCHC / DPB / DAC at the time of seeking AON.

4.24.12 The industry have also proposed that any subsidiary company with a license / LOI for production of defence items should also be considered to be qualified as much as the parent company. For the purpose of safeguard, the parent company must provide corporate guarantees for the project with the response to EoI. This, the industry have stated, is borne out of necessity to avoid being in violation of the FDI norms for defence as the parent company may not be purely for defence and may have FII which may fluctuate. The companies also seek to have FDI in a broader context as it is not as restrictive as that for defence companies.

4.24.13 **Recommendation.** In view of the above, the Committee recommends that eligibility criteria, for participation at EoI stage, may be reviewed. Its linkage to D&E cost, rather than total cost of scheme at AON stage, may be considered. Minimum net worth equivalent to 40% of estimated D&E cost and credit rating equivalent to CRISIL / ICRA – 'B++' should be considered adequate for most of the schemes. A provision to consider higher net worth and / or credit rating may be provided, based on outcome of feasibility study or assessment of Integrated Project Management Team (IPMT) at the time of seeking AoN. The issue of permitting a subsidiary

company to qualify for participation in 'Make' schemes based on the strength of their parent company is altogether at a different plane. Legal issues may be looked into while considering to permit their participation purely based on the strength of their parent company.

4.24.14 **Indigenous Content.** The requirement of minimum 40% indigenous content, on cost basis, as defined in Appendix 'F' of Chapter I of DPP 2013, may be stipulated, in line with the requirements for Buy (Indian) category proposed at para 4.14.15 (ii) in this chapter. Lower or higher threshold could be considered by SCAPCHC / DPB / DAC, based on technology vis a vis availability of materials for each scheme and recommendations of IPMT.

4.24.15 **Linkage to Long Term Plans.** In para 8 of the draft procedure, it is stated that based on the feasibility report, HQIDS will compile a list of such 'Make' projects and will host on the website of MoD. We have discussed this aspect in section 4.4 of this chapter and agree with the proposal. The aim should be to pre-position the 'Make' schemes. Therefore, list of 'Make' projects as drawn from LTIPP, AoN for which is to be taken up during the next 2-3 years (envisaged fructification of scheme during next 5-8 years) should be shared with industry. There should be a separate 3 year roll on plan for 'Make' schemes. This should be reviewed each year and updated.

4.24.16 **Flowcharts.** It is recommended that process flow charts for category of schemes in Part B & Part C be also included in the procedure, as has been done in the case of schemes in Part A (i.e. Appendix-J). These would lend necessary clarity to the procedure.

4.24.17 **Incentivise the Industry.** The industry participating in 'Make' schemes of MoD may be given tax incentives by way of categorising their contribution (i.e. 20% of the development cost of the scheme) as being qualified for treatment as R&D expenditure. Further, 300% weighted tax deduction of such development cost in defence schemes should be considered against 200% given by Department of Science & Technology.

#### 4.25 **Procedure for Defence Shipbuilding (Chapter III, DPP 2013)**

4.25.01 The procedure for Defence shipbuilding, including submarines and yard crafts has been elaborated in Chapter III of DPP 2013. Considering the complex processes involved in design and construction of warships and submarines and extended period of 5-7 years for construction of first of class platform, during which procurement of a large number of equipment / weapons & sensors from numerous Indian and foreign suppliers is also undertaken, a separate chapter was included in DPP in 2013. The chapter comprise two major sections:-

- i. Section 'A'- Acquisition of Naval and Coast Guard ships, submarines and yard crafts by nomination to DPSUs.
- ii. Section 'B'- Acquisition of Naval and Coast Guard ships, submarines and yard crafts on competitive basis (DPSU/ Private Indian Shipyards / Foreign shipyards).

4.25.02 Some of the salient features of this procedure for shipbuilding which distinguish it from that outlined in Chapter 1 of DPP are as follows:-

- i The proposal for induction of the ships/ submarines is to be linked to the Maritime Capability Perspective Plan (MCPP) / Five Year Plan which stipulates the numbers and type of vessels required as well as time lines for such inductions.

- ii For Section 'A' - for cases falling under Section 'A' (nomination to DPSUs):-
  - a AON for a scheme is processed based on Outline Staff Requirements (OSRs) which form the basis on which the feasibility studies and concept design of the ship, identification of OEMs/ vendors for specific weapons, sensors, machinery and equipment are to be carried out.
  - b SHQ in consultation with DPP carry out a capacity assessment of shipyards and submit nomination of shipyard for the project for approval by DAC.
  - c IHQMOD (N) develop the concept / preliminary design and refine the OSRs into Preliminary Staff Requirements (PSRs). These are further converted into SQRs as the equipment / weapons & sensors / machinery etc. are also finalised.
  - d Budgetary cost obtained from shipyard, based on Build Strategy approved IHQMOD (N), forms the basis for further negotiations and finalisation of contract.
- iii For cases falling under Section 'B' (Competitive basis):-
  - a AON for the scheme is accorded based on PSRs and is valid for two years.
  - b For issue of RFP, IHQMOD (N) in consultation with DPP & MoD (Fin) carry out periodic assessment of shipyards and forward recommendations to DG (Acq) for issue of RFP.
  - c SQRs are finalised prior to issue of RFP.

4.25.03 Revised Shipbuilding procedure under DPP 2013 has been in operation since Jun 2013. A number of schemes (Training Ship, OPVs, LPD, Shallow water ASW Crafts etc.) have either been already contracted or are in progress. As such, it has been indicated by the stakeholders that bringing in a separate RFP schedule on shipbuilding in DPP 2013 has been a highly facilitating feature. Refinements have therefore been proposed by the stakeholders to fine tune the procedure further. These are enumerated in succeeding paragraphs.

#### 4.25.04 **IHQMOD (Navy)**

- i. Though a model RFP for processing shipbuilding cases has been stipulated in DPP-2013, there are no time lines indicated in Chapter III for competitive ship building. The time lines indicated in Chapter I are intended for procurement of equipment are referred while processing the ship acquisition cases. However, these time lines do not cater for the complexities involved in ship building cases.
- ii. **Capacity Assessment of Shipyards.** In accordance with the existing provision of DPP -2103, it is stipulated that IHQ MOD (Navy) in consultation with DPP and MoD (Fin) will carry out periodic capacity assessment of shipyards and forward recommendations to DG (Acq) for issue of RFP. The existing provisions do not clearly bring out the role of MoD and MoD (Fin) in capacity assessment of the shipyards and the task is generally entrusted with IHQ MOD (Navy). It has therefore been proposed to amend the subject clause as IHQMOD (Navy) / INCG along with the Reps of DDP and MoD (Fin) will carry out periodic capacity assessment of shipyards and forward

recommendations to DG (Acq) for issue of RFP. Periodicity of assessment would be two years or earlier for specific cases as decided by IHQ MOD (N)/ ICG based on reports of adverse financial / capacity issues. It has also been opined that Capacity Assessment, prior to accord of AON to arrive at correct categorisation would be more prudent than the current DPP stipulation at RFP stage.

iii. Equipment in most shipbuilding cases (especially submarines) is customised in accordance with the platform design and does not exist in the required configuration for conduct of FET. This creates needless delays in the acquisition process since vendors are not ready to incur expenditure on developing a customised system only for the purpose of trials. It is, therefore, recommended that provision of according special dispensation on case to case basis for FET of equipment being conducted in respect of ship-building cases in the DPP could be examined by the Committee.

iv. **OFB Supplied Items - Cost Increase with Approval of CFA.** Ordnance Factories administered by OFB operate on 'unit rate' basis which are promulgated annually. They do not provide commercial bid for deliveries to be made in future years. It has been brought out by service HQs that this leads to uncertain escalations in cost of project in which OFB is approached by the Main Contractor for supply of Buyer Nominated Equipment (BNE). Suitable provisions need to be made in contract to cater for such cost escalations attributable to a department in MOD.

4.25.05 **HQ Coast Guard.**

- i MoD and MoD (Fin) do not participate in capacity assessment and vendor selection process for ship building. INCG generally utilise the reports prepared by IHQ MoD (Navy).
- ii A clause for Builder's Risk Insurance of platforms under construction be included in the contracts.

4.25.06 **MoD/DDP – DPSU Shipyards.**

- i A separate model contract for ship building be drawn and promulgated.
- ii Ship design should be frozen along with contract conclusion. IHQ MOD (Navy) adopt a 'telescopic' design approach.
- iii For Section 'B' (competitive) cases, shipyards competing in a scheme have to choose their own design/ design partners. It would be pragmatic if IHQMOD (Navy) first chooses a design and then seek bids from competing shipyards. Such a step would provide a common technical reference for all participants.

4.25.06 The Committee has deliberated upon the views/ suggestions enumerated above. The Committee also reckoned that warship/ submarine construction has been undertaken by Defence shipyards. Programs for construction of Aircraft carrier through Cochin Shipyard and construction of non-combatants such as offshore Patrol Vessels (OPVs), Cadet Training ship and Fast Interceptor Crafts (FICs) by private Indian shipyards have been taken up during the last 8 – 10 years, on account of constraints of capacity / infrastructure of DPSUs as well as limited scope for expansion of their capacity by virtue of their geographical locations. Keeping in view the future capability requirements of Indian Navy as well as Coast Guard, it has been

appreciated that additionally required capacity can come from the private Indian shipbuilding industry. The existing capacity in the private Indian shipbuilding is also needed to be gainfully utilised. The Committee has discussed the concept of ‘Strategic Partnerships’ with private industry in Chapter 3. One of the potential segments for establishing Strategic Partnerships is warship / submarine construction, as explained at Annexure I to Chapter 3.

4.25.07 **Recommendations.** In the light of above deliberations, the Committee recommends the following:-

- i The procedure for regular capacity assessment of Indian shipyards by IHQMOD (N) be streamlined and promulgated. The concept of Strategic Partners for major projects such as Landing Platform Dock (LPD), Aircraft Carrier and Submarines needs to be adopted.
- ii Time lines for ship building cases be also drawn up and included in Chapter III of DPP. It is considered essential that the time period between AoN and issue of RFP should be maintained as it is and if possible reduced to 12 – 18 months for Section ‘B’ cases.
- iii Model contract documents for shipbuilding, both for Section ‘A’ as well as Section ‘B’, cases may be drawn up and promulgated as guideline document for clarity as well as consistency. The issue of ‘Builders Risk Insurance’ of platforms under construction in private shipyards be also considered for inclusion in the ship building contracts.
- iv It is considered a sound policy for the service to first select a design and then seek bids for construction of the platform. Such a step may, however, restrict the shipyard’s involvement during evaluation/ selection of design. Therefore, such a provision can be adopted for ‘Strategic Partners’ and involve them fully during the evaluation / selection of the design and subsequent negotiations for design consultancy or ToT.
- v **OFB Supplied Items.** Suitable provisions need to be made in contract to cater for cost escalations attributable to BNE sourced from OFB

#### 4.09 **Conclusion**

In this Chapter, the Committee has analysed the existing provisions of DPP 2013 and critically examined the functions in the acquisition process listed at para 12 of Chapter I of DPP 2013. The effort has been; (i) to consider the efficacy of these functions to produce outcomes commensurate with their intended purpose; (ii) to analyse the process associated with each function for its integrity and comprehensiveness; and (iii) to enhance the application of the relevant functions for assessment of Indian industry’s technology base and competence to participate in defence production. Based on this, the Committee has recommended suitable changes so that Defence Procurement Procedure can be aligned to fulfil the ‘Make in India’ concept, which we have formulated earlier in Chapter 3. The proposed changes will also facilitate to de-bottleneck the acquisition process to the extent practical, without compromising on the due diligence that each stage deserves. The recommendations pertaining to establishing “Defining Attribute” of each of the categories for defence acquisition, stipulating a structured process for ‘categorisation’ through detailed decision flow charts to build on the existing provision of higher priority for Buy (Indian)

and Buy & Make (Indian) categories and linking of acquisition process closely with the long term plans; are aimed at re-orienting the decision making processes to create a deliberate and measured tilt towards Indian industry. Capability requirements of the Services and the time lines for their induction have been maintained as 'non-negotiable' parameters of the acquisition process.

#### 4.10 **The Next Chapter**

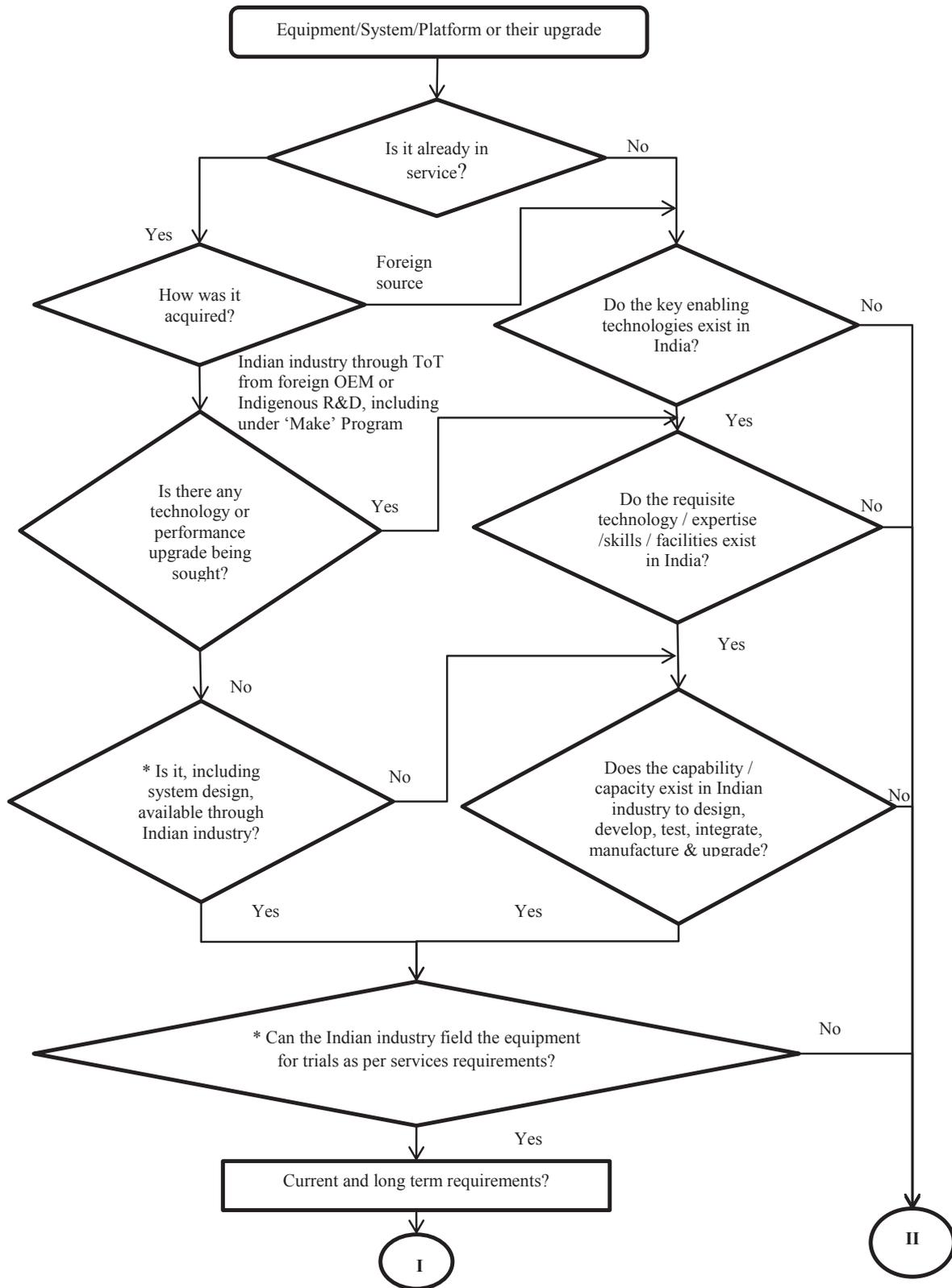
A procedure is an instrument to implement a specific policy or a set of policies. In turn, it also generates feedback for the policies and institutions that support it. Therefore, as it evolves, the concerned policies and structure & role of the institutions also need to be reviewed.

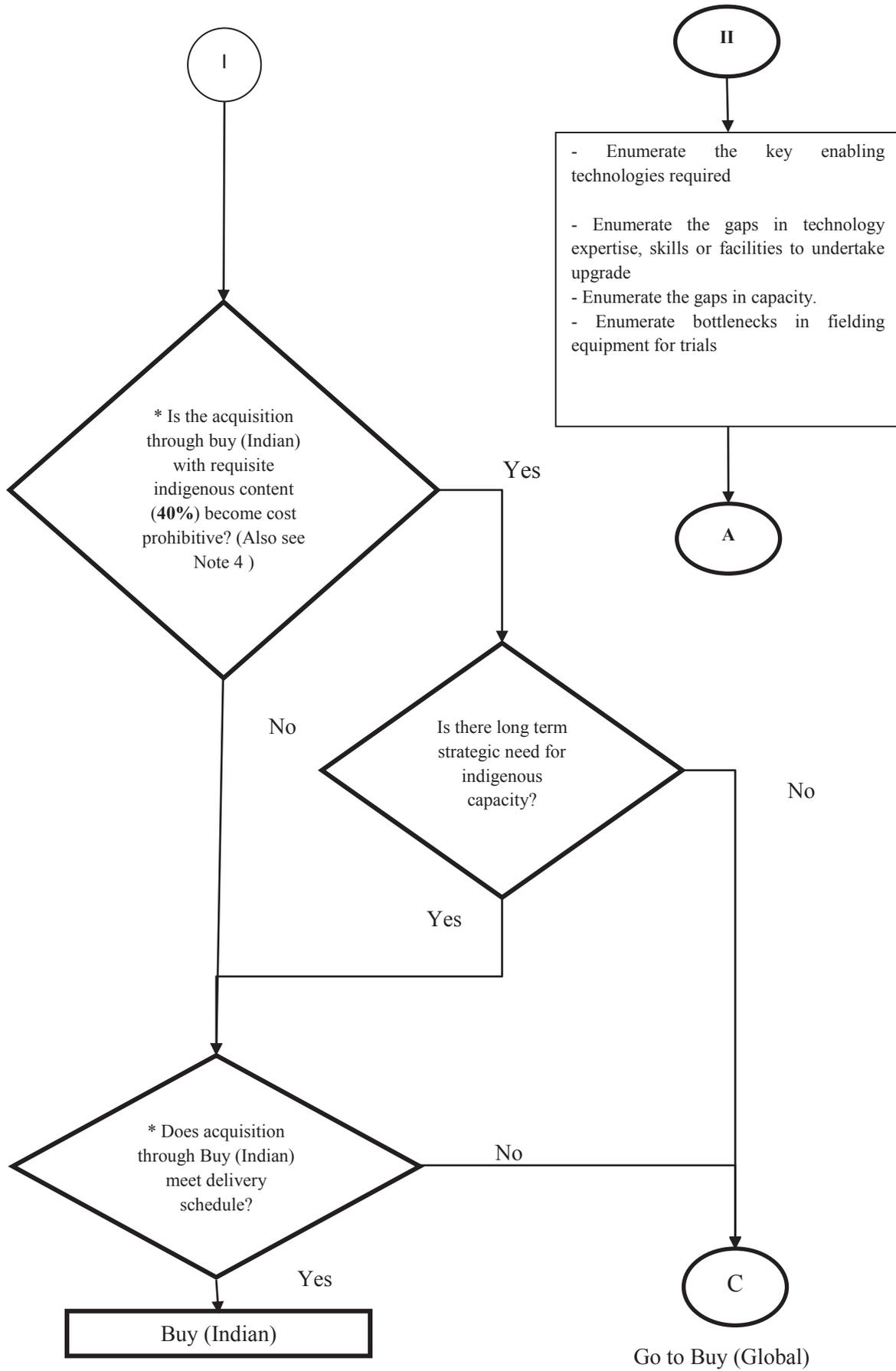
In the next chapter, we will have elaborated 'Trust and Oversight' as important characteristic attribute of the defence acquisition set up.

**Annexure-I**  
**(Refers to para 4.8.07)**

**DECISION FLOW CHART-CATEGORISATION**

**BUY(INDIAN)**



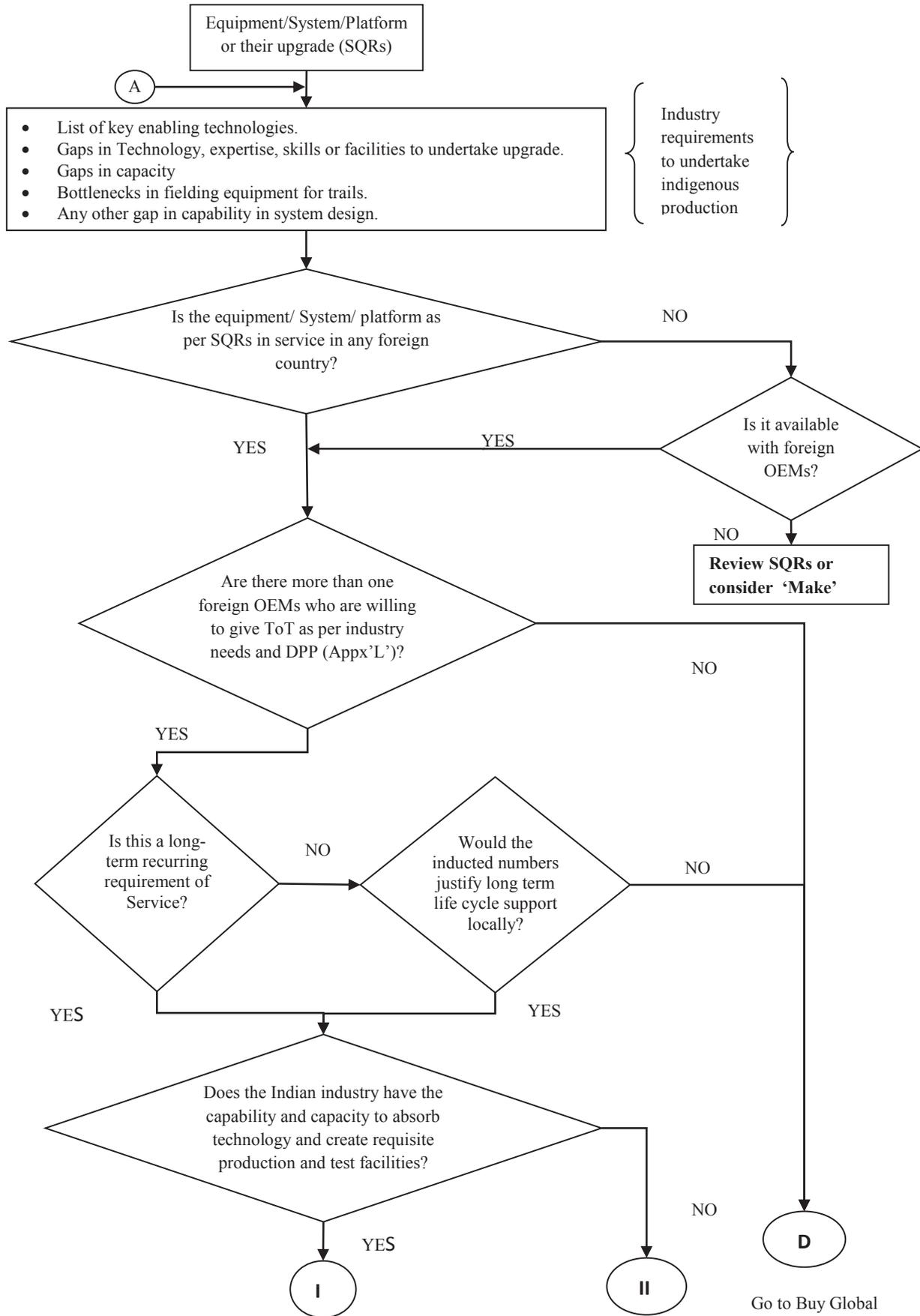


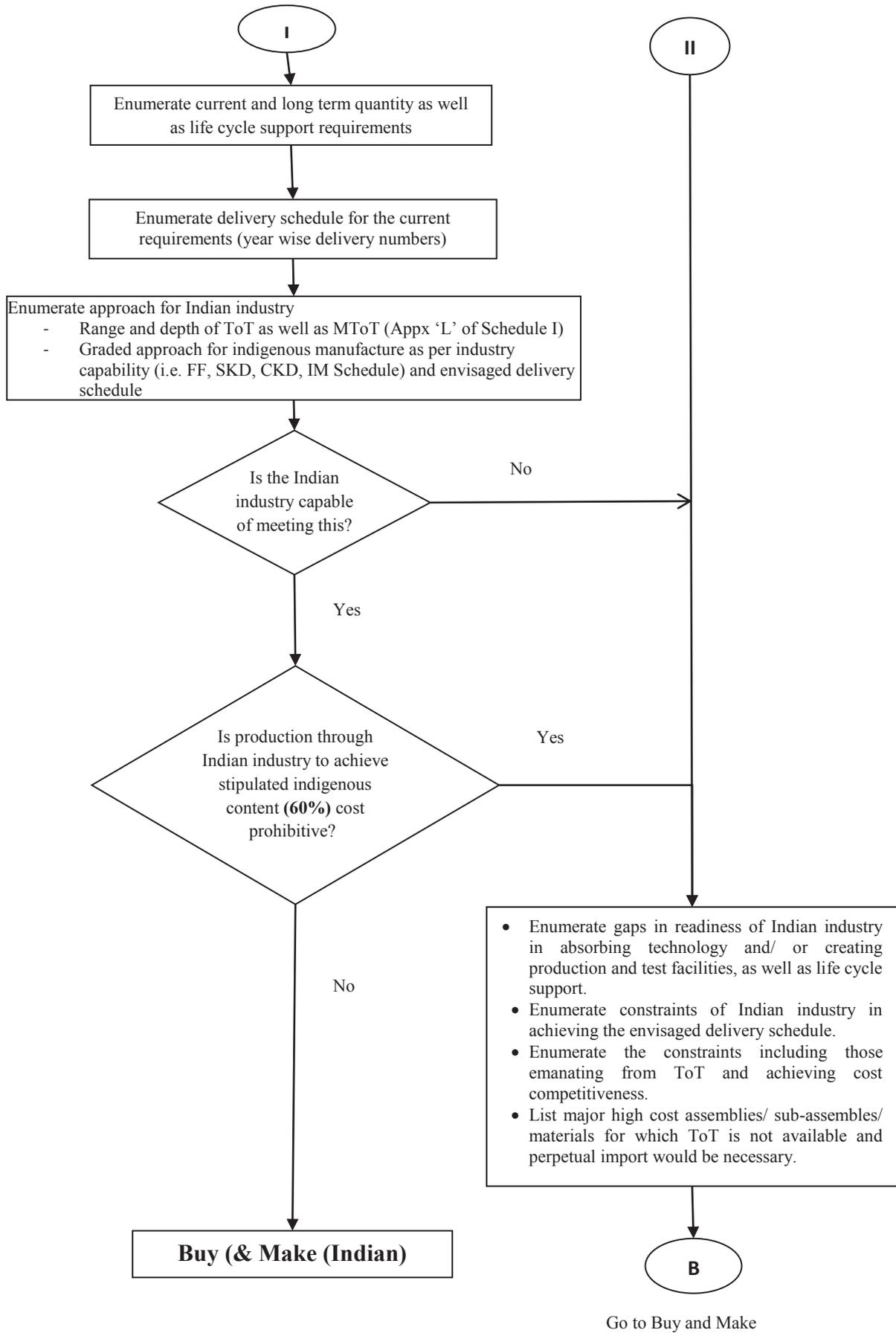
**Notes:**

1. Definition – Buy (Indian)
    - (a) Equipment /System/Platform which have already been sourced from Indian industry through ToT from foreign OEM, indigenous R&D or under ‘Make’ procedure. Design would be indigenous.
    - (b) As in (a) above and technology/performance upgrade can also be provided by Indian industry.
    - (c) New Equipment/System/Platform not available in India, but Indian industry (vendor) are considered capable of fielding it for trial evaluation as per RFP schedule (This may be feasible for small/not very complex standalone equipment).
    - (d) New Equipment/System/Platform though not available in service, but available in Indian industry for some other sector.
    - (e) Indigenous manufacture with stipulated indigenous content (40%) on cost basis would not be cost prohibitive and long term requirements exist.
  2. If the equipment/system/platform has been earlier produced by the Indian industry through ToT from foreign OEM or indigenous R&D or ‘Make’ procedure, procurement from the established source (Public or private) may be undertaken on single vendor basis. In case of single source, price validation through access to books of accounts of the vendor would be required.
  3. In case delivery schedule cannot be met by a single source, splitting required quantity between multiple sources may be considered (if acceptable to service).
  4. If in the previous procurement of the similar product, a higher IC level was offered, then the IC threshold should be accordingly increased.
- \* Not relevant for equipment/system/platform earlier produced under ‘Make’ program.

Annexure – II  
(Refers to para 4.8.07)

**DECISION FLOW CHART-CATEGORISATION  
BUY & MAKE (INDIAN)**





Notes:-

1. Definition – Buy & Make (Indian)

(a) Buy (Indian) category has been ruled out.

(b) Requirements of Indian industry to undertake indigenous manufacture (phased manner) have been collated as follows:-

- Key enabling technologies
- Gaps in technology, expertise, skills or facilities to undertake upgrade
- Bottlenecks in fielding the equipment for trials
- Any other gap in system design capability

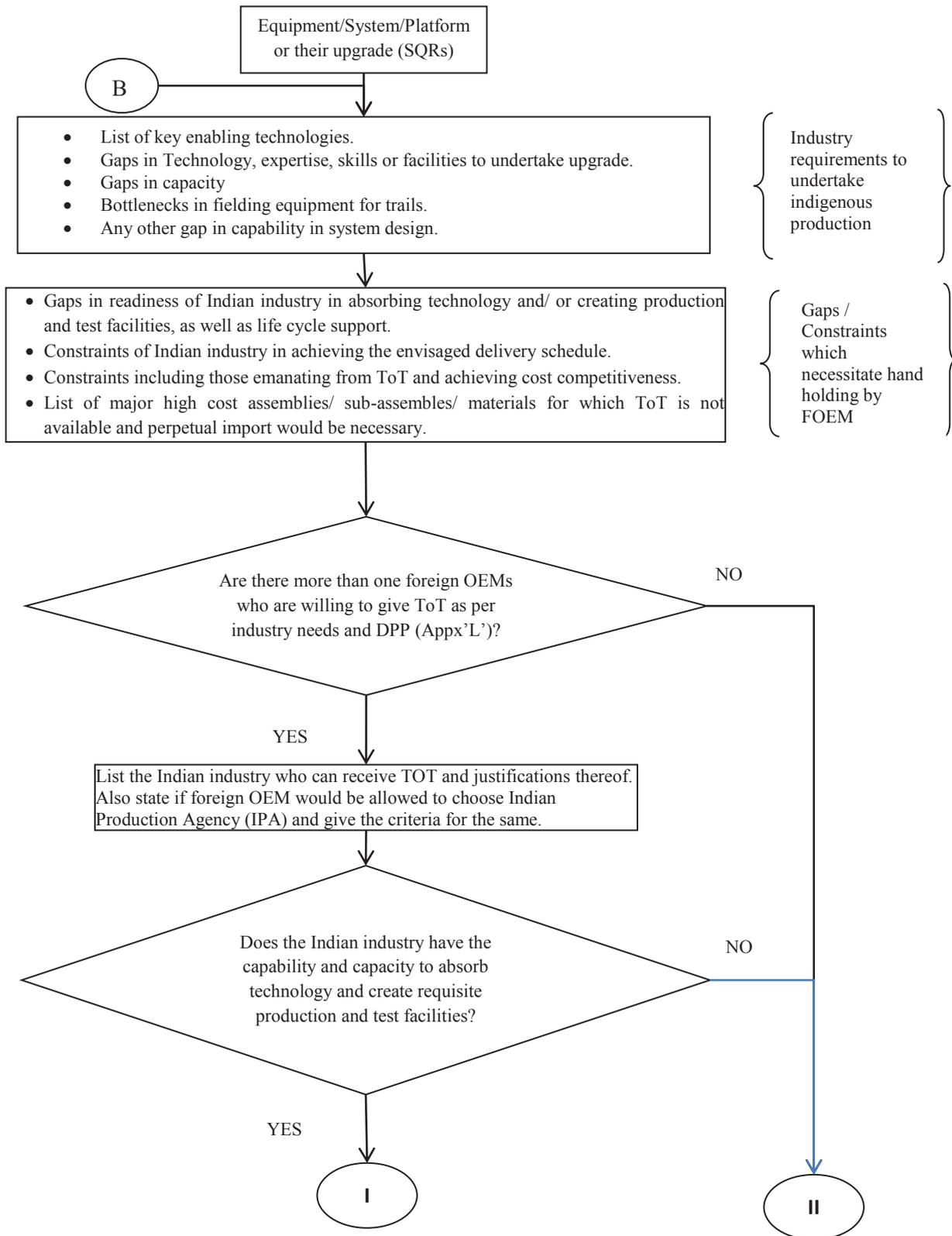
(c) The above short falls can be overcome through ToT from foreign OEMs.

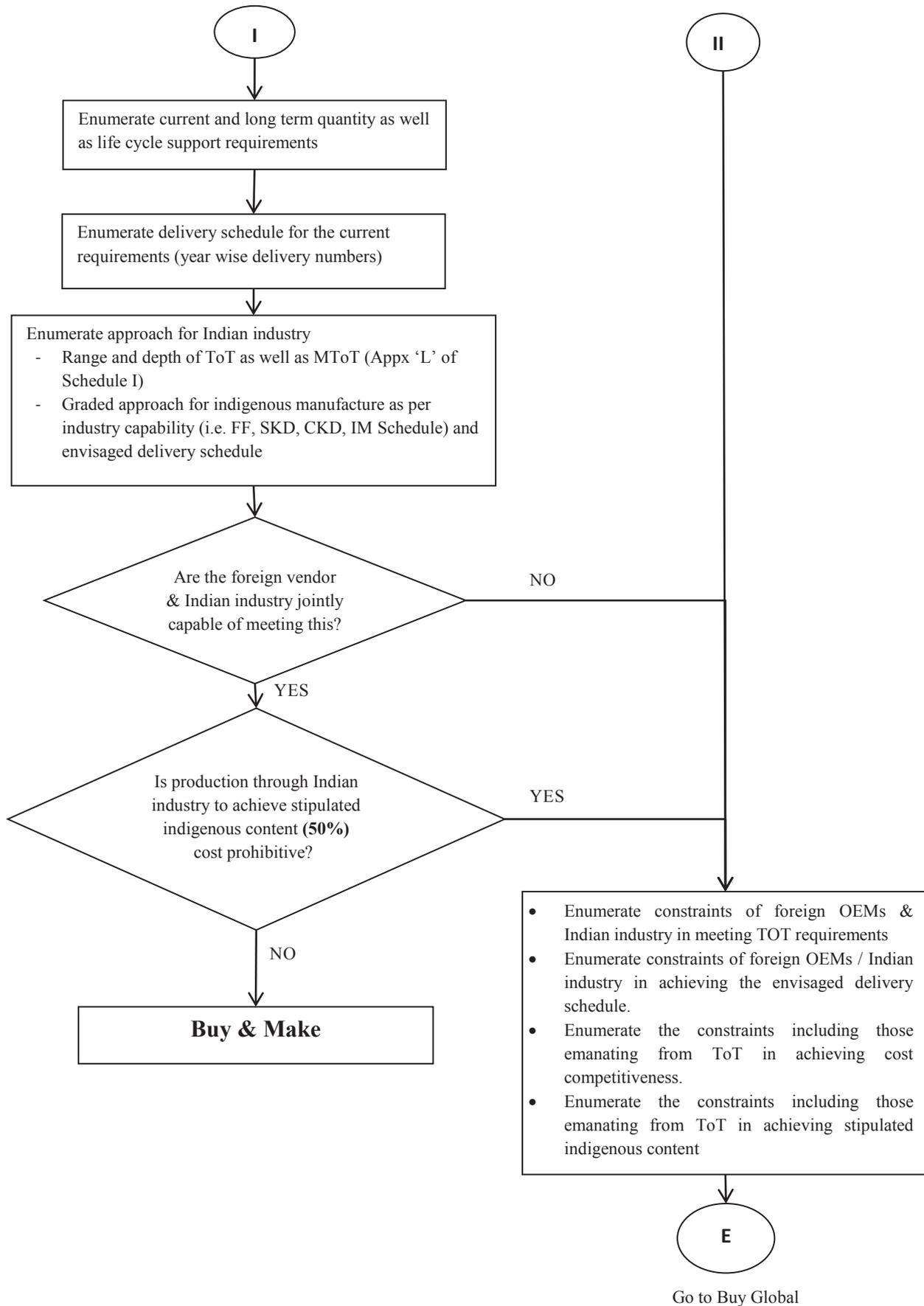
(d) ToT should be comprehensive and not just licenced production. ToT may cover regional / global exports as well as buy back arrangements by the licensor.

2. If the equipment / system /platform has earlier been produced by the Indian industry through ToT, upgrade should also be undertaken by the same entity until the identified capability gaps necessitate another ToT from the OEM.

**Annexure – III  
(Refers to para 4.8.07)**

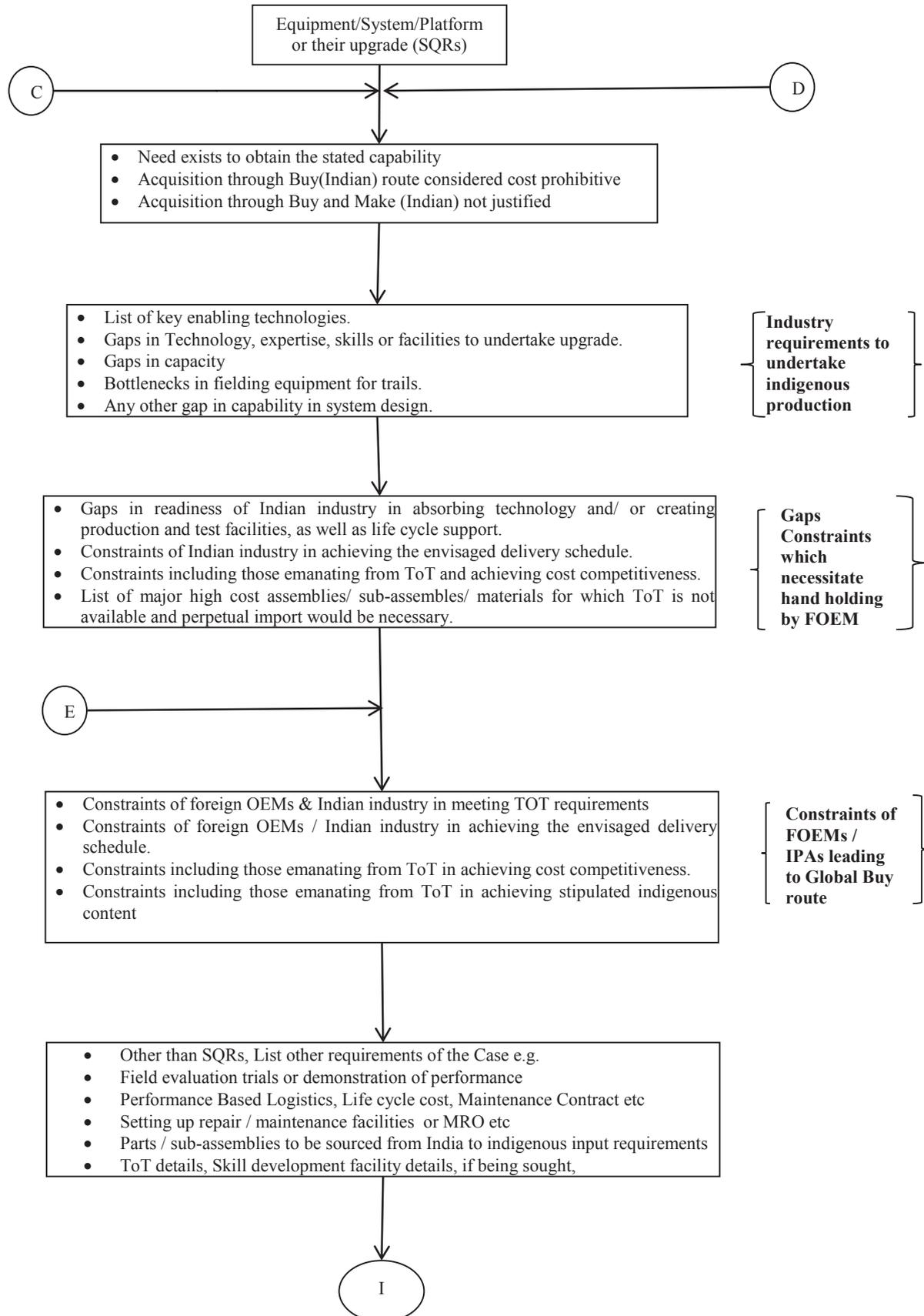
**DECISION FLOW CHART-CATEGORISATION  
BUY & MAKE**

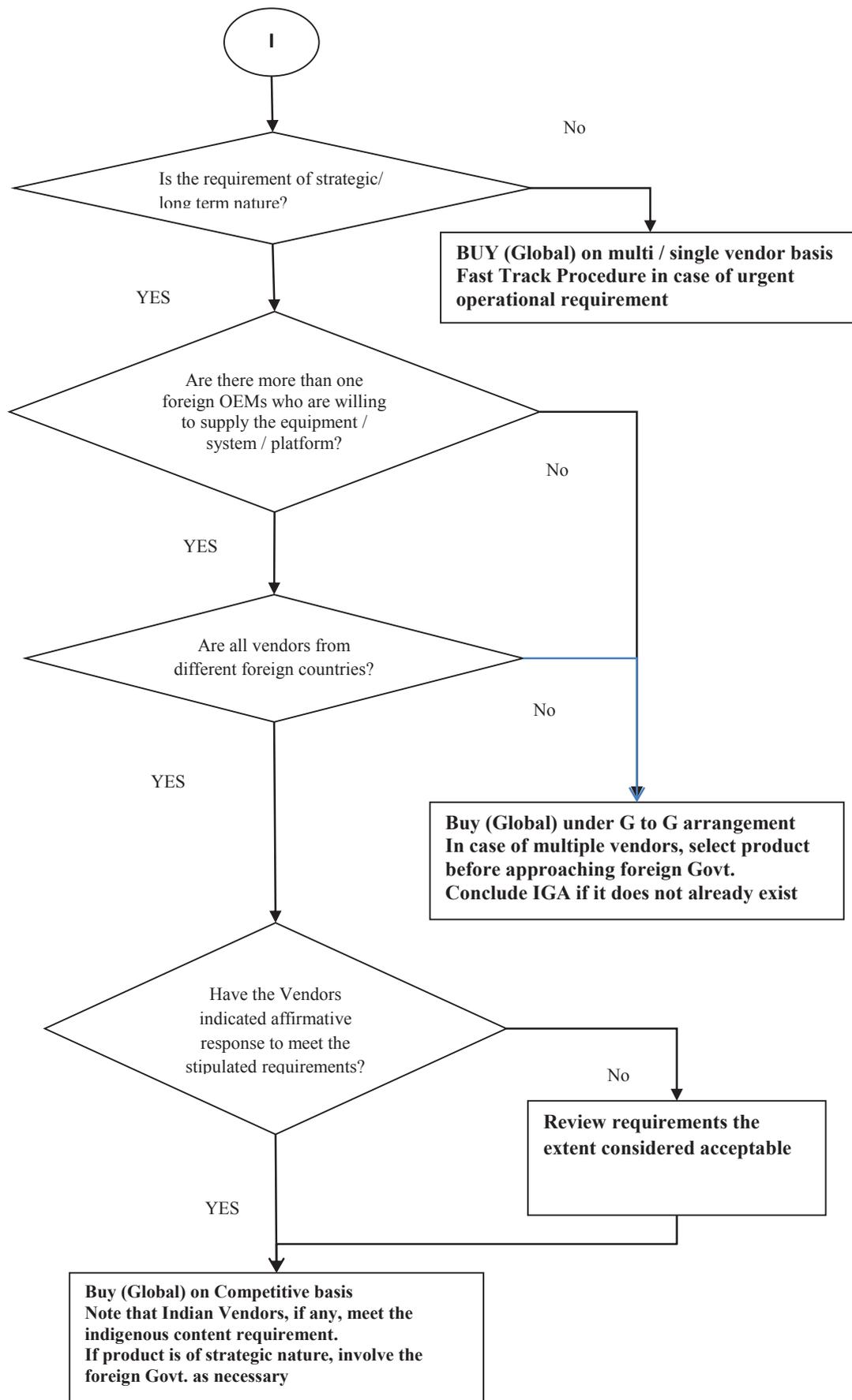




Notes:-

1. Definition – Buy & Make
  - (a) Buy (Indian) as well as Buy & Make Indian categories have been ruled out.
  - (b) Requirements of Indian industry to undertake indigenous manufacture (phased manner)
    - Key enabling technologies
    - Gaps in technology, expertise, skills or facilities to undertake upgrade
    - Bottlenecks in fielding the equipment for trials
    - Any other gap in system design capability
  - (c) Inabilities / constraints of Indian industry under Buy & Make (Indian)
    - Constraints of foreign OEMs & Indian industry in meeting TOT requirements
    - Constraints of foreign OEMs / Indian industry in achieving the envisaged delivery schedule.
    - Constraints including those emanating from ToT in achieving cost competitiveness.
    - Constraints including those emanating from ToT in achieving stipulated indigenous content
  - (d) The above short falls can be overcome through ToT from foreign OEMs.
  - (e) ToT should be comprehensive and not just licenced production. ToT may cover regional / global exports as well as buy back arrangements by the licensor. OEM shall be responsible for warranty till the last delivery by Indian PA.
2. Indian Production Agencies should be selected based on their core competence and capability to absorb the ToT and deliver the equipment / system / platform as per schedule and with stipulated indigenous content and competitive cost. If the foreign OEMs can be permitted to select their Indian PA, qualifying criteria for the same should also be given.
3. The foreign OEM must be responsible for ensuring successful absorption of TOT by Indian PA, meeting the indigenous manufacturing program and provide warranty for equipment / system / platform manufactured by the IPA.

**DECISION FLOW CHART-CATEGORISATION**  
**BUY (GLOBAL)**



Notes:-

Definition – Buy (Global)

- (a) Buy (Indian), Buy & Make (Indian) and Buy & Make categories have been ruled out.
- (b) Need to acquire the stated capability including timeframe and long term support requirements have been established
- (c) Ongoing DRDO programs and “Make” programs (if already initiated or in progress) cannot meet the times lines indicated for induction of capability. Delay may adversely affect other ongoing major programs e.g. warship / submarine construction etc.
- (d) If the requirement is of strategic and / or of long term nature, necessary programs for indigenous development and production are planned to be initiated.

## Annexure V (Refers to para 4.16.06 Chapter 4)

### ICT Issues for Consideration: Aligned with the Proposed Amendment to DPM 2009

#### 1.1 Special Procedure for ICT Project Management

1.1.01 **Pre-qualification Criteria**. Provisions are suggested to be included for pre-qualification of Vendors / Systems Integrators / Consultants for all high value complex ICT projects based on professional competence, past achievements, turnover, financial position etc. The criteria may initially be imbibed from those being used by DIT in their Notifications Inviting Expression of Interest for empanelment. In addition, the CVC guidelines contained in O.M. No. 12-02-1-CTE-6 dated 17th Dec 2002 and clarification issued vide OM No 12-02-1-CTE-6 dt 07 May 2004 to suitably modify these guidelines in the case of specialised jobs/ works may be taken into account. These prescribe for objective pre-qualification criteria based on the capability, resources and financial standing of the firm, required for performance of a particular contract.

1.1.02 **Change Management**. The Committee recommends that special provisions for change management in ICT Projects be provided in the RFP to allow for higher versions / upgrades of systems to be considered, without the need to amend / re-issue the RFP.

1.1.03 **Amendment to RFP**. While agreeing that change / upgradation in specifications of Hardware / Software prior to issue of RFP may be approved by Service HQs in consultation with the respective Tech Directorates, any amendment (except minor corrections) if required after issue of the RFP for changes that may have financial implications, and also for such changes that take place after placement of contract entailing financial implications, amendment will be issued in consultation with the integrated finance and MoD, as per delegation of financial powers. A minimum threshold may be provided in the contract that for any change in scope of work upto 2% of the contract value (or any other ceiling pre-decided), no additional charges would be payable and beyond that prorata amount calculated, as per rates / indices provided for various items/ services in the contract, would be applicable.

1.1.04 **Engagement of System Integrators (SIs)**. The Committee recommends that in respect of ICT Project the empanelment of SIs, for various types of Logistics Management Projects, Enterprise-wide ERP Solutions and Mission Mode Projects etc of Defence Service, should be done by the Services/Procurement Branches/Directorates, based on objective and standardised pre-qualification criteria, by calling for Expression of Interest for empanelment through wide publicity. Once the SI's are empanelled, Service HQs could directly issue RFP to the empanelled SI's and follow the fast-track process proposed to be introduced.

1.1.05 **Combined Quality-cum-Cost-Based Selection (COCBS)**. It was proposed by NASSCOM that in case of high tech ICT Projects where the quality of the outcome is of utmost importance, selection criteria based on L1/T1 concept (i.e. combined quality-cum-cost basis) should be adopted, as being followed in Department of IT. Further, the detailed matrix

for computing the points for various attributes (technical and business-related criteria) in the techno-commercial bid and for evaluation of the price bid would need to be indicated upfront in the RFP to provide complete transparency. TEC would award points to individual bids based on the criteria indicated in the RFP. The Committee endorses the examination of this suggestion and recommends that when CQCBS mode of evaluation is indicated, the award criteria in the RFP would indicate that the contract would be placed on the most competitive bidder (instead of lowest bidder) arrived at on the basis of the weighted matrix given in the RFP.

1.1.06 **Security Concerns.** There is a need to involve authorities from DIT/CERTIN/DRDO etc while drawing up the e-governance norms for the Department of Defence in order to ensure that security issue are taken care of while selecting the standardised e-procurement platform and allied software development platforms for Defence usage.

1.1.07 **Modification of Certain Clauses of Contract.** During the interaction with industry it was brought out that in case of ICT Projects of a developmental nature, requiring integration by the software development agency there are a number of indeterminable parameters, as the final deliverable is often still a concept at the RFP stage. Thus, there is a need to tone down the severity of some of the standard clauses and make the buyer and seller equally responsible for their respective duties, especially for technology and services. Some of the clauses which are suggested to be considered for modification in this context are Risk & Expense Purchase, Fall clause, Consequential damages and LD clause.

1.1.08 **Additional Clauses.** Industry reps suggested that there is a need to clearly define the patent and intellectual Property Rights (IPR) of the supplier, buyer and the third party and for addition of certain standard warranty exceptions and exclusions that come with the hardware and the software from the Supplier/OEM/ their vendors. There is a also a strong case for introducing a new clause, namely Limitation of Liability (LoL) Clause which defines and caps the liability of the vendor to the total value of the contract placed on him. The systems/mechanisms prevailing on other Ministries/Departments were examined by the Committee on DPM 2009 revision, such as, Ministry of Finance, Ministry of Corporate Affairs, DIETY etc with regard to the changes sought. It is suggested that for ICT Projects a provision be made to include these clauses, wherever necessary, to provide greater clarity about the rights and obligations of the parties to the Contract. There is also a need to include a new clause (LoL) capping the liability of the vendors/SIs, to the total value of the contract concluded with them.



## **TRUST AND OVERSIGHT**

“The moment there is suspicion about a person’s motives, everything he does becomes tainted.”

Mahatma Gandhi



## Chapter 5

### TRUST AND OVERSIGHT

#### 5.1 Building Trust

5.1.01 In chapter 1 we had concluded that an environment should be built in which decisions can be taken with courage. Courageous acts are based on trust, and over the years trust has taken a beating. Worldwide the Sarbanes-Oxley type of legislation dominates. In the corporate sector, CEO's and auditors rule the roost. People developers and strategic minded HR practitioners have almost been forgotten. Our latest Companies Act also reflects this suspicion. Cries from industry that it is making things unworkable have already led to amendments in the Act and more are contemplated. Trust means confidence and the opposite is suspicion. It is only with trust that results will be achieved.

5.1.02 The focus of reforms in the DPP has been on how to meet the requirements of the Armed Forces in terms of timeliness, quality and cost. The aspect of "corruption" in the process was not directly addressed except by introducing the concept of 'Integrity Pacts' (advocated by Transparency International a non- Government body). These pacts are to be entered into between buyers and sellers even before the bid and remain valid till the end of the contract if entered into. These were to exercise a moral binding on both parties but had legally enforceable features to deal with effects of use of agents; cases of past corrupt practices emerging in respect of previous contracts no matter in which country they were entered into; and of corrupt practices during and related to the present contract.

5.1.03 It was always felt that combating corruption was a matter for criminal investigation and that vigilance procedures and laws would take care of such aberrations. In the procedures themselves the element of subjectivity was sought to be reduced and difficult decisions were to be taken by a collegiate mechanism. However, from time to time the system is infiltrated by corrupt forces which jeopardise the entire procurement process and cast a shadow on the integrity of all those within its domain. It becomes necessary therefore to address the dilemma of those who are trained and prepared to take decisions in the overall interests of the defence preparedness of the country, but who would not be prepared to do so in an atmosphere vitiated by allegations of corruption wherein everyone in the hierarchy is looked at with suspicion. Measures of confidence building should be institutionalised so that the individual officers are protected from the buffeting that they receive during these occasions. In short, the system should enable decision makers to approach their work without fear in the interest of defence preparedness exhibiting courage on departmental files of a nature approximating that of the soldier at the borders.

#### 5.2 Building Confidence Through Oversight

5.2.01 Broadly speaking, the entire process involves decisions of (a) technical feasibility of a project or parameters of an equipment; and (b) commercial terms and conditions and ultimate costs (including life time costs) of that project / product. Safety nets should address both these aspects. Three situations can arise:-

- i. Even during the process of taking the technical / or commercial decision a point may arise that it is not a complete fit with the prescribed procedure. It is uncertain that a complete fit is feasible and that retracting the path could be tried but it would lead to unacceptable delays. The tendency is to avoid acceptance of deviations. Extant procedures provide for many such matters to be moved up to the highest levels of the hierarchy, even if it could have been decided at stages below that, thus adding to time and cost overruns.
- ii. The CNC has concluded and the contract is ready to be signed. In the present atmosphere, the tendency is to try and visualise all manner of wrong doing imaginary or otherwise. Sometimes, the vetting authorities themselves raise extraneous questions not required by the procedures. A sub-set of this could be that the Technical Evaluation has been completed and there is need to move to the next phase viz. Commercial evaluation.
- iii. Contract has been entered into but difficulties arise at post contract stages in implementation and changes in contract provisions need to be made.

5.2.02 For situations at (i) above (contract in progress), we recommend a system of Ombudsman (single member; eminent persons with technical / commercial / legal expertise and experience) before whom the issue can be raised. This should be done only in cases where the procurement hierarchy itself would be inclined to take a decision but requires the safety net. Such a standing list approved by Raksha Mantri should be announced and be available in the public domain. The appointment should make it clear that their role is purely advisory in nature. The process should not take more than a week and the advice of the Ombudsman would either be in favour or against the proposal. A written or speaking order would be passed by the Ombudsman, who would normally render his views after a presentation is made before him. Having gone through the 'Safety net', the final decision could be taken by Committees or individuals in the hierarchy.

5.2.03 For situations at (ii) (contract negotiations completed) select cases can be referred by RM or Defence Secretary before a committee with a mandate to advise on a "Go-No GO" basis. A Technical oversight committee already exists and works under the present DPP for the sub-set mentioned in situations where technical evaluation is over and the commercial phase is to begin. This oversight committee needs to remain in operation. DPP 2002 had provided for such and Eminent Persons Group (EPG). An extract of the provisions is reproduced.

- i. **Para 41 of DPP 2002.** An Eminent Persons group (EPG) consisting of retired officials (around twelve in number), having experience and expertise in Defence procurement would be constituted by RM on recommendations from the Defence Secretary and Secretary Defence (Finance). Defence Secretary in consultation with Secretary Defence (Finance), would nominate a panel of three persons from the EPG to provide pre-contractual "process and Procedures Audit" for all acquisition proposals in excess of Rs 300 Crores and any other case recommended by the DPB. The panel so constituted will examine all prescribed processes and procedures have been followed in the course of commercial negotiations.
- ii. **Para 42 of DPP 2002.** The panel of the EPG will commence its evaluation after contractual negotiations have been finalised but before the contract has been

concluded. The panel will have to give its ruling, based on a majority decision, within 30 days and absence of a response will be deemed to be acceptance. The time limit of 30 days shall not be extended on any ground.

**iii. Para 43 of DPP 2002.** Government will only finalise the contract after the go ahead by the panel of the EPG or after a lapse of the 30 days period given to it. Should the panel have queries, these will be clarified by the CNC. Should the panel of EPG deny consent, the decision on termination of negotiations will be taken by the CFA.

**iv. Para 44 of DPP 2002.** Secretary Defence (Finance) will set up a special “internal audit team” from the internal resources of the Controller General of Defence Accounts’ (CGDA) to assist the EPG in its functioning. The team leader will be responsible to the head of the panel and render support to it in its functioning by assisting in the audit of processes and procedures. Pending the constitution of such an “Internal audit team” by Secretary(Def/Fin) the EPG will be assisted by the Acquisition Wing.

5.2.04 We recommend creation of an EPG for considering cases referred by RM or Defence Secretary or other CFAs in Service Headquarters.

5.2.05 For situation at (iii) above (contract implementation in progress), we recommend the same institution i.e. Ombudsman. The rationale would still apply. Here instead of issues arising at the negotiation stage, issues relating to implementation may arise. This may require referring back to pre contract procedures. The primary aim should be to remove difficulties. These may arise not only for the main purchase contract but also the offset contracts. In chapter 4, we have highlighted the unintended effects of liberalisation of the offset guidelines since 2005. Procedural bottlenecks have arisen in almost all contracts and implementation is a matter of great concern. We have recommended that a liberal interpretation be made and offset contracts signed earlier than 2013 be vetted to remove bottlenecks. This is one of the major demands of industry. The Ombudsman could be of great help in removing such bottlenecks.

5.2.06 In the non-government commercial sector most well managed companies follow the system of risk management, and concurrent audit, many even taking recourse to outside auditors for the purpose. This enables them to look into all aspects of commercial propriety including issues of best value for money whilst contracts are being negotiated. The audit conducted by the Comptroller and Auditor General (C & AG) is post audit. It is expected that all financial transactions will take into account earlier observations of the C & AG. This, however, is of little solace to those who have to take important decisions involving large sums of money. The probability of bona fide mistakes being committed always exists. It is therefore suggested that concurrent / pre audit be done by the C & AG of major defence negotiations and contracts. Chapter V of the Constitution of India lays down no bar on the conduct of pre or concurrent audit, and provides for Parliament Legislation to confer powers on the C & AG for such purpose. It is heartening to note that in its Second Report the Standing Committee on Defence (Sixteenth Lok Sabha) on ‘Demands for Grants of the Ministry of Defence’ for the year 2014-15 on the general Defence Budget (Demand No. 20, 21 and 27) which was presented to the Lok Sabha and the Rajya Sabha on 22nd December 2014 has recommended (Part II Recommendation No 15) that the C & AG do conduct pre audit of defence procurement.

### 5.3 The Next Chapter

5.3.01 The Procurement Procedure is the highway along which the Armed Forces would have a smooth ride on the way to their objectives. They would be riding on the broad backs of the Industry and a host of other entities which will join and exit the highway, adding value to it at various stages. However, there is an environment beyond the highway, which would also impact upon it, in which other government departments in addition to the Ministry of Defence would also have major roles to play. In our last and concluding chapter hence, we go beyond the DPP and examine some of the issues which are beyond procedure.

## **BEYOND DPP**

“Coming together is a beginning; keeping together is progress; working together is success.”

Henry Ford



## CHAPTER 6

### BEYOND DPP

#### 6.1 Introduction.

6.1.01 In Chapter 1, we have derived the distinctive features of defence materiel and the historical perspective of the evolution of Indian defence organisation to come to terms with these. Ever-changing and growing needs of the Services; emergent from the evolving external and internal security challenges as well as technological advancements in each segment of military capability; continue to demand that the defence organisation maintains a dynamic and pro-active stance.

6.1.02 A snapshot of global as well as Indian defence industry has been presented in Chapter 2. It highlights the characteristic envelope of global defence industry. This envelope comprises of the Governments' monopsony and its controls, denial regimes, consolidation of defence industry in every major country / region, and dominance of global arms trade by a handful of companies. India, its defence industry being largely dominated by DPSUs / OFB, has emerged as one of the largest market / opportunity for the next 10 years, in view of her stated needs to equip her Armed forces with enhanced capabilities as well as to up-grade their existing capabilities. There is as such, an imminent necessity for launching the 'third phase' of reforms, with a more pro-active defence industry policy and government institutions to capture the 'Make in India' call.

6.1.03 Chapter 3 outlined a 'framework' to realise the 'Make in India' concept in defence sector. This framework defines three vectors i.e. the procedure, policy and institutions; aimed towards increasing participation of the Indian industry in defence sector, leading the industry across and higher on the 'conceptual ladder' and increasing the indigenous content in defence materiel produced by the Indian industry.

6.1.04 Defence Procurement Procedure, the major vector, has been analysed in Chapter 4. The views and suggestions of the stakeholders on its various provisions have been captured, discussed and deliberated. Recommendations have been to 'de-bottleneck' the procedure, as also align it to the 'make in India' framework.

6.1.05 In this Chapter, we endeavour to address the other two vectors – the policies and the institutions, that profoundly impact the effectiveness and efficiency of DPP.

### POLICY

6.2 **Facilitating and Incentivising Private Industry & MSME.** We have amply highlighted the strategic imperative to leverage the diverse capability and capacity of Indian private industry, including MSME, to create a vibrant Defence Industrial Base. During our interaction with the industry, we received a large body of views and suggestions spanning across the extant procedures and policies. Many of these suggestions have been analysed while dealing with the DPP in Chapter 4 with specific recommendations to make suitable provisions in the procedure to facilitate private industry's participation. There are many other views /

suggestions to incentivise the private industry, which fall outside the procedure and require interventions at policy level first, so that the procedure can be accordingly revised. These are discussed in the succeeding paragraphs.

6.2.01 **Regular and Structured Interaction.** The requirement of regular and structured communication as well as two way interaction with the industry has been highlighted in various sections of Chapter 4. The industry needs to be given adequate actionable inputs on the Services requirements so that industry can evaluate their own capability, assess the gaps and make investments decisions in case they choose to participate in the acquisition scheme. Recommendations of the Committee at paras 4.5.05, 4.6.05 and 4.7.03 are relevant in this respect.

6.2.02 **Strategic Partnership.** The concept of Indian private industry as Strategic Partners (SP), in certain selected segments of defence sector, has been explained in section 3.3 of Chapter 3. The inevitable necessity and basis of forging such partnerships with private industry (large as well as small) and parameters for selection of SPs have been explained. The Committee at para 3.3.08 has recommended to constitute a Task Force to study the best practices and lay down the criteria for selection of SPs for various segments. The Committee reckons that in shipbuilding and aerospace segments, where indigenous capacity of DPSUs is already committed for ongoing programs, this aspect needs to be addressed on utmost priority.

6.2.03 **Level Playing Field.** The Indian private industry have highlighted various aspects of taxes, levies and duties as these impact their competitiveness as compared to DPSUs and foreign OEMs. There is thus a need to review such related policies to provide a level playing field and encourage their participation. These are explained below:-

#### **Private Industry Vs DPSUs**

i **Bank Guarantees.** While DPSUs are permitted to provide Corporate Bonds, private sector companies, including the large business houses, are required to provide Bank Guarantee (BG). The cost of BGs is thus an additional burden for Private sector, especially for the SME sector who have large sums of working capital locked in because of long duration of Defence projects.

ii **Payment Terms.** DPSU's receive progressive stage payments as per MOU for nominated orders. They are also compensated by Price indexation for nominated orders. Private Industry only gets fixed payment terms with maximum advance of 15%. There are no stage payments, and final payment usually gets delayed due to requirement of Joint Receipt Inspection and other formalities. It was suggested by the Industry that uniform payment terms may be introduced including provision of stage payments to Private Industry. The possibility of providing LC payments for Indian Industry or adopting the Escrow Account Methodology of ISRO for PO beyond Rs 100 Cr, which require IPBG, could also be considered. There was also a proposal for Price Indexation for Long Term Contracts (>18 months).

iii **Taxes and Duties.** There are specific benefits that DPSUs enjoy but are not made available to the private sector, affecting their competitiveness vis-à-vis DPSUs. These are highlighted below:-

- a. **Customs Duty.** Vide revised customs notification 39/96, Basic customs duty on various defence equipment / goods when imported by DPSUs and their sub-contractors is exempted. However, this benefit is not extended to the tier 1 sub-contractors to the private sector prime contractors of MoD thus enabling the DPSUs to source imported equipment from their sub-contractors at a lower cost than that incurred by the Private sector.
- b. **Value Added Tax (VAT)/ Central Sales Tax (CST).** Certain specific exemptions on sale of notified goods such as telecommunication equipment, motor vehicles, arms such as rifles, revolvers, etc. are recorded to specified defence establishment. Given the limited exemptions/ concessions, the private players planning to undertake manufacturing in India suffer a significant disadvantage vis-à-vis DPSUs (including their contractors) and foreign OEMs.
- iv DPP extends FERV to DPSUs in ab-initio single vendor / nominated Buy (Indian) cases and to all Indian vendors in Buy (Global) cases where there is an import content but not to any other Indian vendor. Private industry has argued that they have to bear the risk of hedging against the FERV whereas for the DPSUs it is effectively borne by the Government. Since large portfolio of DPSU order books is through nomination route, DPSUs have an advantage.

*(The Committee has been given to understand that the issues of custom duty, VAT /CST and ERV are close to resolution and the required Government notifications are under issue.)*

- v **R&D and Capex.** DPSU's enjoy additional funds budgeted by the MoD for asset creation and Modernisation while the private industry has to bear huge costs on Capital expenditure in asset creation and servicing. Given the long gestation period for Defence procurements, its uncertainties and high interest rates in the country, these costs are significant. Hence, investments by the Private sector in R&D and Defence specific infrastructure need to be incentivised and, at the same time, rewarded with commensurate production orders to ensure serviceability of such assets.

### **Indian Industry Vs Foreign OEMs**

- vi **High Cost of Capital and Inflation in India.** Most of the Foreign OEMs from advanced countries operate under low interest rate regimes as also low inflation environment thus giving them cost advantage. A high DCF rate specified @ 9.5% in DPP compared to the low interest rate enjoyed by the foreign OEMs (2-3%) gives them further advantage in DCF mode and puts the Indian industry at a disadvantage.
- vii **Payment Terms.** Foreign OEMs receive advance Payment, Stage Payments and payment on LC against the bill of lading. In comparison, Indian Private Sector companies receive a maximum of 15% advance and balance payment is received after Joint Receipt Inspection (JRI) and various other formalities involving multiple Agencies of MoD. These result in costs of delays, which are borne by the Indian Vendor alone.

viii **Issues During Evaluation of Bids.**

a. In Buy (G) programs, price comparisons need to be done on the basis of Base value keeping the indexation out so that the MoD will discover the realistic price and Industry will not lose out due to speculation.

b. In all other programmes, there is a need to keep out all taxes and duties on input material / service and pay the Indian vendors as per the actuals. Similarly there is a need to adopt DCF method for evaluation of bids in order to consider the through life cycle cost rather than the one time cost of procurement. These DCF calculation need to be done with the interest rates applicable in respective countries of the bidding companies in order to eliminate the differential in prime lending rates of different countries and bring Indian companies on par with Foreign OEMs.

c. **Taxes and Duties.**

i. Foreign OEMs are exempted from Customs Duty on the final equipment imported into the country. They also enjoy special tax benefits in their home country for exports. But the Indian Industry has to bear taxes and duties on input material. Where Excise Duty exemption is provided by MoD on the final deliverables from Indian Industry, the taxes and duties on input material cannot be set off as CENVAT and add to the direct cost. This clearly renders the Indian Industry non-competitive vis-à-vis Foreign OEMs. The impact of taxes and duties are further amplified in case of offset orders where the Foreign OEMs have cost advantage in sourcing from their own countries rather than through Indian Offset Partners. Thus, the present Tax and Duty regime restricts Indian industry's involvement to only Low Level Transfer of Technology / Knowledge for parts and subsystems only. There is a need to implement a uniform Tax & Duty Regime and treat the Indian Offset partner at par with Foreign OEM as far as Taxes and Duties are concerned.

ii. The issue of inverted duty structure needs to be addressed, under which finished defence goods are taxed at lower rates than the raw material to boost the indigenous defence manufacturing. Inverted duty structure is impacting the domestic industry adversely as manufacturers have to pay a higher price for raw material in terms of duty, while the finished product lands at lower duty and costs low. Inverted duty structure is making Indian manufactured defence equipment uncompetitive against equipment imports in the domestic market as also discourages increase in Indigenous Content.

d. **R&D and Capex.** Defence Technologies are critical assets for every nation and, world-wide, these are funded and controlled by the respective Governments. The matured technologies with Foreign OEMs have been developed through R&D with Government support and hence these costs are not borne by the OEMs. On the other hand, private Industry has invested in R&D and defence specific infrastructure and the cost of these investments makes the Indian Industry non-competitive while bidding against Foreign OEMs.

Sector	Direct Tax	Indirect Tax			Incentives
	Income Tax	Excise	Custom	Service Tax	FTP
Infrastructure Road	No Income tax for 10 years	Nil Duty (Project specific)	Nil Duty	Nil Duty (Project specific)	Deemed Export
Power	No Income tax for 10 years	Nil Duty (Project specific)	Nil Duty	No Exemption	Deemed Export
Telecom	No Income tax for 10 years	Nil Duty (Itemised)	Nil Duty (Itemised)	No Exemption	No Incentives
Shipping	No Income tax for 10 years (area specific)	No Exemption	Nil Duty (Item Specific)	No Exemption	No Incentives
Refinery	No Income tax for 10 years (area specific)	No Exemption	Nil Duty	No Exemption	Deemed Export
Fertiliser	No Income tax for 10 years (area specific)	No Exemption	Nil Duty (Item specific)	No Exemption	Deemed Export
Defence and Aerospace	No Exemption	No Exemption for Private Sector	No Exemption for Private Sector	No Exemption except when Govt.	No Incentive

### **Level Playing Field with Other Sectors.**

ix According to the industry representatives, the uneven playing field exists vis a vis other sectors as well. This was illustrated through a comparative matrix of incentives available to several sectors including Power, Infrastructure, Telecom, Shipping and Fertiliser indicates the existing disparity. Moreover, extend 80-IA Benefits to Defence Sector.

6.2.04 **Process of Obtaining Industrial License.** Industrial License (IL) list has been significantly pruned and same is posted on the DIPP website. However there is no one to one correspondence with the NIC Code (2008) or the ITC HS which is the basis for obtaining an Industrial Licence.

6.2.05 **Issue of RFP to Companies Holding Defence License.** Every company that has obtained the requisite Defence Industrial License for a particular item must be issued the relevant RFP as a general rule. If the RFP is denied it will be the right for the company to know the reasons for such denial.

6.2.06 **Sharing Infrastructure of R&D, Qualification Testing and Proof Firing Ranges.** Indian Private Sector should be enabled to utilise Government owned facilities like

DRDO labs, qualification test facilities under DGQA and proof firing ranges etc. on payment basis. This would ensure optimum utilisation of infrastructure existing in the country and encourage indigenous production of weapon systems by Private sector. Since the private sector will be a new entrant, established users like the DPSUs/OFs and DRDO would need to handhold them into the system.

6.2.07 **Single Window Clearance.** Business operations in the defence sector are conducted either through Licensed Production, sub-contracting, Joint Ventures or Foreign Technology Collaboration Agreements, apart from local start-ups. Norms for JVs are issued by DIPP vide Circular 01/2013. FDI matters are handled by the Foreign Investment Promotion Board (FIPB). Foreign Technology Collaboration Agreements are dealt with by the RBI. Sub-Contracting matters are subject to Advance Licencing, Excise and Customs law. A single window system for clearance of project proposals in the defence sector to meet Buy (Indian) and Buy and Make (Indian) regulatory and compliance requirements for commencement of business operations should be created. Even after establishment, operational issues require interaction with diverse agencies and Ministries viz. MoC (for licensing issues). MHA (for security Clearances), MoF (for equity matters), DGFT for exports and imports and MEA (for Export Controls) etc. For this a facilitation desk should be provided in the DDP.

6.2.08 One could thus see that the current taxes and duty structures, payment terms, investment in infrastructure and access to existing facilities e.g. testing facilities, firing ranges etc, put the private industry at a position of disadvantage vis a vis the Public sector as well as the foreign OEMs. There is a need to review these in a manner conducive to encouraging private sector participation in the defence sector and bringing them at even level with the DPSUs / foreign OEMs.

### **MSME Sector**

6.2.09 MSMEs form an important part of the base of a nation's industrial pyramid. It is a well-known and accepted fact that large companies, both private and public are dependent upon small companies for many of their requirements, particularly when it comes to innovations. Over 6,000 SMEs operate in the defence sector in India, supplying components and sub-assemblies to DPSUs, DRDO, OFBs and ISRO. Some of the MSMEs have also developed, manufactured and supplied significant number of products/systems directly to MOD in competition with large public / private sector entities and well known OEMs.

6.2.10 During interactions with the Committee, representative of the MSME sector emphasised the need for hand-holding and support from the MoD. A number of difficulties faced by the sector were listed. These included;

- i Asymmetric relationship vis a vis a large buyers, whether private or public sector, DRDO or the OEM,
- ii Small capital base and high capital of finance
- iii Consequentially the payment terms and conditions getting weighed against the SMEs, including burden of bank guarantees which are required to be individually provided,

- iv Lack of access to full technology from the OEMs,
- v Lack of access to testing facility and infrastructure and consequential delays in getting necessary certification
- vi Non retention of SME vendor under the pressure of competition even if he is supplying high quality material.
- vii Absence of an Institutional mechanism to enable growth of MSMEs in the country including facilitation for exports.

6.2.11 The remedial suggestions made by the sector broadly falls in three categories; those requiring reservation of orders for the sector, financial concessions and other support.

6.2.12 The Committee felt that many of these concerns have already been accommodated under the procurement procedure and the recommendations made in the context of the taxation and finance above. As regards reservation of orders for the SME sector, the committee understands that the stipulation of 20% floor for purchase is already complied with. Once the provision in the act has been complied with it will be difficult to mandate a higher floor level to any agency. It is expected that a higher portion of purchase from the SME sector will per force happen once the norm of higher indigenous content comes in vogue. As such different suggestions mandating a specific percentage of purchase under different streams were not accepted. Similarly, the idea of nomination of SMEs for identified capability in large projects as BNE/BFE was also not found to be workable since nomination is not a function of the size of the vendor but that of the requirements of the user.

6.2.13 **Funding.** A part of the proposed Technology Development Fund (TDF), may be reserved for funding development projects and limited production from the MSME sector. Whenever MSME is granted TDF, 30% advance be extended. Based on the success of such funding, the portfolio may be increased in subsequent years. With the broad-basing of the 'Make' procedure proposed by the DDP, larger participation of the SMEs will be feasible and earmarking certain percentage of the TDF for the SME sector will boost the sector.

6.2.14 As regards funding arrangements for MSME exclusively, the committee highlights that the defence contracts are long-term in nature. Production units have special needs for working capital and long-term loans. Funding arrangements for these, need to be established. However, this is not within the mandate of MoD and should be done by the Ministry of MSME. There are number of examples especially in the sector of agriculture where besides short term loans, long term funding has been done by Land Development Banks. Likewise priority sector lending has been permitted in sectors like renewable energy to promote requisite capacities. The committee suggests that defence industry funding particularly for the MSME should be brought under the priority sector lending norms.

6.2.15 **Bank Guarantees.** Similarly, the committee recognises the high commission charges of commercial sector banks, that the MSMEs need to bear for providing BGs. In spite of the fact that IPBGs are required for schemes at INR 100 Crs and above; and Performance cum Warranty Bank Guarantee and Advance Bank Guarantee etc. are required during execution of all contracts, the issue needs to be resolved between Ministry of MSME and Ministry of Finance.

6.2.16 **Institution.** An institutional mechanism, in the form of a nominated nodal agency to help support the MSMEs be incorporated. MoD may institute its own mechanism established specifically for this purpose, through a combination of DRDO, SODET (Society of Defence Technologies) and Industry Associations / MSME Dept with a view to identify potential MSME companies. This institution may also facilitate growth of exports from the defence MSME sector. Presently, exports taking place in the defence sector are largely from the small industries. This needs to be enhanced through supportive mechanisms. Identification and nurturing industries who could meet the long term defence materiel requirements of the Armed Forces need to be done on a pro-active basis. More emphasis on indigenisation and ‘Make in India’ programmes require a strong and capable manufacturing base would see entry of new players in the defence sector, especially SMEs. There is a need to enable their entry into this sector easy and provide them with necessary facilitation. The committee is of the opinion that to support Indian Industry and provide facilitation and handholding support for new entrants to the defence manufacturing sector, an autonomous body as a society or a ‘not for profit company’ be established with the participation of the Ministry of Defence and Industry Associations. This newly established facilitation centre should act as a bridge between the Acquisition Wing, Service and Industry.

6.2.17 Strengthening of the Defence Industrial Base is an essential pre-requisite to achieve the larger objective of Make in India. To achieve this, enhancement and strengthening of MSME sector i.e. the base of the pyramid, must be taken up in the right earnest.

### 6.3 **Export Promotion**

6.3.01 To boost exports a number of measures will be required. The importance of exports as a ballast for nurturing and consolidating domestic capacities needs no elaboration. This being a new emphasis however, various suggestions given by the Industry representatives need to be examined in consultation with the DIPP, Ministry of Commerce and other concerned Ministries. Broadly these suggestions are as follows:-

- i The guiding principle of the Defence Export Policy should be “Whatever is freely importable should be freely exportable. Venturing into the export market by itself would make the Indian defence industry efficient and cost effective. It will also realise the benefit of innovation and investment in R&D.

	<b>Other Countries</b>	<b>Negative List</b>
Green List	Automatic Route, No Sanction	<ul style="list-style-type: none"> <li>• In principle approval exists</li> <li>• Time bound sanction needed</li> </ul>
Yellow List	<ul style="list-style-type: none"> <li>• In principle approval exists</li> <li>• Time bound sanction needed</li> </ul>	<ul style="list-style-type: none"> <li>• After formal approval</li> </ul>
Red List	<ul style="list-style-type: none"> <li>• After formal approval</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> </ul>

- ii As such for companies with Industrial Licences, export license should be readily available, as they have already undergone the required scrutiny. For MSMEs having assured orders from foreign clients / governments, export licenses/ clearances, should

be given within a fixed, short time frame, provided the client / government does not fall in MEA's negative list. The suggested procedure for negative lists could be as under:

- a. MEA should indicate the Negative List of countries for all items.
- b. A list of countries for defence exports indicated as Green / Yellow / Red list for items that a particular item / technology etc. could to be exported to a particular country / OEM. e.g. The negative country list for Green items may be small and larger for yellow and red items.
- c. Policy for export for weaponry and systems should indicate the list of products that are cleared for export (Green item List). The SCOMET list should be finalised and announced. The sensitive Defence products not available for exports (Red item List) or those available for exports with special scrutiny (Yellow item List) should be separately listed / indicated.

This matter was discussed with the DDP. The Committee understands that the DDP has already liberalised the export procedure considerably since March 2015. They are in the process of consolidating the list of freely exportable items, pruning Annexure-A further, and also reducing the number of items requiring EUC from the concerned Governments. This is an ongoing exercise and should continue to evolve as such.

iii The Industry further suggested that the MOD should also encourage and give incentive for the collaboration between the Public & Private sector companies for Defence exports based on a PPP model. This is a critical requirement, the reason being that though the private sector companies have been issued with licenses for manufacture of defence related equipment, so far the orders are only being placed on the DPSUs and OFs, given their track record, by the countries planning to import / foreign OEMs. This approach would apportion certain credibility to the private industry also.

iv In the case of a PPP model, it is recommended that the agility and flexibility of private sector (Listed companies) be harnessed, by facilitating them to lead or prime as they are better placed to cater to and exploit the international marketing and sales requirements with adequate checks and balances in place.

v Therefore, in order to export the complete weapon systems, while the launchers and fire control systems can be manufactured by the private sector firms, they will have to collaborate with the DPSUs / OFs for the supply of weapons and armaments for these systems. It is not possible to export the Weapon Launchers and Fire Control Systems alone, without the ammunition/ armaments. Alternately, the export policy may facilitate a third country items for which the items are to be exported. In order to avoid loss of time in export controls approvals in both countries, this may need to be specifically addressed in the bilateral agreements between India and that country whose armament is to be included in Indian weapon systems exports.

vi Government should set targets for promoting Defence exports from India and review these targets periodically. Further fine tuning of the simplification of the export procedures should be allowed.

- vii An independent body should be created to ensure single window clearance for most of the defence exports. Same body should be responsible for marketing / selling products etc.
- viii Indian Government / Missions abroad, should be tasked to assist the industry to find the business opportunities and facilitate defence exports.
- ix Government should utilise the Line of Credit / G2G bilateral & multilateral dialogues to promote defence exports.
- x Industry should be given incentives for exporting defence equipment and systems, once cleared by the MEA. Exporting companies should also be given the preferential access to low cost funding, which may be needed as working capital. Importantly, it would help Indian companies to become globally competitive.
- xi Imports of negative list items required for R&D purposes which may eventually lead to defence exports should be allowed if the importer gives an undertaking. Such imports should be exempted from the duties, to give a boost to 'Make in India.'
- xii Issues Pertaining to SOP for Issue of NOC & EUC for Export of Military Stores: With reference to the Clause 3. Part - A & List of Defence Items: (Annex 1) of Standard Operating Procedure (SOP) for Issue of No Objection Certificate (NOC) for Export of Military Stores by Public and Private Companies (issued by: Dept. of Defence Production, Ministry of Defence, Government of India) & Press Note No. 3 (2014 series) issued by: DIPP dated 26th June 2014, these clauses, as issued by MoD as part of Defence export SOPs, state that End User Certificate (EUC) from foreign customer governments and an NOC from Indian Government are required by an Indian company looking at exporting either a sub-system or a full platform. To promote Defence Exports from India, the following issues need to be delicately addressed:
- a. **For Components and Parts.** There should be no permission required.
  - b. For Sub-systems including Modules within Sub-systems: As long as an Indian entity is exporting a sub-system (or module within a sub-system) to a defence OEM for further sale to customers, in that case Indian company should not be required to get an EUC from foreign OEM or country(ies) or an NOC from Indian government entities. In cases, where EUC cannot be done away with an undertaking from Indian company and EUC from the first contact should suffice.
  - c. **Full Platforms / Systems.** For full platform / systems which are manufactured / integrated by Indian companies for the purpose of export to a defence OEM for further sale to customers, then in such cases Indian company should also not be required to get an EUC from foreign OEM or country(ies). This is for same reasons as in "para (b)" above.
- xiii **Streamlining of Exports (Defence Items).** In order to ensure the streamlining of exports with respect to Defence Items, the suggestions are appended below:-

- a. As per Press Note 3 released by Ministry of Commerce on 26 June, 2014 list of Defence Items requiring Industrial Licensing was finalised by the Department of Defence Production. However there is no list yet defined defence items for export, which is leading to ambiguities, and naturally making the exports of certain items restrictive. The list given in Annex I of Defence Export Strategy and Standard Operating Procedure (SOP) for issue of No Objection Certificate (NOC) for export of Military Stores by Public as well as Private Sector Industry does not specify ITC-HS codes and NIC codes.
- b. The restrictive practice is due to Sr. No. 4 of table A of ITC (HS) schedule 2 of Export Policy that says quote “Military stores as specified by Director General of Foreign Trade” will require “No Objection Certificate from the Department of Defence Production and Supplies, Ministry of Defence, New Delhi, except the goods as specified at Export Licensing Note 1 below which are freely exportable without the No Objection Certificate”.
- c. There is no available list of Military stores as specified by Director General of Foreign Trade, which is causing ambiguity in case of export of certain items.
- d. It should be noted that Press Note 3 (2014 series) list of defence items is broadly based on the “The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies”. All participating countries have aligned their export controls with Wassenaar lists.
- e. The new policy of restrictions of deleted items, be accepted in toto, by DGFT. ie As exports is the one of the main emphasis in the Make in India program, we suggest that the same (Press Note 3 list of defence items) may be recognised by DGFT for exports till such time no list for exports is finalised.

xiv **Duration for Participation.** Presently, the duration of participation in exhibitions, testing & evaluation is restricted to 6 months. This duration is very less as the transportation of heavy equipment itself takes 4 months, plus the duration of the trials itself exceed 12 months. Hence, it is recommended that the same be extended to two years.

xv **Modification of NOC.** Application for NOC requires the exporting company to certify that the equipment is non-lethal in nature, however the same is not possible to certify equipment relating to Annexure IV, V & VI as non-lethal. Hence the amendment of Lethal / non-lethal be made.

xvi **MoD Website for NOC.** The site for submission of NOC though functional, however needs some fine tuning, for use of handling by the export company.

### 6.3.02 **Deemed Exports**

- i In the course of interaction of the committee with the industry, there have been suggestions from the industry to provide benefit of “Deemed Exports” for transactions with respect to Offsets Contracts arising from Buy (Global) category cases.

ii The committee considers that the avenue of ‘direct purchase of eligible products from Indian industry’ for discharge of offset obligations could be given a preferred treatment in this regard. Apart from making manufacturing in India more cost effective, and therefore attractive, this approach has the potential to spur the OEM’s to undertake system integration in India, thus bringing additional benefits.

iii This is illustrated in the example here. Foreign companies amongst the various avenues for execution offset contracts, have been purchasing from Indian companies products and services, sometimes for their own use in their home country and sometimes for integration onto the platform they are supplying to the Armed Forces. One such example is that of Elta of Israel, in the context of Medium Power Radars contract with the IAF. Elta was desirous of carrying out Integration activities in India, for the said radar. The domestic taxation regime is so structured that it is prohibitive for the OEM to carry out integration activities in India. They would much rather have the product exported physically and bring it back into India as an import for supply to the Forces. Elta, accordingly had requested their IOP, in this case, Astra Microwave, to export the Transmit/Receive modules, back to Israel, integrate it there and re-export to IAF.

iv The revenue loss for the Government would outweigh consequent benefits to domestic industry. This is illustrated in detail with computations given at Annexure I to this Chapter.

v The Committee recommends that suitable policy be promulgated for the final goods so delivered by Indian Offset partners to be covered under the list of declared goods. And deliveries by Indian Offset partners be treated as deemed exports.

#### **6.4 Developing Human Resources and Skills for “Make in India” in Defence Sector.**

6.4.01 Defence production process must be built on robust full spectrum capable human resources ranging from the Research to the operation level. This vital issue has been emphasised by many stakeholders who have sent their inputs to the committee, as also those who interacted. The following inputs apart from other sources have also been considered:-

- i Indian Merchants Chamber (IMC) note on Suggestions for Policy on Defence Production.
- ii Skill India Research Foundation input on Developing Skills to Build a Robust Indian Defence Industry.
- iii National Small Industries Corporation (NSIC) Limited input on Meeting of experts for amendment to DPP 2013 including formulation of Policy Framework.
- iv Association of Small and Medium Knowledge Industries note on MSME in Defence Production.
- v CII skill gap study in the strategic manufacturing sector

6.4.02 From the inputs it is apparent that India at present does not have a structured framework and a robust system to prepare its human resources to address all issues connected with building and sustaining defence systems.

6.4.03 With the ongoing military modernisation plans and Government's thrust on Make in India, the defence manufacturing sector is poised to leapfrog to a higher level. With the increasing technological sophistication in defence, skill requirements of the industry are very specific. Meeting these requires a framework of specialised courses, additions to curricula of existing and related fields, and a network of knowledgeable experts in the field.

6.4.04 The technology spread in the Defence manufacturing sector ranges from low technology products to cutting edge technologies for missile and radar systems. Command and control systems used by the Defence forces too involve sophisticated networks based on advanced electronics, scramblers, high end crypto software, advanced computing systems, micro wave links, satellite based transponders and even cross ocean fibre optic networks. Hence, the complexities and needs of manpower vary from the basic skills to high-end research and development, as well as designing and skills to develop complex algorithms for embedded technologies. Similar is the range of skill demand for Shipbuilding industry.

6.4.05 In the Defence manufacturing industry, System Engineering and System Integration are the key strategies, while large scale repetitive production practices are a rarity. The integration needs to abide by exacting standards as failure in field is unacceptable.

6.4.06 The design of such systems need to factor many issues of ruggedisation. The designed systems need to qualify stringent environmental testing regimes. This level of reliability is scarcely demanded in the commercial sector. The Space and Atomic Energy sectors also demand high reliability, though these systems may not operate in hostile environment of enemy presence as happens with military systems.

### **Engineering Knowledge and Skills**

6.4.07 There are many levels at which the engineering knowledge and skill levels need to be developed, like:

- i **Academic level**, where the special nature of defence weapon system design are taught. The defence related academic wherewithal like competent faculty, developed curriculum, text books, laboratory systems are not easily shared by other countries. Systems have to be in place where the R&D institutions must sponsor research and do hand holding so that academia can develop the appropriate curriculum and systems to deliver such curriculum.
- ii **Research and Development Level**, where the inquiry needs to be conducted in an environment when scientific knowledge is not freely shared, and afflicted by prevalent non-disclosure regimes.
- iii **Facility and Equipment Development level**, where the precision machinery, simulators are not easily available to be procured. The countries wanting to advance their defence technology often need to invest heavily into development of their special purpose machines, dies and tools.
- iv **Manufacturing Workplace level**, where the skills of the workers required are specialist in nature and of a very high order.
- v **Sustainment and Upgrade Level**, under which technologies need to be

maintained for two to three decades often require in-situ servicing in field. As the life of these costly systems is longer, affordability will come only with prudent upgradations. Hence critical knowledge and skills are to be preserved for extended periods in an environment of rapid changes in technology.

vi **Quality Assurance Level**, where the qualifying processes of subsystems are elaborate and exacting. At the integration level the system performance must meet the envisaged mission needs. This needs discipline in practice, and excellent processes and procedures which are to be constantly refined.

6.4.08 **Recommendations.** In this context the following recommendations are made:

i **Setting up of Defence Manufacturing Sector Skill Council.** It is recommended that a Defence Manufacturing Sector Skill Council be set up with the support of Government and Industry. Several Sector Skill Councils have already been set up by National Skill Development Corporation with the support of industry. Board of National Skill Development Corporation has approved the formation of Aerospace & Aviation Sector Skill Council (AASSC) as a Section 8 Company (Non-profit organisation) under the Companies Act, 2013. AASSC is planning to certify about 5,20,000 trainees and groom 6,000 trainers over a 10 year period in this sector. As defence is akin to this sector, the experience gained by AASSC can be leveraged. There was near unanimity amongst stake holders about the need to set up the defence sector skill council for establishing the standards that would be acceptable by industry and provide direction for future skilling initiatives in the sector with focus on diploma holders.

ii **List of Key Skill Sets Required.** An indicative list of some of the important domain areas where skills are required are listed below :-

- a. High end manufacturing like laser drilling, friction welding, near net shape forging, super plastic forming, precision casting, 3D printing, advanced machining etc.,
- b. Microelectronics – foundry operations, clean room processes, lithography, vapor deposition techniques, vacuum coating, laser printing & cutting, MEMS operations, chemical milling etc.,
- c. RF and microwave engineering - antenna fabrication, brazing techniques, micro strip arrays, TR modules FPGA programming, navigation electronics.
- d. Multidisciplinary – explosion dynamics, electrochemistry, nano technologies, electromagnetic propulsion, flight control, terminal guidance, weapon integration.
- e. Advanced materials – composites polymers, ceramics, biometrics high temperature materials and alloys, functional materials, surface coatings.

iii **MoD's Defence Industry Internship Program:** It is recommended that MoD's Defence Industry Internship Program for the B.Tech and M.Tech degree programs in institutions in the vicinity of defence clusters should be launched. The aspiring candidates be asked to take up indigenisation of components/ sub systems appropriate

to their engineering discipline and asked to complete the methodisation process. These internships could be extended attractive stipends, with a placement service back up. Suggested Salient Features of the Program are:

- a. Creating a large highly skilled resource pool for the defence manufacturing sector with the aim to bridge existing skill gap
  - b. Every year 2000 students could be selected for the internship program.
  - c. Candidates for Internship will be selected by the companies during Campus Interviews
  - d. These candidates will undergo one year internship in the defence manufacturing companies
  - e. Stipend of INR 50,000 to be paid to students participating in the internship program to be offered. 50% of this amount will be borne by Indian Industry and balance 50% will be borne by Ministry of Defence.
  - f. Each company should be allowed to recruit 1 to 10 candidates depending their scale and operations.
  - g. Companies can claim reimbursement of 50 per cent / a fixed amount from MoD under this program when the candidate is recruited.
  - h. This internship program is also open to Army Base Workshop, Naval Shipyards, Air Force Base Repair Depots and DRDO's R&D labs across India. In this instance, the cost of stipend will be fully borne by MoD.
- iv **Skills Development as part of the Offset:** Offsets can play crucial role in creating a “win-win” approach for enhancing the skills of the existing defence workforce and imparting fresh skills to the new workforce by leveraging OEM's skills development expertise and training curriculum. For this to happen, “skill development” should be clearly allowed for defence offset for all current and future offset contracts.
- v **Adapting Tool Rooms being set up under Ministry of MSME for Defence Sector.** It is understood that ministry of MSME will be setting up 18 high technology tool rooms across the country. MoD to suggest to ministry of MSME to set a few tool rooms around the defence clusters exclusively aligned with the needs of defence sector.
- vi **Finishing School Exposure:** There is a need to provide finishing school exposure in skill developed and tailored to meet defence requirements. DRDO, DPSU, Ordnance Factories and industry chambers would need to draw out the syllabus and coverage. They should also advise the training equipment, machinery and tools that need to be provided and also provide resource persons. Practical classes be held in DRDO Labs and industry premises to get direct exposure. Expensive set ups can be centrally located for access to large number of trainees.
- vii **University Programs for Military Engineering.** Advanced countries have dedicated university programs for defence engineering. For example UK has the

Cranfield University dedicated to defence. To offer similar programs, IISIT and chosen private colleges may be encouraged to have collaboration programs with foreign defence universities to establish academic systems in select areas like Systems Engineering, Defence Research Methodology, Defence Technology, Defence Technology Management, Information Assurance Systems etc.,

viii **Monitoring Committee.** An integrated monitoring and steering committee to be formed between MoD, Ministry of HR and Ministry of Skill Development to align these programs and measure outcomes.

## 6.5 Defence Production Policy

6.5.01 Defence Production Policy was formulated in 2011, with a clear objective to achieve substantive self-reliance in the design, development and production of equipment/ weapon systems/ platforms required for defence in as early a time frame as possible; to create conditions conducive for the private industry to take an active role in this endeavour; to enhance the potential of SMEs in indigenisation and broaden the defence R & D base of the country. Accordingly, the policy lays down the specific initiatives towards fulfilling the stated objectives.

6.5.02 Defence Procurement Procedure (DPP) embodies the requisite provisions to realise the objectives of production policy, while laying down the processes to be adopted for capital acquisitions for the services. Two versions (2011 and 2013) of DPP have come out since promulgation of production policy. Each revised version attempted to address specific aspects of DPP, as may have been raised by the stakeholders and industry, to improve the efficacy and efficiency of acquisition process. Another revision of DPP is underway now.

6.5.03 India's defence sector is evolving as well as expanding, if one were to consider the 'number of licences for defence production' as a metric. The annual revenue figures of DPSUs and estimated figures for private industry (as they do not report revenue from defence business separately) could also be used as another metric. Year on year growth in these figures is not encouraging when viewed against our annual capital spend. Indigenous content figures, even for defence products including platforms (which are under production by DPSUs for considerable number of years; and in good numbers) are still below 40%.

6.5.04 There is therefore a need to look at the progress made so far; review the policy initiatives and amend and / or enhance the same towards achieving the objectives which remain valid even today.

6.5.05 The Committee therefore recommends that Defence Production Policy as well as specific initiatives / programs required to achieve the goals stated therein, be reviewed to also address the following aspects:-

- i Initiatives for facilitation and incentivising of private industry.
  - a. Level playing field for Indian private industry
  - b. Industrial licensing
  - c. Setting up of test facilities for qualification of defence equipment. In the interim, making Test facilities of QA organisations and DRDO to private industry.

- d. Making Proof Firing Ranges available to private industry.
- e. User Trial Evaluation for equipment/ system developed by private industry.
- ii Incentives for the private defence industry for enhancing R & D spend.
- iii Exports promotion
- iv Skill development at all levels.

6.5.06 **Technology Security.** Defence related technologies, all over the world, are highly controlled and regulated for proliferation/ transfer to other entities or countries. In all the major countries, though the defence manufacturing may be largely in private sector, the government exercises full control on their business as well as technology transfer related activities through a separate legislative/ executive mechanism. In our context, the following aspects are relevant:-

- i Presently, DPSUs and factories under OFB, dominate the defence industry space and are, along with DRDO, repository of the defence technologies developed so far. Their administration is under MoD.
- ii With the growing emphasis on Make in India and on indigenous development/ production of defence equipment, more and more Indian private companies are likely to develop critical or sensitive defence technologies or receive such technologies from the foreign technology partners in the coming years.
- iii Right now, India does not have any policy framework and institutional mechanism to control the proliferation of such technologies. In the absence of strong and robust technology security framework, the technology transfer to Indian companies in sensitive areas would not be possible.
- iv The liberalised FDI policy could render some of the high tech Indian Private Industry open to controls that could adversely affect Indian interests through IPR controls on development or upgradation of a product, discontinuation of production of certain crucial items on ostensibly commercial grounds and worse, invocation of extra territorial jurisdiction of the investing Country's laws. Our interests would therefore need to be safeguarded through requisite contractual provisions in the Standard Contract Document and use of existing legal provisions under the Acts such as The IDR Act, Indian Patents Act, Designs Act and the Semiconductor (Integrated Circuits) Act.

6.5.07 Therefore, it is recommended that the MOD should start working on formulation of an appropriate technology security policy and necessary institutional framework to implement the policy.

6.5.08 Road map for Indian Defence Industry. In addition to laying down the Defence Production Policy, the MoD should also promulgate a 10 year road map for Indian Defence Industry, with measurable targets both in terms of revenue as percentage of defence capital expenditure as well as in terms of indigenous content value.

## INSTITUTIONS

### **6.6 Dedicated Procurement Organisation Outside The Government Of India Ministry Structure**

6.6.01 The Procurement Executive as now established is a result of the recommendations of the Group of Ministers post Kargil, and is one of the Institutions created as part of the re-organisation of the higher defence management structures. It has now functioned for more than a decade. Like any organisation it has its strength and weaknesses. It is our recommendation that the time is ripe for it to undergo a second set of reforms. Its main drawback is that it essentially performs line functions whilst being embedded in a larger structure, which is designed to perform staff functions.

6.6.02 Being located physically as part of the Ministry of Defence in a defence security zone itself leads to severe limitations of access. Personnel in the organisation work cheek and jowl with colleagues who deal with very sensitive matters and the mindset is one of secrecy and great caution. This 'sense' percolates to the procurement personnel who are wary of meeting with people "outside the system". Now that the DPP would be a vehicle to promote 'Make in India' the corridors of this organisation, it would echo with the footsteps of diverse interests. Thus a change in the location itself will send a clear message. This is not to say that security procedures would be given the go by not at all. All institutions whether private or government, commercial or regulatory have inbuilt security protocols and these would need to be promulgated by the relocated organisation.

6.6.03 There are however more cogent reasons. Generally personnel at higher echelons who perform staff functions are selected under a Central Staffing Scheme. This scheme is rather rigid and makes little distinction between Ministries and Service (Civil) Cadres entitled to participate in the scheme. No other Ministry in the Government of India has officers embedded in the Ministry itself performing complex negotiations and placing orders having such huge financial implications. Earlier, the Department of Telecom had such a role but it had separate services specialising in the job, and there was seamless integration of line and staff functionaries, many doubling as both. After corporatisation, most of such commercial operations are performed outside the Ministry. The only other Ministry, which can be compared, is the Ministry of Railways but the structure of this Ministry is quite unique in the sense that its personnel are all specialists, who have performed related line functions and then have been placed in Staff jobs and there is constant rotation. In a sense the Railway Ministry is outside the Central Staffing Scheme. There is ample evidence that where complex commercial negotiations are entrusted to essentially staff officers (and this is in no way a reflection on the individuals but an indictment of the system) there would be delays and back and forth movements. The Ministry of Power in the late 1990s tried this exercise when it initiated Fast Track Power Projects after inviting foreign investors and in spite of the efforts of a high level committee in the Cabinet Secretariat, no single project saw the light of day. A former Cabinet Secretary at the helm of affairs in his memoirs has written extensively on this fruitless and frustrating exercise.

6.6.04 A procurement organisation needs to have specialisation in diverse fields involving appreciation of technology, trial procedures, commercial negotiations and legal issues

in contractual matters, estimation of costs, financing structures, and should also have project analysts and data scientists etc. Since the focus would shift to production in India and indigenous R & D, specialists who have experience in managing industry and R&D projects, especially in cutting edge technologies with built in uncertainty of time and costs, would need to become part of the procurement organisation. In addition, it requires to have flexibility in obtaining advice of consultants, and other professional bodies. This is best accomplished by organisations given a measure of autonomy and flexibility to devise their own procedures for activities, which would enable them to better perform their allocated functions under the DPP. Both the Department of Atomic Energy and Space have benefited immensely from such dispensations. We do not think that any change is required in the basic structure involving Acquisition, Technical and Financial Managers all working under one head viz. the DG Acquisition, and the final decision for acquisition after contract negotiation taken in a hierarchical manner with a defined role for the Defence Secretary, Raksha Mantri and the CCS at the apex, as is now the system. What is required is to strengthen the organisation by induction of experts in the fields referred to above and to give them tenures longer than now in vogue, and to many at support levels, full time careers within the organisation. The structure could either be an attached office or autonomous entity. However, to ensure seamless transactions between this organisation and the MOD, the DG(Acquisition) should have ex-officio secretariat status.

6.6.05 Steps should be initiated without further ado, to set up a specialised structure outside the formal structure of the Ministry of Defence. Over a period of time it would evolve into an organisation with a much larger mandate. This is an important objective. Hitherto the only focus was on procurement of equipment. Whereas procurement of equipment continue to be given priority, a major objective would also be to operate it in a manner so as to serve the purpose of ‘Self-reliance’ in defence industry. Thus the organisational culture would require to be reoriented to work with various entities especially industry. The concept of ‘hand holding’ and making it “easy to do business” would require attitudinal and procedural changes. A routine matter like payment for invoices rendered can become an extremely frustrating exercise. This is particularly debilitating for MSMEs. A data center which would be a digital meeting place for all stake holders needs to be created and maintained. Thus over a period of time, perhaps as a third wave, the executive structure would have to be further altered.

6.6.06 In the meantime work would have to be shared between the Acquisition Wing of Department of Defence, MoD (Finance), Department of Defence Production, acquisition agencies of the Services and HQ IDS. A convergence needs to take place as suggested above. In the meantime the Department of Defence Production needs to more proactively engage with Indian private industry, just as they do so with OFB and DPSU’s. A road map for the purpose can be drawn up. A paper prepared by IDSA giving the structures of such organisations, as prevailing in France, the UK, USA and Germany, is placed at Annexure II. We would of course have to design our own distinctive organisation but a study of existing structures in other countries would be beneficial.

6.6.07 Independent of the above consideration, the acquisition wing needs to be strengthened through one vertical under a Joint Secretary (ICT, Policy and Tri Services). This is because of the nature of ICT intensive projects that need special attention across the services. In future these types of projects will proliferate. By their very nature, the acquisition of ICT

capability is very different from procurement of arms and other hardware systems. ICT systems will span across the three services and the JS should handle tri-services matters, and handle policy issues as well, given the overarching nature of these functions.

6.6.08 The Committee makes the following recommendations in this context:

- i Steps be initiated to set up a specialised Defence Acquisition structure outside the formal structure of the Ministry of Defence.
- ii In the interim a vertical of JS (ICT, Policy and Tri-Services) be instituted to strengthen the Acquisition Wing.
- iii Department of Defence Production needs to more proactively engage with Indian private industry, just as they do so with OFB and DPSU's. A road map for the purpose be drawn up.

## 6.7 Acquisition Workforce Capability Enhancement.

6.7.01 The need to have full spectrum capable human resources as versatile acquisition work force has been emphasised by many who have sent their inputs to the committee, as also those who interacted. Particularly the following inputs have been significant:-

- i India Defence Manufacturing Plan developed by Roland Berger consultants at the behest of Mr N Vittal.
- ii Indian Merchants Chamber (IMC) note on Suggestions for Policy on Defence Production.
- iii Minutes of the meeting taken by the Principal Secretary to PM on issue of Defence Production and Exports.
- iv Strengthening National Security through "Make in India" campaign, a paper written by Air Cmde R Gopaldaswami (Retd).
- v IDSA input on historical perspective of major defence exporting countries on training of acquisition workforce.

6.7.02 The acquisition work force spans the government and industry systems at very many key spheres. This ranges from Academia, R&D, personnel of Army, Navy Air force, MoD, DRDO, DDP, QA organisations, MoF, MoD (Finance), Defence Accounts, DPSU, OFB and industry. There are many 'think tanks' working to improve the acquisition system. Most of them have had little formal exposure to this complex activity. Most knowledge is acquired by practice which limits the vision of the personnel.

6.7.03 The learning centers of the Services like Defence Services Staff College (DSSC), College of Defence Management (CDM) have commenced introducing the subject of capital acquisition in their curriculum. National Defence College (NDC) also addresses this issue at apex level. When Indian National Defence University (INDU) becomes functional, this subject will get requisite attention. However in the interim, there is a need to train the officers getting deployed for the acquisition task. The key results to be achieved are:-

- i Decision making in the acquisition process must be based on evidence of robust performance and measurable outcomes and not on beliefs, opinions, or arbitrary preferences.
- ii The guarantee for performance must be based on individual and organisational authority and accountability than mere compliance to procedures.
- iii The acquisition process should be matched with the resources available to properly implement them, particularly in the domains of funding and human capital.

6.7.04 In this context the following recommendations are made:

- i Building the Acquisition Work Force. A tiered system of educating the work force be evolved by HQ IDS, and be implemented after due approval of MoD. This tiered system to include the following:-
  - a. Involvement of IDSA, USI, Center for Air Power Studies (CAPS), Center for Land Warfare Studies (CLAWS) in developing curriculum, case studies on policy analysis.
  - b. Capsule courses at CDM, DSSC, College of Air Warfare (CAW), College of Naval Warfare (CNW), and Army War College (AWC) for officers of the armed forces including HQ IDS.
  - c. Engagement of consultants at MoD and MoD Finance with entrusted responsibility to conduct Just in Time courses for the senior acquisition personnel.
  - d. Defence Institute of Advanced Technology (DIAT) to evolve training systems for R&D personnel of DRDO and Industry and deliver to those who are deployed in this sphere.
  - e. Army Technology Board to get curriculum developed for personnel of IIsT and other academia involved in development of technology and deliver through DIAT.
  - f. Industry training to be organised by Industry Associations and NSIC as well as other industrial associations. The Industry training curriculum to be accredited to DIAT for content and quality.
  - g. DDP to task one of the DPSUs to develop requisite curriculum appropriate for the DPSUs and conduct courses for all those involved in acquisition.
  - h. Ordnance Factory Training Institute to develop curriculum for the Ordnance Factories. This curriculum be approved by OFB and delivered to all those involved in acquisition.
  - i. DRDO through Institute of Technology Management (ITM) must develop special curriculum for Defence Capacity mapping and assigning Technology Reediness Level (TRL) ratings.
  - j. Defence Institute of Quality Assurance to develop curriculum and faculty for delivery of training on quality issues both for Acceptance Test Procedure (ATP), defect investigation (Root Cause Analysis) and indigenisation.

- k. MCEME, AFTC, INS Shivaji to develop curriculum for indigenisation engineering with respective Directorates of Indigenisation of the Services and administer to all those involved in the indigenisation supply chain.
  - l. National Academy of Defence Financial Management (NADFM) to conduct training for personnel of MoD (Finance) and CDA officials involved in acquisition.
  - m. All the faculties involved from these different institutions must meet on a seminar to be conducted by HQ IDS once a year, so that curricula across the verticals are updated and harmonised.
- ii **Monitoring Acquisition Workforce Capability Development.** All officers working the acquisition systems must be put through appropriate training as soon as they assume their appointment.

## 6.8 The Public Sector

6.8.01 **General Observations.** For historical reasons the public sector (OFB and DPSU's) has played an important and dominant role in defence production in India. Its contribution is undeniable and it would continue to play a crucial role. However since 2001-2002 the environment in which it operates has altered as the change in Industrial policy allowed Indian private sector industry to produce major defence systems hitherto reserved for the public sector. We expect further changes in the environment with the emphasis on 'Make in India' as we have elaborated in chapter-3. These envisage:-

- i. A level playing field;
- ii. Synergy in matters of R & D and use of existing infrastructure for testing and trials;
- iii. Joint ventures with private companies across the board;
- iv. Acceptance of the 'partnership' idea and
- v. Tweaking their own procedures (which to a large extent were modelled on Government's procedures) to synchronise with the basic elements of 'Make in India'.

6.8.02 The level playing field is in direct contrast to the 'nomination' procedure; the idea of synergy in use of resources (both human and material) is on the contrary not antagonistic to existing systems; joint ventures are already in vogue; the acceptance of the 'partnership' idea and change in procedures could come about easily once it has the acceptance of Government, which is what we are recommending.

6.8.03 In our interactions we have come across instances where an Indian product developed with industry under a JV arrangement was discontinued because a cheaper imported item (with no indigenous content) was preferred by the DPSU. Similarly an existing developed vendor using indigenous technology was substituted (with unhappy results) by another through a competitive process because extant procurement procedures so dictated.

6.8.04 Because of the huge investments made in infrastructure (land, buildings and machinery), and the need to fully utilise existing manpower, OFB and DPSUs tend to fully

exploit them in the first instance before venturing into alternate modes of production. The reluctance is understandable, but at times contrasts with modern management principles used by major system integrators, who tend to utilise their resources for R & D, innovation and system integration and marketing and leave the rest to smaller partners with whom they have long term arrangements. Many of our own DPSUs are part of such value chains with global players. Steps in this direction need to be taken by OFB and DPSUs to unleash their own core competencies.

6.8.05 In the Committees interaction with OFB and DPSUs an apprehension has been expressed that the increased participation of the private sector should not result in the huge investments in the Public Sector being wasted or under utilised. To avoid such an eventuality, it has been suggested that items may be reserved and a BUY (Public Sector) category be created.

6.8.06 The Committee is fully cognizant of the pioneering role of the public sector, the investments made in physical and human resources and the level of its production. It would indeed not be in the national interest that such capabilities wither away. On the contrary the Production Policy should ensure that Public Sector vigour is maintained and enhanced. At the same time, change must be welcomed. It is necessary to recollect the reasons as to why the Sector was opened up in the first place. There were two main reasons. Firstly, the import content in capital expenditure was large and there was tremendous scope for expansion in indigenous production and this could not be done in a reasonable time frame by the public sector alone and secondly, it was in the nation's advantage to harness the capabilities and skills available in the private sector to strengthen national defence. There was enough room for both sectors to participate and grow. The situation remains the same as what it was in 2001.

6.8.07 In the chapter on 'Make in India' we have considered several models of partnerships. These partnerships are between Users, systems integrators and tierised industries. The Strategic Partnership model provides for the first choice to be given to the Public Sector in the identified six segments. This by itself would be a sizeable portion of public sector revenues. The reservation is by default. Even in the Development Partnership model we have emphasised the need to continue with tested partners. This applies to the Public sector in its relationship with the Users. However, there cannot be a compromise on quality. So long as the public sector is able to ensure quality and timely supply the model provides for their continuance. However no guarantees are given (and this applies equally to the private sector) that relationships will not be terminated if quality parameters are not met. The public sector needs to be aware of this. In the competitive model cost is a consideration and the public sector must compete. This is an incentive for maintaining managerial competence and production skills. Manufacturing technology needs to be kept under constant watch for incremental changes in processes and materials. A study needs to be made of organisation like MANTECH in the US. This should be done by SODET (Society of Defence Technologists) and perhaps SODET could itself take this responsibility. The public sector needs to rise to the occasion.

6.8.08 Whereas these are recommendations of general applicability we have two specific recommendations:-

i **Ordinance Factory Board (OFB).**

a. The need to alter the management structure of the OFB has been examined earlier (Nair Committee) and recommendations have been made to corporatise it. Cogent reasons have been given and we endorse them. There is nothing new in this idea, which has been used to corporatise the public road transport system, power generation and distribution and many production units both by the Government of India and State Governments.

b. This suggestion assumes greater significance in the context of the 'Make in India' strategy. Technology is only one of the factors during production. Management system is another crucial factor. Corporatisation has legal and management implications. The full rigour of the revamped Companies Act of 2013 would come into force with its emphasis on accountability. The mere drawing up of an Annual Balance Sheet and Profit and Loss account would itself be major factors to boost skills and production. On the one hand it will result in better resource management and on the other bring about greater flexibility in decision making. In our recommendations we are laying emphasis in synergising the efforts of the Defence Industrial Structure and since all other entities, Private as well as the Public sector, would be corporate entities, it would be advantageous to the OFB also to fit into the picture, so to say, and play a decisive role if it puts on the corporate robe. Commencing from a monolithic structure but based on Alfred P. Sloan's principles of 'division wise' controls, it can in times to come move on to creation of subsidiaries, entering into joint ventures and even hiving off some of its low technology business as part of Government's strategic sales programmes. With its vast array of business products, huge infrastructure, highly skilled manpower and an existing organised service cadre, the OFB will be a force to reckon with.

c. The corporatisation of the OFB can also be seen in the context of the 'Make in India' policy with its emphasis on a level playing field. On several occasions comparisons in a competitive environment need to be made and since all other entities (Private as well as DPSUs) are corporate entities the comparative analysis based on published data which is legally required to be done can be made except for OFB which would remain a Government Department. In substance we reiterate earlier recommendations to corporatise OFB and hope that it would come about sooner than later.

ii **Defence Shipyards.** Unlike the OFB the shipyards are all corporate entities. However they are not only geographically dispersed (which is an advantage, considering India's extensive coast line); but exist as distinct legal entities (which can be cumbersome). In our earlier examination of the evolution of Defence Industry in developed economies we have observed that consolidation of entities has been inevitable for a number of reasons. It has not happened in India because there was no exposure to export markets and stiff competition and because of our system of nominations amongst the shipyards. Consolidating the shipyards into one entity would be beneficial for several reasons:-

- a. It would rationalise top management skills and expenditure.
- b. Would result in ensuring that efforts are not duplicated.
- c. Leave the decisions on allocation of work and specialisation to the management of the single entity thereby obviating the need for MoD or HQ Committees.
- d. Help in competing abroad for export orders against global players because of its own enlarged production, financial and management structure.
- e. Attract joint venture partners, and also ensure that different shipyards do not enter into multiple joint ventures and unnecessarily compete for orders within the public sector. It will also bring about uniformity in essentials like hull designs and other support equipment like specialised tools, as also production techniques.

6.8.09 We hence recommend that the four shipyards within the MoD fold be merged into one corporate entity, retaining the yard facilities in their present geographical locations but working under one single management.

## **6.9 DRDO's Role in 'Make in India'**

6.9.1 DRDO is mandated with development of indigenous Weapons and Systems with IPs, designs and knowhow in defence technologies. Once development is complete, DRDO transfers the technology to Indian industries for military and non-military applications and for commercial exploitation

DRDO has played an important role in creating critical indigenous capacity in the defence sector. There are many examples of successful cases, where cutting edge technology has been used. Platforms like MBT ARJUN, LCA TEJAS, AKASH weapon system, strategic missile systems whether AGNI or Prithvi and their variants, Radars, Pinaka MBRLS, EW Systems, Nishant UAV – all of these and more are indigenously designed, developed and inducted/under induction, after successful trial evaluation.

6.9.02 With the emphasis on Make in India in the defence sector, DRDO needs to take a lead in altering the competence map of the Indian industry. It has a significant role to play both for development of strategic technology items, enhance domestic capacity through 'Make' procedure by hand holding as well as partnering with the Industry, provide design and development support to the Services, making available the lab and trial infrastructure to Industry, transfer of technology and productionisation by industry, through its Commercial Arm (Upgradation, life cycle support, IP management, ToT, export).

6.9.03 DRDO's activities can be categorised as

- i High sciences (Academia / CoE),
- ii High end products (in house, with PSUs, through Industry),
- iii D&D support including simulation,
- iv Transfer of technology after productionisation,
- v Limited production of critical systems,

- vi Provide lab and trial infrastructure support,
- vii Provide guidance in ToT absorption, upgradation, IP management and life cycle support.
- viii AHSP and ToT role, alteration committee role

6.9.04 While DRDO has performed well in the high end product and systems area, it needs to perform equally well in terms of productionisation and transfer of technology on commercial terms. This is one of the long pending need and has been highlighted in the past. Committee feels that the proposal for setting up a commercial arm on the lines of the Antrix corporation of ISRO, for providing different services must be given top priority. The activities of the commercial arm will include, technology transfer, supporting productionisation, partnership with Industry, offering life cycle support through suitable entities, facilitating ToT absorption, IP management, providing access to lab and trial infrastructure on commercial terms, offset management and exports.

6.9.05 Pending this, the DRDO must bring in the culture of associating a production team. It should have a Design & Development (D&D) tie up with OFB like it has with BEL. In most of the successful programmes of DRDO e.g. IGMDP, EW programme and LCA project, production partners were identified right at the stage of production sanction. As a result the professionals from the production agencies e.g. BEL and BDL started interacting with the DRDO right from the beginning. On the other hand where the R&D and the D&D teams had worked in independent silos, there had been gaps, some times serious, while moving into serial production leading to acrimony and sub-optimal solutions.

6.9.06 In some of the cases, the product from the R&D lab is one off. For streamlining its production considerable work is needed in engineering, productionising and QC steps. For this it is imperative that the D&D and the R&D work goes hand in hand. This is particularly so in the case of the OFB. The Committee feels that the DRDO and the OFB needs to set up at least one, if not more D&D centre to oversee this transition.

6.9.07 Another important task of the DRDO will be to update the Long Term Technology Integrated Perspective Plan (LTTIPP) biennially and also make the list of systems, sub-systems, components, technologies that are ready for transfer of technology to Indian Industry. This would help industry to undertake the development projects based on already matured technologies that could be harnessed by them in the realisation of the complete projects. This is another task for the commercial arm of the DRDO.

6.9.08 DRDO may hold the AHSP for all such projects and DRDO must ensure that the product support teams in the respective labs are kept alive for encouraging subsequent upgrade.

6.9.09 The R&D budget allocations of the DRDO will have to be significantly enhanced from current level of approximately 6% of the defence budget. It is pertinent to note that the R&D expenditure on complex programs by DRDO have been one of the lowest in the world (examples are Akash, EW systems, MBT, UAVs, Torpedoes etc). Their scientist to technology ratio is also very low, even in key domain areas like Control Systems Microwave Engineering, Signal processing, Hydrodynamics, Cyber Security, etc.

6.9.10 DRDO may also take up Industry challenge programs and fund research from Academia, Industry and other research facilities. These could be in terms of College Challenge, Industry challenge, Grand Open challenge programs on a yearly basis. Certain percentage of DRDO budget may be earmarked for this purpose.

6.9.11 When projects are identified for development by DRDO, clear enunciation of the requisite quantities of the resultant systems will enable the DRDO to co-opt appropriate partners in the process. There needs to be an explicit commitment that the development partners will be the preferred agencies when the system enters production.

6.9.12 Upgradation of the DRDO designed systems must also be steered by DRDO. For this the upgradation contours must be identified well in advance in the current development cycle, and appropriate programs must be launched. DRDO to provide design support and technical assistance to Production Agency, for Life Cycle Support.

6.9.13 Increasingly embedded systems with software centric solutions are being integrated into military systems. The security validations of the deployment ready software are a major challenge. The Network and Information Assurance standards to be followed and the methods of validation are to be evolved by DRDO through SAG (Scientific Analysis Group) and promulgated. This is a continuous pro-active effort as the technology is rapidly changing. These standards are to be incorporated into the appropriate SQR with due advice from DRDO.

6.9.14 Scientific cost estimation and containing cost escalation of development programs must be a seminal activity for DRDO. For this to be effectively done, experts in costing must be available with DRDO.

## 6.10 **Quality Assurance and Standardisation Issues.**

6.10.01 Discussions were held with the QA agencies of all the three Services to ascertain the quality issues, current as well as those anticipated in the wake of effective implementation of the 'Make in India' philosophy. The salient points of note that emerged during deliberations are enumerated below:-

- i **Registration of Vendors:** There is a need to have a common data base of registered vendors irrespective of which agency they are registered with. Although the idea of a single registering agency, a role that was discharged by the DGQA in the past, or a common registration standard is not practicable, a common data base of all registered vendors with details of the registering agency and qualifying criterion must be made available on a shared platform. The standards to be followed to register a vendor as a potential source of supply must be well laid down. This task may be taken up the Directorate of Standardisation under DDP. The QA agencies, Ordnance Factories, DPSUs, DRDO and the Indigenisation Directorates of the Services register vendors. To host a common database on this vital aspect, DDP needs to take the lead with the help of Industry associations.
- ii **Test-Facility Data Base and Availability:** Like the vendor data base, it was suggested that a test facility data base, should also be available in the public domain and the Industry should have access to these facilities on a payment basis. The Committee

felt that the idea of running these centers as profit centers, preferably on a Government owned company operated basis, and providing an on-line booking facility for the user must be seriously considered. As an experimental basis, the government should establish one comprehensive facility on a PPP model which will provide integrated test and guidance service to the defence industry. This facility be modeled on the Sophisticated Analytical Instruments Facility (SAIF) established by Department of Science and Technology(DST) at most of the IIsT. Subsequently, this facility can be used to conduct QA related Field Evaluation under one roof, so that time for trials is reduced.

iii **Avoiding Repetitive Testing of Qualified Protocols:** Given the increase in the volume of work for the QA agencies in the wake of Make in India, there is a need to adopt more automation in the QA processes. Systems will have to be put in place to verify the quality certificates issued by reputed laboratories of the world. Repeated testing of already reliably qualified items leads to vexatious process of conflict resolution and delays the acquisition process. Likewise, the number of items where certification from foreign national agencies is accepted should be identified and increased.

iv **QRs to include the Standards of Testing:** It is important that the QRs should indicate not only the reference to the standards of testing to be followed, but also the applicable list of test suite to be followed by the QA agency. This will avoid considerable delays during the trial / FET stage.

v **QAP To Be Submitted Before Signing of The Contract:** The Committee noted with some concern that the stipulation in the DPP (vide para 33 of Schedule I to Chapter I of DPP 2013, under Standardised format of RFP) that the QAP has to be submitted before the conclusion of the CNC is not adhered to. This can have serious QA implications. Once the L-1 is declared, the vendor has enough time to submit the QAP. In fact it should be mandated that the QAP submission must precede the start of the CNC negotiations and QAP acceptance must precede signing of the contract.

vi **Process to Accept Progressive Indigenisation and Product Improvements During Delivery:** Para 6.2 of the Standard Contract document (Chapter V of DPP 2013) caters for technical upgradation/alterations in the design, drawings and specifications due to change in manufacturing procedures, indigenisation or obsolescence. Effective implementation of this enabling clause will accelerate the progressive indigenisation. Navy and Air force have systems that can implement this process while Army lacks it. A case for 6X6 Heavy Mobility Vehicle (MHV) with Material Handling Crane (MHC), which is under procurement, was brought to the notice of the Committee. It was stated that a major sub-assembly viz. MHC, which was of foreign origin in the original product, has become available through Indian industry. However, the same is not being accepted by the user. It is recommended that an appropriate organisation under MGO (as the BUYER) be established by the Army to discharge this role for all items for which the AHSP is DGQA. In cases where DRDO or any other organisation is the AHSP, such role will be performed by them, and MGO be kept informed.

vii **Component Screening and Parts Management in Electronic Systems:** In today's acquisition environment characterised by rapidly changing electronics

designs, the risks of achieving the reliability in weapons systems and equipment through acquisition contracts of MoD are high, due to an increased emphasis on the use of commercial part types, imported parts, counterfeit parts, and the use of lead-free parts. There is an imperative need for designers and manufacturers to have an effective screening and quality parts management program. DDP may task the QA agencies to evolve policy, systems and procedures for achieving and improving such a program through integration of national resources. Such system will increasingly insulate the military systems from planted counterfeits as well.

viii **Vendor Retention on Quality/Criticality Considerations:** For a number of critical spares / components or sub systems, retention of vendors poses problems in terms of the CVC guidelines which tend to encourage competitions. While this may be a good idea in civil procurement, defence materials where quality of the spares or the sub systems are critical, this could literally become a matter of life and death. This is particularly so if defects surface at a later date and in the field during operation. There is thus a trade off between the need for having wider competition and induction of new vendors on one hand and the imperatives of fidelity of the spares and sub-components on the other. One of the possible solutions out of this dilemma is to have an independent vendor rating on lines of sigma rating in respect of frequently supplied stores. This will make it easy for a program manager to justify the retention of a supplier with high sigma rating. At the same time it will be difficult for a low sigma rating vendor to make an entry on extraneous consideration. This system is essential to build and sustain a viable defence MSME eco system. Perhaps the DDP could encourage the QCI and the Industry associations to start such an independent and credible certification exercise.

#### 6.10.02 **Standardisation and Defence Acquisition.**

6.10.03 The Committee interacted with Directorate of Standardisation (DoS) functioning under DDP. DoS has been entrusted with the responsibility of Standardisation and Codification of defence inventory for entry control and variety reduction. The process establishes common agreement for engineering criteria, materials, items, equipment parts and components. All advanced defence manufacturing countries benefit from standardisation because it improves supplier coordination, quality and lowers inventories. Smart standardisation is a driver for more effective acquisition.

6.10.04 It is essential that the standardisation requirements must be firmly integrated in defence acquisition process as there are many benefits to be derived. Such a recommendation is not being made by the committee in this report considering the need of speeding up the acquisition cycle, as the present process is weighed down by many other issues which demand urgent attention. In the long run, as the defence industry matures, standardisation must be firmly embedded in all relevant acquisition activities. To bring about this situation in the near future, the following are recommended:-

- i **Standardisation Awareness amongst Ordnance Factories and DPSUs:** DoS must make the defence industry aware of the needs of codification and the advantages that accrue. For this special workshops must be organised for Ordnance Factories and DPSUs so that systems inducted from these organisations are fully aligned with the standardisation tenets in the next 5 years.

- ii **Developing Knowledge on Codification:** DoS must evangelize the process knowledge of codification and build a core of professionals. These professionals must be engaged by the defence industry to develop documents pertaining to codification of the systems to be inducted into defence. This must be encouraged in the “Make” processes through IPMTs to start with.
- iii **Outsourcing Codification:** DoS needs to outsource the Codification activity while controlling its quality. Outsourcing will facilitate bridging of backlog accruing due to new inductions.
- iv **Linking Standardisation and Acquisition.** The importance of codification necessitates that it be included progressively as a requirement in RFP. This must be aimed to be achieved by 2020.

## 6.11 Conclusion.

6.11.01 The three ‘Prime Vectors’ which would help create and support a vibrant ‘Defence Industrial Base’ are the ‘Policy’, ‘Procedure’ and ‘Institutions’. In chapter 4, we have dwelled at length on the DPP and suggested measures to ‘de-bottleneck’ and align it to ‘Make in India’ framework. The inevitable necessity to review the relevant policies and institutions has been brought out in this chapter.

6.11.02 Indian defence industry, public as well as private; large and small, need to be supported through favourable policies to achieve multiple objectives – (i) consolidate the existing capacities and core competence of DPSUs / OFB and private industry, (ii) enhance capacities and competence of industry across all segments of defence sector to increase its share in defence business both domestic as well as export (iii) meet the capability requirements of the services in a time bound manner. In this effort, MSME sector lies at the base of the pyramid and has the potential to generate large employment. It therefore deserves deeper, if not preferential, attention. The MoD needs to create facilitating and enabling framework, apart from considering tax incentives, of initiatives and programs for enhanced participation of industry. ‘Facilitation desk’ for providing information and guidance, extension of test / trial facilities, registration of industry etc would be the first of many suggestions made in this regard. Incentives for R & D and infrastructure investments are needed to encourage the industry. Exports of defence materiel by industry, both public and private, would enable expansion of defence sector output.

6.11.03 There is an urgent need to create and maintain an up-to-date ‘competency map’ and registry of Indian defence industry. Decision making committees would need this input at RFI and at categorisation stages. It will also give a snapshot of the status of the industry to the policy maker.

6.11.04 Initiatives for development of human resources and skill in defence sector have to go hand in hand with those for expansion of defence industry, whose needs range from research to operation levels. Formation of Defence Sector Skill Council and institution of Defence Industry Internship program would lend focus as well as direction to these initiatives and encourage participation of all stakeholders.

6.11.05 With so much needed to be done in defence sector, Defence Production Policy and the initiatives/ programs also need to be reviewed. These need to address the rising aspirations evolving from ‘Make in India’ call. There is a need to balance the expectation of the industry while keeping in view the peculiar nature of defence materiel, characteristic of defence industry as well as capability requirements of the Services. A holistic review would therefore be eminently necessary.

6.11.06 It is also necessary to draw up and promulgate a 10 year road map for Indian Defence Industry, with measurable targets. Regular review of the same would also be a pragmatic way to continuously monitor the progress and re-orient the programs / initiatives.

6.11.07 Institutions, which operate the policy / programs, form the third ‘Vector’. Each institution has its own unique role and importance. These institutions viz. DDP, Acquisition set up, DRDO, OFB, DGQA, Directorate of Standardisation; need to be nurtured and their structure refined to re-align with the re-defined goals for defence industry.

6.11.08 Among these institutions, the Acquisition Wing of MoD has to play a stellar role of working the DPP, which is essentially a ‘line function’ whilst being embedded in larger structure of MoD secretariat, which is designed to perform ‘staff functions’. The Committee has, therefore, analysed the structure of acquisition organisations as prevailing in other countries and recommended creation of a well staffed, our own distinctive organisation to meet the growing challenge of defence procurements as well as Indian Defence Industry.

6.11.09 Acquisition workforce needs to be equipped with requisite skills in diverse fields involving appreciation of technology, trial procedures, commercial negotiations and legal issues in contractual matters, estimation of costs, financing structures, project management and data analysis. Formal institutions of training for workforce at induction level and through career are required to be created, with the wide participation of all stakeholders.

6.11.10 The ‘Triad of Vectors’ i.e. the Policy, the Procedures and the institutions need to align towards the objectives viz. (i) Consolidate the existing capacities and core competence of DPSUs / OFB and private industry, (ii) Enhance capacities and competence of industry across all segments of defence sector to increase its share in defence business both domestic as well as foreign and (iii) Meet the capability requirements of the services in a time bound manner.

## 6.12 **The Next Chapter.**

In the next chapter, we summarise our observations and recommendations under the title of ‘Enabling Framework and Summary of Observations & Recommendations’.

**Annexure I****(Refers to para 6.3.02 Chapter 6)****DEEMED EXPORTS****1.1 Background**

1.1.01 In the course of interaction of the committee with the stakeholders, there have been suggestions from the industry to provide benefit of “Deemed Exports” for transactions with respect to Offsets Contracts.

1.1.02 Following transactions are valid in discharge of offset obligations :-

- i. Direct Purchase of eligible products from Indian industry
- ii. Execution of export orders by foreign OEMs
- iii. FDI in equity in Indian companies
- iv. FDI in terms of transfer of technology to Indian companies
- v. Investment in kind in Indian industry
- vi. Investment in kind in government institutions
- vii. Technology Acquisition by DRDO

1.1.03 Amongst the various transactions, the committee after due deliberations has arrived at the conclusion that only one transaction of the above, i.e. Direct Purchase is admissible for status of Deemed exports.

1.2 **Proposal**. It is proposed to extend the benefits in Foreign Trade Policy for Deemed exports, to Offsets contracts.

1.3 In the context of Offsets, there is a FE income to the domestic industry for a consideration of product/service delivered by the IOP. Foreign OEM is mandated to source products and services from domestic industry in a defined and structured manner.

1.4 Presently, foreign companies amongst the various avenues for execution offset contracts, have been purchasing from Indian companies products and services, sometimes for their own use in their home country and sometimes for integration onto the platform they are supplying to the Armed Forces. One such example is that of Elta of Israel, in the context of Medium Power Radars contract with the IAF. Elta was desirous of carrying out Integration activities in India, for the said radar. The domestic taxation regime is so structured that it is prohibitive for the OEM to carry out integration activities in India. They would much rather have the product exported physically and bring it back into India as an import for supply to the Forces. Elta, accordingly had request their IOP, I this case, Astra Microwave, to export the Transmit/Receive modules, back to Israel, integrate it out there and re-export to IAF.

1.5 Benefits of Deemed Exports. Following are the benefits of Deemed exports as given below :-

1.5.01 Capability and Capacity in Indian industry will be established in an enhanced manner.

1.5.02 Industry will become more competitive for supply to Indian Armed Forces.

1.5.03 Integration facilities for some critical systems will be established in India, which is our demand and requirement.

1.5.04 It will be in alignment with our vision of “Make in India”.

1.5.05 The obligations that some foreign OEMs carry, is pretty large in the order of a few hundred million USD. If they could source say 100 items for USD 100 million presently, the sourcing could be in the order of say 130 items for the same cost, should “Deemed Exports” have been allowed. If the desire of the government is to build capability and capacities in the industry, then they may like to provide benefit of deemed exports.

1.5.06 In absence of “Deemed Exports” benefit, foreign companies are also skeptical of establishing Integration Facilities in India. So, if Deemed Exports privilege is available to offsets contracts, then, creation if such capabilities for Integration, could become viable. The country could have gained so much more in terms of industry building up the capability for integration of sophisticated military systems.

1.5.07 Therefore, there is a twin advantage of allowing “Deemed Exports”, such as, increased capacity and capability in the domestic industry as also creation of new facilities for Integration.

1.6 What could be the revenue loss for the government and does this trade off(providing deemed export benefit) have consequent benefits to domestic industry that are out of proportion to the revenue loss. In terms of more products that are sold from Indian industry, more exports consequently will take place, more capabilities in terms of Integration facilities will be established, less risk of transportation and other benefits. Let us examine this in more detail.

1.7 Presently, no tax benefits are available to Indian Offset Partner of Foreign Supplier. This results in Imports being cheaper than Local supplies. This is very alarming in the strategic electronics sector. Besides the actual offset volumes are reduced to about 21 or 22% from the mandated 30%; since price paid by Foreign OEMs are inclusive of taxes levied on IOP. This dissuades Foreign OEMs from carrying out system integration activities through IOPs, much in contrast to the indigenisation policy which aims to promote system integration and grow Indian Industry capability in Defence.

1.8 The following tables highlight the current scenario. Table -1 is indicative of the implication on Taxes when the IOP is delivering the product in Domestic Tariff Area(DTA). Table -2 is in comparison, to show the implication on taxes when actually the said item is exported. Table -3A is indicative of the implication of taxes for Integration activities in India. Table -3B shows implication on taxes when the final goods are ‘declared goods’ and delivery of the same by Indian Offset Partner are treated as ‘deemed exports’.

	%	Inputs		Value Addition	Product Cost
		Import	Local		
<b>Cost (Net of Tax)</b>		20	30	50	100
<b>Taxes and Duties on Inputs</b>					
<b>Basic Customs Duty</b>	10.00%	2			
<b>CVD</b>	12.50%	2.75			
<b>Customs Cess</b>	3.00%	0.14			
<b>SAD</b>	4.00%	0.99			
<b>Excise Duty</b>	12.50%		3.75		
<b>CST</b>	2.00%		0.67		
<b>Total Taxes</b>		5.88	4.42	0.00	
<b>Total Cost of Product</b>		25.88	34.42	50.00	110.30
<b>Taxes on Finished Product</b>					
<b>CENVAT</b>					-7.5
<b>Excise Duty (EDEC)</b>	12.50%				12.85
<b>VAT</b>	12.50%				14.45
<b>Deliverable Product Cost with Taxes</b>					130.10

**Table-1: Current tax Scenario if Offsets at subsystem level (ordered by Foreign OEM on Indian Company) is delivered by Indian Company directly in India – Not exported**

	%	Inputs		Value Addition	Product Cost
		Import	Local		
<b>Cost (Net of Tax)</b>		20	30	50	100
<b>Taxes and Duties on Inputs</b>					
<b>Basic Customs Duty</b>	0.00%	0			
<b>CVD</b>	0.00%	0.00			
<b>Customs Cess</b>	0.00%	0.00			
<b>SAD</b>	0.00%	0.00			
<b>Excise Duty</b>	0.00%		0		
<b>CST</b>	2.00%		0.60		
<b>Total Taxes</b>		0.00	0.6	0.00	
<b>Total Cost of Product</b>		20.00	30.6	50.00	100.60
<b>Taxes on Finished Product</b>					
<b>CENVAT</b>					Nil
<b>Excise Duty (EDEC)</b>	0.00%				0.00
<b>VAT</b>	0.00%				0.00
<b>Deliverable Product Cost with Taxes</b>					100.60

**Table-2 : Current tax Scenario if Offsets at subsystem level (ordered by Foreign OEM on Indian Company) is exported by Indian Company to FOEM and then re-imported.**

As can be seen from the tables 1 and 2 above, Foreign OEMs see Indian Industry as grossly Non-Competitive. To avoid the Taxes & Duties, FOEMs resort to export of subsystems to their home country and in the process incur costs for transportation back and forth with associated risks. Also, Taxes & Duties effectively impinge upon Offset Obligation. Consequently, Offset orders remain limited to only few minor, small-value sub-systems which can be easily transported back and forth.

	%	Inputs		Value Addition	Product Cost
		Import	Local		
<b>Cost (Net of Tax)</b>		50	30	20	100
<b>Taxes and Duties on Inputs</b>					
<b>Basic Customs Duty</b>	10.00%	5			
<b>CVD</b>	12.50%	6.88			
<b>Customs Cess</b>	3.00%	0.36			
<b>SAD</b>	4.00%	2.49			
<b>Excise Duty</b>	12.50%		3.75		
<b>CST</b>	2.00%		0.67		
<b>Total Taxes</b>		14.72	4.42	0.00	
<b>Total Cost of Product</b>		64.72	34.42	20.00	119.14
<b>Taxes on Finished Product</b>					
<b>CENVAT</b>					-13.11
<b>Excise Duty (EDEC)</b>	12.50%				13.25
<b>VAT</b>	12.50%				14.90
<b>Deliverable Product Cost with Taxes</b>					134.19

**Table-3A: Offsets – Current tax Scenario for System Integration by Indian Offset Partner in India**

It is evident from the above tables, that there is a disparity in tax treatment where integration happens outside India vis-à-vis integration in India.

Such disparity in tax treatment discourages OEM's to undertake integration in India.

In order to rectify the problem, supply of goods in India by Indian Offset Partner may be treated as 'deemed exports' under the Foreign Trade Policy 2015-2020. Further, such goods should also be treated as 'declared goods' under Central Sales Tax / VAT.

Tax treatment in such scenario is explained in Table 3B below.

	%	Inputs		Value Addition	Product Cost
		Import	Local		
<b>Cost (Net of Tax)</b>		50	30	20	100
<b>Taxes and Duties on Inputs</b>					
<b>Basic Customs Duty</b>	0.00%	5			
<b>CVD</b>	0.00%	6.88			
<b>Customs Cess</b>	0.00%	0.36			
<b>SAD</b>	0.00%	2.49			
<b>Excise Duty</b>	0.00%		0.00		
<b>CST</b>	2.00%		0.60		
<b>Total Taxes</b>		0.00	0.60	0.00	
<b>Total Cost of Product</b>		50	30.60	20.00	100.60
<b>Taxes on Finished Product</b>					
<b>CENVAT</b>					0.00
<b>Excise Duty (EDEC)</b>	0.00%				0.00
<b>VAT</b>	5.00%				5.03
<b>Deliverable Product Cost with Taxes</b>					105.63

**Table-3B: Offsets –Tax Scenario for System Integration by Indian Offset Partner in India - where the final goods are ‘declared goods’ and delivery of the same are treated as ‘deemed exports’**

The following tax benefits would be available when the delivery of declared goods, by Indian Offset partners are treated as deemed exports:

- a) Exemption from Customs Duty on offshore procurements by Indian offset Partner
- b) Exemption from Excise duty on local procurements by Indian Offset Partner
- c) Exemption /Refund from Excise duty on the final goods supplied by Indian offset partner

Further, the following additional benefits would be available where supplies by Indian Offset partner are treated as ‘declared goods’ under Central Sales Tax / VAT:

- a) Being declared goods Maximum VAT rate of 5% on final goods supplied by Indian Offset Partner

The above is explained with the help of an example in the table given below:

**Recommendations:**

1. The final goods so delivered by Indian Offset partners should be covered under the list of declared goods.
2. Deliveries by Indian Offset partners should be treated as deemed exports

It may be noted that grant of such benefits would not lead to a 'revenue loss' to the Government, since:

1. Currently, owing to the unfavorable tax environment for domestic supplies, OEMs resort to export and re-import of goods. In such case, Customs duty is exempt and Excise duty is any case not applicable. Hence, treating such supplies as deemed exports / declared goods does not put Government exchequer at any disadvantage
2. Grant of requested incentives would foster growth in the domestic defense industry, in line with the "Make in India" initiative declared by the Hon'ble Prime Minister
3. Growth of this industry would also help boost development of ancillary industries in the Country, thereby, generating additional revenue

**Annexure 2**  
**(Refers to para 6.6.06 Chapter 6)**

**Dedicated Acquisition Organisations & Training Of Acquisition Work Force**

## FRANCE

France has sought to remain a leading military power by acquiring a small-scale version of a superpower arsenal with two distinct elements:

An independent nuclear deterrent force based on two components: strategic ballistic missiles launched from nuclear submarines on one hand; aircraft-launched supersonic cruise missiles on the other hand;

Fully professional conventional forces, for the defence of the French homeland, intervention in overseas crises and assistance to allies through NATO.

The Minister of Defence oversees the military's funding, procurement and operations. The minister of Defence is assisted by:

- The Chief of Defence Staff for the general organisation of the armed forces and choices in terms of capability, preparation and use of force.
- The Head of The Armament Procurement agency for the research and development of force equipment and technical and industrial policies.
- The Secretary General for Administration in all domains of general administration of the ministry, notably for budgetary, financial, legal, asset-related, social and human resource issues.

### **Procuring military systems at affordable cost.**

A government investment into an acquisition programme must lead to the concern of an accurate understanding of operational users needs and the supply of products fulfilling the whole product lifecycle technical requirements. The goal of national autonomy in defence procurement has resulted in the acquisition of nearly all French weapons from domestic sources or joint ventures involving French companies and European partners, even when superior or less expensive alternatives were available from abroad. Because of the small size of the French domestic arms market, concentration at the prime-contractor level has led to a group of sole- source

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<sup>3</sup> France has enhanced technical capacity that DGA possessed led to both precise ex ante cost and risk assessment and effective ex post project monitoring. This technical capacity and the resulting assessments and monitoring reduced the information asymmetry between the DGA and the contractors, serving as a major building block of French defense acquisition system and also introduced a “responsibility principle”<sup>3</sup> to Fixed Price contracting, meaning that those who are actually responsible for failing to meet contractual obligations, whether government or industry, must generally pay the costs. When firms are clearly responsible, they must take the charges against their profits. When the government is the cause of the contractual changes (for example, because it changes the parameters of the project) then the costs are usually deducted from the DGA’s procurement budget.

<sup>4</sup> An independent arm’s length body, whose principal statutory aim is to ensure that good value for money is obtained for the UK taxpayer in Ministry of Defence expenditure on qualifying defence contracts, and that single source suppliers are paid a fair and reasonable price under those contracts.

“national champion” firms that are national repositories of design and manufacturing know-how for entire sectors of defence equipment. The French defence industry also relies heavily on export sales to amortize overhead costs and permit the economic production of weapons for France’s own use.

**Direction générale de l’armement**, “General Directorate for Armament”, or **DGA** – Armament Procurement Agency

A single government organisation is responsible for defence procurement in France. On April 4th 1961 General de Gaulle created the DMA (Ministerial Delegation for Armament), which became the DGA in 1977. Known as the *Direction Générale de l’Armement* (DGA). The DGA is the central procurement agency of the *Ministère de la Défense et des Anciens Combattants*. It is responsible for the acquisition of all weapon systems and military equipment destined for France’s armed forces, from conception to delivery. It is also responsible for promoting French defence industry export sales. The DGA today employs more than 10,500 people<sup>5</sup>.

DGA is the linchpin of the French arms-procurement system, mediating among the political authorities, the defence industry, and the military operators. After the Parliament votes the defence procurement budget, the DGA allocates funds among specific weapons programmes. Because of this power of allocation, DGA can ensure multiyear funding of high-priority systems even within a shrinking defence budget.

The director of the DGA reports directly to the Minister of Defence and has greater control over research, engineering, and industrial matters than any other European- or American-defence official. He oversees a staff, which includes career military or civil servants in scientific, technical, and management positions. Thanks to an elaborate system of recruitment and training, the senior management positions in the DGA attract some of the best and brightest French students of engineering and administration, who become specialists in developing sophisticated armaments.

DGA also coordinates with the French armed services within “Integrated Programme Teams” at each step of the armament programmes, from the definition of R&D priorities to the management of the programmes till the withdrawal of equipment. Committees made up of service representatives and DGA officials identify operational military requirements and transform them into technical specifications. Although both sides strive to reach consensus, the DGA has the final say in the launching of a development programme. As a result, DGA officials may choose to balance short-term military needs against technical feasibility, export potential, and industrial-base considerations.

**Controls on Price and Quality:** The Technical Directorate (DT) is in charge of certifying the technical quality of tested French weapons and foreign equipment purchased for the French forces, while the Plans, Programmes and Budget Directorate (DP) performs cost audits of all major procurement programmes. Since the

<sup>5</sup> Government of France, Direction générale de l’armement [DGA], “Présentation de la direction générale de l’armement,” 9 September 2014; DGA, “La DGA a 50 ans,” 5 April 2011; DGA, *Les origines de la Délégation générale pour l’armement*, Comité pour l’histoire et l’armement, Paris, 2002; Ministère de la Défense et des Anciens Combattants, “Bilan d’activités 2013 de la DGA,” 18 February 2014; and Ethan B. Kapstein, *Smart Defense Acquisition: Learning from French Procurement Reform*, Center for a New American Security, Washington, D.C., December 2009

government is the main customer for defence products, administrative controls on quality and costs are more effective than relying on market mechanisms such as competition.

### **Professionalism in the DGA**

DGA is a composite multi-skilled professional organisation and has over the years been in line with the French Govt policy been downsizing itself and the strength of the DGA personnel in 2011 was about 12,000, to be streamlined to 10,500 in 2014. About 85 % of the staff is civilians. 5,600 (4,400 in 12 test centres, 28 technical trades) being technical experts. Expertise is reliant on a team of specialists deployed within technical centres according to their skill set and independent of their geographical location. This network continues to be ever more connected between the Parisian teams and the provincial centres. In this way, the working patterns of programme teams are unified, to provide an optimal reaction to adjustments in equipment specifications required by the Armed Forces, technical skills required in the centres and deployment of personnel to the theatres. It also allows for more appropriate scaling to changes or development testing capabilities in line with future programme requirements.

The DGA's development expertise covers all major innovations affecting technologies of sovereignty, chain of precision strikes, interoperability and network operations, countering Improvised Explosive Devices, nuclear, radiological, biological, and chemical defence (NRBC) and cyber defence. This expertise is as necessary for programmes as it is for future planning: defining technology and research themes, support for research given to key contractors, SMEs and research institutes.

The transformation in working methods was enhanced with the deployment and training in the use of system engineering tools and a growing use of simulation, in particular with the defence technical and operational analysis centre (CATOD), providing better control of weapons systems architectures at various stages of their life cycle. The aim is that the troika, the DGA, the Armed Forces and industries, work very closely, which is essential to a modern engineering and system architecture approach.

### **Planned Development**

The Human Resources Strategic Plan (PSRH), updated annually, identifies the future skill requirements and the size of workforce required, per job role, over the next 6 years. The PSRH is the reference tool used by the DGA to refine its recruitment, training, mobility and redeployment policies. The fourth edition of PSRH, drawn up in 2011, indicates how job roles within the DGA are evolving and the HR policies that must be implemented between 2012-2017 to accommodate this. It confirms the need to strengthen skills in the areas of Information Systems Security, Systems of Systems and Human Sciences and Protection. The DGA coaches its staff individually by guiding them in their mobility decisions and career path. Approximately 2,000 interviews were carried out by the DGA's network of career counsellors in 2011.

## Training for skills development

The DGA completed the rationalisation of its training centres by transferring the Latresne Training Centre to the Aquitaine region in September 2011. This Centre belongs to and is managed by the Human Resources Directorate (DRH) of the DGA. A large scope of disciplines are available, both to improve management skills and technical know-how. The vast majority of courses are done by external experts (university, enterprises, and institutes) through the DGA Training Centre, by contract. The right for improved education is paramount for DGA personnel and DGA strongly encourages its staff to do so. In most cases, the training periods are for a few days. There are also longer periods of training for high-level managers, up to one year.

The DGA has also safeguarded and stabilised its operating systems with the new administrative management centres for civilian personnel, created within the framework of the ministerial reform of the HR function. In addition to the in house training resources DGA also sponsors its personnel on need based professional exposure in specialised institutions in France e.g. More than **20,000** professional training days were utilised in 2011 at a cost of € 2.7 million. The DGA has renewed its partnership agreement with the Sorbonne, continuing the Master Defence Policy and Defence Industrial Planning programme created in 2008 to train high-level executives.

The DGA has also continued to provide investment support to the engineering schools it supervises (École Polytechnique, ISAE, ENSTA Paristech and ENSTA Bretagne) strengthening the excellence of training, and has prepared the performance contracts with these engineering schools, setting objectives and targets for the next five years. These institutions are open for competitive admissions and rank amongst the top 100 in the world.

## United Kingdom (UK)

In 1971 the Government called for advice on its relations with the aviation industry. One of the principal recommendations was the transfer to the MOD of the military aviation task, to be undertaken by a separate organisation within the MOD, which would also assume the responsibility for all other military procurement. The Procurement Executive (PE) was thus created on 2 August 1971. The Defence Procurement Agency (DPA) was established on April 1, 1999, after the announcement in the Strategic Defence Review of a specialised agency to succeed the MOD Procurement Executive. It was an Executive Agency of the MOD responsible for the acquisition of materiel, equipment and services, for the British armed forces. Led by the Chief of Defence Procurement, the Agency sourced equipment and services. The Defence Logistics Organisation (DLO) was created in 2000 by the MOD by bringing together all the logistics departments and MOD central agencies together under a joint command. It was responsible for supporting the armed forces throughout the various stages of an operation or exercise; from training, deployment, in-theatre training and conduct of operations, through to recovery and recuperation ready for redeployment. Led by the Chief of Defence Logistics, a four-star officer, the DLO maintained and upgraded military equipment and coordinated its storage and distribution.

One of the recommendations of an internal review into the way the MOD conducted the acquisition and management of military capability in response to the Defence Industrial Strategy, placed a greater emphasis on through-life management as well as identifying many ways to build on past successes and respond to future challenges. The recommendation was that the MOD should build on the progress made by both the DLO and DPA to work more closely together by merging them to form a single integrated equipment and support organisation. This new merged structure would ensure that there is a single, collocated organisation responsible for all aspects of procurement, maintenance and sustainment of military capability. It will contribute to effective through-life capability management and will help to continuously improve support to the front line. On April 1, 2007 the DPA was merged with the DLO to form a new organisation called Defence Equipment and Support (DE&S). The organisation defines itself as a “bespoke trading entity, an arm’s length body of the Ministry of Defence.” DE&S is headed by a Chief of Defence Materiel and is overseen by the Minister for Defence Equipment, Support and Technology. DE&S today employs approximately 16000 people<sup>6</sup>.

DE&S acquires and supports equipment and services, including ships, aircraft, vehicles and weapons, information systems and satellite communications. As well as continuing to supply general requirements, food, clothing, medical and temporary accommodation and is also responsible for HM Naval Bases, the joint support chain and British Forces Post Office. DE&S works closely with industry through partnering agreements and private finance initiatives in accordance with the Defence Industrial Strategy to seek and deliver effective solutions for defence. A report of House of Commons had in December 2006 stated that, “ A key objective of the new Defence Equipment & Support organisation is to improve the management of acquisition on a through-life basis. Given that the focus of the new organisation will be on improving Through Life Capability Management and being more agile in responding to the need of the Armed Forces, **staff will need to be trained in a range of skills to ensure that the expected improvements are delivered. It said that, “ We need to put our money where our mouth is, invest more in training in important areas like project management but also in finance, commercial skills and certain deep technical specialist skills where we're lacking strength in depth and living on the fruits of a former era.** The Defence Academy was to be used to deliver the training or to act as a portal to direct staff to other providers of training to best meet their requirement.

### UK Defence Academy

At about the same time, and as a result of the Defence Training Review of 2002, the Defence Academy of the United Kingdom was formed on 1 April 2002, with its main campus at Shrivenham. It is the UK’s Defence higher educational establishment. It is responsible for the post-graduate education and the majority of command, staff, leadership, defence management, acquisition, and technology training for member of the UK Armed Forces and MOD civil servants. The Defence Academy is the MOD’s primary link with UK universities and international military educational institutions. The Academy has three strategic partners – King's College London, Serco Defence, Science and Technology, and Cranfield University – who

<sup>6</sup> <http://www.nao.org.uk/wp-content/uploads/2015/02/Reforming-defence-acquisition-summary.pdf>

provide academic and facilities support. The courses are generally free to MOD staff and their employing organisation and are delivered through a mix of campus based courses and e/blended learning. The majority of their courses are also open to non-MOD personnel from Industry, Trading Fund Agencies, Other Government Departments and Overseas Organisations on a fee-paying basis. Defence Academy also manages the Defence Learning Portal (DLP), which is a “one stop” access point for e-products from on-line courses to distance learning with the exception of Acquisition e learning which has its own dedicated portal.

The three main components of the Defence Academy are:

- Royal College of Defence Studies (RCDS) in London: RCDS brings together military and civilian high-fliers, mostly selected by their governments, from every corner of the world for a yearlong international relations and security course.
- Joint Services Command & Staff College (JSCSC) in Shrivenham: The JSCSC was created in 1997 to maximise the opportunities for the common understanding of the approach to warfare and defence as a whole, consistent with the increasing importance of joint, combined, multinational and inter-agency nature of future operations. The Higher Command and Staff Course (HCSC) and the Advanced Command and Staff Course (ACSC), run by the JSCSC, are open to overseas students.
- College of Management and Technology (DA-CMT) in Shrivenham: The key constituent elements of DA-CMT prior to the formation of DE&S in 2007 were the Defence Management and Leadership Centre (DLMC) with its focus at the strategic level. In April 2007, DA-CMT was formed from the old Defence Procurement and Management Training centre and the various Defence Logistics Organisation training centres, and integrated within it. As a result, DA-CMT now has the capability to provide all business- and acquisition-related training and education across the MOD to fulfil its mission: **‘To provide high quality education, training, research and advice in technology, management and leadership, together with relevant aspects of security and resilience, to students in defence in order to enhance the delivery of defence capability.’** DA-CMT has developed a range of courses. These courses are delivered using blended learning techniques, including e-learning, classroom-based activities, facilitated case studies and expert-level master classes. As Through- Life Capability Management (TLCM) was developed further in the implementation phase, it became apparent that a major training and education programme was needed to enable the professional skills to be applied effectively to delivery of through- life capability and provide the benefits envisaged by the Defence Acquisition Change Programme (DACP). TLCM training and education thus became the fourth part of the up skilling element of the DACP. DA-CMT delivers high quality education, training, research and advice in technology, management and leadership, together with relevant aspects of security and resilience, in order to enhance the delivery of defence capability. DA-CMT comprises five main areas organised in a task-oriented structure to meet current and future

requirements: the Defence Technical Group, including the Information Division; the Defence Sixth Form College and the Defence Technical Undergraduate Scheme; Defence Business Learning, which provides underpinning training and development for personnel working in the Ministry of Defence; the Defence Leadership and Management Centre including the Defence School of Finance and Management; and the Security Studies and Resilience Group.

## USA

The US Department of Defence today has three principal decision-making support systems associated with military acquisition:

- Planning, Programming, Budgeting and Execution (PPBE) Process - Process for strategic planning, program development, and resource determination.
- Joint Capabilities Integration and Development System - The systematic method established by the Joint Chiefs of Staff for assessing gaps in military joint war fighting capabilities and recommending solutions to resolve these gaps.
- Defence Acquisition System- The management process used to acquire weapon systems and automated information system.

### Defence Acquisition

Since the earliest days, U.S. military forces have relied on private enterprise to supply the material, equipment, and services needed in peace and war. Although the government has always manufactured some war materials — especially ammunition — at no time have the armed forces been fully independent of the private sector in meeting their needs. Food, clothing, and ordinary necessities have always been supplied by contract. Ordnance and ships have also been supplied primarily by private industry, although government shipyards and arsenals have played an important role.

Prior to 1960s there was no formal acquisition policy across DoD, largely because the Secretary of Defence either did not have the authority or did not choose to enforce such a policy. When the Department of Defence was established, in 1947, it was by design a loose confederation of the three military departments, and the Secretary of Defence was limited to providing general direction to those departments. The first Secretary of Defence, James Forrestal (1947-1949), lost no time in recommending "the statutory authority of the Secretary of Defence should be materially strengthened . . . by making it clear that the Secretary of Defence has the responsibility for exercising direction, authority and control over the departments of the National Military Establishment." That power was only slowly granted; however, and throughout the 1950s the individual services generally ran their own acquisition programs with very little interference from OSD, each service buying the weapon systems suitable for the kind of conflict it envisioned. The higher military budgets, resulting from the increased international role of the United States following the Korean War, presented this decentralised decision-making system with a twofold challenge: (1) efficient management of the first peacetime Defence industry in U.S. history and (2) effective coordination of military R&D efforts.

## ACQUISITION SYSTEMS, PROCEDURES & REFORMS

Major set of acquisition systems and procedures were established during the tenure of Secretary of Defence, Robert S. McNamara (1961-1968) and during the tenure of, Melvin Laird Secretary of Defence, during the first term of Mr Richard Nixon. **The Blue Ribbon Defence Panel Report (1970)** concluded that Do D's established policies have "contributed to serious cost overruns, schedule slippages and [technical] performance deficiencies," and that reform would "require many interrelated changes in organization and procedures." The panel concluded that the Defence Department could not fix the problems in existing management practices on an ad hoc basis, and recommended the Pentagon revise basic directives and create new ground rules to resolve these fundamental weaknesses. The report advocated the use of more civilian managers and the creation of a program manager career path within the military, including industrial management training and experience, while giving program managers greater and more clearly defined authority. DoD Directive (DoDD) 5000.1 was issued and this applied to major acquisition programs only— those exceeding a development cost of more than \$50 million, a production cost of over \$200 million, or a program meeting some urgent national need. In the summer of 1985, President Reagan established the Blue Ribbon Commission (the Packard Commission) on Defence Management, marking the culmination of numerous related and sometimes conflicting reform initiatives that had been underway in Washington since the early 1980s. Congress, which had closely followed the Commission's deliberations, enacted legislation establishing the position of Under Secretary of Defence for Acquisition [USD (A)] recommended by the Commission. Ranking third behind the Defence Secretary and the Deputy Secretary of Defence, this new post expanded OSD control of weapons procurement at the expense of weakened acquisition organisations in the Army, Navy, and Air Force. The lengthy acquisition process (seven to ten years or longer) for major weapon systems was a central problem, and produced other acquisition problems. The Packard Commission pointed out three typical hazards.

- It leads to unnecessarily high costs of development. Time is money, and experience argues that a ten-year acquisition cycle is clearly more expensive than a five-year cycle.
- It leads to obsolete technology at the time of deployment.
- It aggravates the concern that is one of its causes. Users, knowing that the equipment designed to meet their requirements is fifteen years away, make extremely conservative (i.e., high) threat estimates.

Because long-term forecasts are uncertain at best, users tend to err on the side of overstating the threat. To address this and other major problems, the Packard Commission made four major recommendations:

- Create a new Under Secretary of Defence for Acquisition, who would "set overall policy for procurement and research and development (R&D), supervise the performance of the entire acquisition system, and establish policy for administrative oversight and auditing of Defence contractors.
- Create the senior position of Service Acquisition Executive (SAE) in each service, who would be a civilian presidential appointee reporting to the new DoD Under Secretary, as well as to the service secretary.

- Create program executive officers (PEOs) appointed by the SAEs. Each PEO would oversee a group of program managers in charge of major acquisition programs reporting up this civilian chain of command from the Program Executive Officers to the Service Acquisition Executives to the Under Secretary of Defence for Acquisition.
- Give the chairman of the Joint Chiefs of Staff more authority and create a vice-chairman, who, along with the new Under Secretary, will be part of a Joint Requirements Management Board, which will establish requirements for new weapons and approve or reject them at each step along the path to production.

In February 1987, the Office of the Secretary of Defence issued Directive 5134.1, which outlined the functions of the USD (A). The holder of this position, the directive stated, would serve as “the principal staff assistant and advisor to the Secretary of Defence for all matters relating to the acquisition system; research and development; production; logistics; command, control, communications, and intelligence activities related to acquisition; military construction; and procurement.” Title V of the Goldwater-Nichols Act, established the legal guidelines used by the military services to restructure their acquisition organizations based on the Packard Commission’s recommendations. To create the commission’s three-tiered military and civilian acquisition management structure—service acquisition executive, program executive officer, program manager—the Army, Navy, and Air Force each merged the separate acquisition organisations previously assigned to each service secretary’s office and the corresponding office of the service chief of staff. It is a complex system that involves several organisations within the DOD. The Office of the Under Secretary of Defense for Acquisition, Technology and Logistics is responsible for the oversight of the procurement activities of the various segments of the DOD<sup>7</sup>.

Each individual armed service (U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marine Corps, and U.S. Coast Guard) executes its own defence procurement and is supported by distinct procurement offices. The Office of the Assistant Secretary of the Navy for Research, Development and Acquisition, for example, is responsible for U.S. Navy and U.S. Marine Corps procurement functions and programs; the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology is responsible for those of the U.S. Army; the Office of the Assistant Secretary of the Air Force for Acquisition is responsible for those of the U.S. Air Force; and the United States Coast Guard Acquisition Directorate is responsible for those of the U.S. Coast Guard. Each of these offices, in turn, operates a range of sub-organisations that specialize in specific fields of procurement, such as research and development, the acquisition of weapon systems and military equipment, the acquirement of infrastructures, the purchase of commercial products, and the provision of support services<sup>8</sup>.

A number of DOD agencies also act as purchasing organisations. One of the most important is the Defense Logistics Agency, which is responsible for furnishing many of the supplies and services used by U.S. military forces, including food, fuel, medical

<sup>7</sup> Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, “[Welcome To AT&L](#).”

<sup>8</sup> For more information, consult the websites of the [Assistant Secretary of the Navy, Research, Development and Acquisition](#); the [Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology](#); the office of the [Assistant Secretary of the Air Force \(Acquisition\)](#); and the [United States Coast Guard Acquisition Directorate](#)

supplies, and spare parts<sup>9</sup>. Other DOD agencies involved in defence procurement include the Defense Advanced Research Projects Agency (DARPA), which is the central research and development agency for the DOD, as well as the National Security Agency (NSA), which conducts intelligence, cryptology and information security<sup>10</sup>. In all, DOD comprises some 22 different acquisition organisations<sup>11</sup>.

What has been brought out in the preceding paras is the major changes that were brought about in the acquisition system. Studies have been conducted on regular basis. From 1960 through 2009 there were more than twenty-seven major studies of Defence acquisition commissioned.

### **Defence Acquisition Workforce Improvement Act**

The *DoD Directive 5000.1, The Defence Acquisition System*, states that the Department of Defence shall maintain a proficient acquisition, technology, and logistics workforce that is flexible and highly skilled across a range of management, technical, and business disciplines. In addition, this directive requires that the Under Secretary of Defence for Acquisition, Technology, and Logistics (USD (AT&L)) shall establish education, training, and experienced standards for each acquisition position based on the level of complexity of the duties carried out in that position. DoD acquisition leaders, along with members of Congress, have recognised the contributions of a competent workforce to Defence acquisition effectiveness and commented on the cost, schedule, and performance shortfalls of Defence weapon system programs and said that, “the root cause of these and other problems in the Defence acquisition system is our failure to maintain an acquisition workforce with the resources and skills needed to manage the department’s acquisition system”. In response to these congressional concerns, legislation and policy were implemented, emphasizing the training, education, and experience of members of the Defence acquisition workforce.

A major step forward in the professionalisation of the DoD acquisition workforce was Public Law 101-510, which enacted the *Defence Acquisition Workforce Improvement Act (DAWIA)* in 1990. In developing the *DAWIA*, Congress, considered the “three distinct elements within DOD’s Acquisition System: (1) the policies, procedures, and processes which govern the operation of the acquisition system; (2) the organisation of the resources (people, management structure, capital, and facilities) that execute the policies and procedures; and (3) the people within the organization that make the system work”. The purpose of the Act was to improve the effectiveness of the personnel who manage and implement Defence acquisition programs. In addition, the Act required the establishment of an Acquisition Corps and professionalisation of the acquisition workforce through the establishment of education, training, and acquisition-related experience requirements.

<sup>9</sup> Defense Logistics Agency [DLA], “[DLA at a Glance](#).”

<sup>10</sup> Defense Advanced Research Projects Agency [DARPA], “[Our Work](#)”; and National Security Agency [NSA], “[About NSA](#).”

<sup>11</sup> Susan M. Gates et al., *Analyses of the Department of Defense Acquisition Workforce – Update to Methods and Results through FY 2011*, RAND, 2013, p. 4

Federal Acquisition Regulations (FAR) is the primary regulation for use by all Federal Executive agencies in their acquisition of supplies and services. It is an exhaustive and elaborate publication, which became effective on April 1, 1984. The Defence Federal Acquisition Regulations adopting the basic FAR and codifying it specifically for Defence were notified in 1991.

### PROGRESS TOWARDS PROFESSIONALISATION

A major step forward in the professionalisation of the DoD acquisition workforce was Public Law 101-510, which enacted the *Defence Acquisition Workforce Improvement Act (DAWIA)* in 1990. The Congress, considered the “three distinct elements within DOD’s Acquisition System: (1) the policies, procedures, and processes which govern the operation of the acquisition system; (2) **the organisation of the resources (people, management structure, capital, and facilities) that execute the policies and procedures;** and (3) **the people within the organisation that make the system work**”. The *directive* states that the DoD shall maintain a proficient acquisition, technology, and logistics workforce that is flexible and highly skilled across a range of management, technical, and business disciplines. In addition, this directive requires that the Under Secretary of Defence for Acquisition, Technology, and Logistics (USD (AT&L)) shall establish education, training, and experienced standards for each acquisition position based on the level of complexity of the duties carried out in that position. DoD has recognised the contributions of a competent workforce to Defence acquisition effectiveness. In commenting on the cost, schedule, and performance shortfalls of Defence weapon system programs

The *DAWIA* also provided for the establishment of a Defence Acquisition University (DAU) structure. Under the approval of the USD (AT&L), the DAU develops curricula for each acquisition career field, to include descriptions of the education, experience, and core training required to meet the standards for certification. These education, training, and experience requirements are based on the complexities of the acquisition job and serve as the basis for three levels of certification. DoD civilian and military billets in the acquisition system have acquisition duties that fall into the career fields and their strength in Jan 2012<sup>12</sup> is as shown in Table 1 below.

### DISTRIBUTION OF ACQUISITION WORKFORCE ACROSS CAREER FIELD & SERVICE

Sl No	Career Field	Defence Agencies	Air Force	Army	Navy	Total
1	Auditing	4,231	0	0	0	4,231
2	Business	614	2,309	2,723	2,615	8,261
3	Contracting	7,165	7,996	9,125	6,041	30,327
4	Facilities Engineering	10	36	1,767	5,615	7,428
5	Industrial/Contract Property Mgmt.	317	26	75	65	483

<sup>12</sup> DAU presentation to IDSA in April 2012

6	Information Technology	346	1,086	2,301	1,830	5,563
7	Life Cycle Logistics	230	2,762	8,962	5,415	17,369
8	Production, Quality and Manufacturing	4,838	406	2,004	2,353	9,601
9	Program Management	1,230	5,361	3,491	5,601	15,683
10	Purchasing	251	131	358	536	1,276
11	Systems Planning, Research Development, and Engineering (SPRDE)	1,892	10,828	10,358	19,674	42,752
12	Test and Evaluation	317	2,936	2,298	3,022	8,573
13	Unknown	36	270	14	24	344
	Total	21,477	34,147	43,476	52,791	1,51,891

### Defence Acquisition University (DAU)

The DAU is a government “corporate” university of the Department of Defense, Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) (DoD USD (AT&L)). To accomplish its mission of *providing practitioner training and services* to over 150000 Department of Defense acquisition employees across 13 career fields (Details at Table above), DAU provides a full range of certification training to qualify for advancement, tailored training, consulting, continuous learning opportunities, and knowledge sharing, and research. The University is recognised nationally as a “Best in Class” corporate university with numerous awards. The DAU continues to provide increased training opportunities for the Defense Acquisition Workforce.

The courses are not just campus based residential programmes, it reaches out to the personnel using latest communication technologies i.e. web based, mobile etc. Learning at the Point of Need is about providing the right learning solution at the right time, and at the right place... a huge paradigm shift from the traditional classroom environment of the 20th century to a total learning environment of the 21st century in which all learning resources are available on demand. The DAU courses are intended to provide acquisition workforce members unique knowledge for specific acquisition workforce assignments, jobs, or positions. In addition, the DAU courses are developed to help the acquisition workforce maintain proficiency and remain current with DoD acquisition legislation, regulation, and policy. Although all Defence agencies follow the DAU curriculum, some civilian agencies (including NASA and the Department of Energy) also follow the DAU curriculum specifically for the contracting and purchasing career fields.

To ensure that the training is taken to as close to the workforce, the DAU has five campuses:

Region	Location	Region	Location
Capital/Northeast	Fort Belvoir, VA	South	Huntsville, AL
Mid-Atlantic	California, MD	West	San Diego, CA
Midwest	Kettering, OH		

## GERMANY

### Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw)

The specialised department "Besatzungslastenverteilung" (Distribution of the Burden of Occupation) of the Federal Ministry of Finance was established on 01 September 1950. This "Blank Agency" became the nucleus of the later Ministry of Defence. In 1955 the "Blank Agency" was renamed as "Federal Ministry of Defence" (BMVg). In 1956 the Branch Division Koblenz became "Division XI, Armament Office". Its tasks were the preparation for production, procurement and government quality assurance of defence materiel. BMVg Division XI was renamed "Office of Defence Technology and Procurement" in November 1957. In 1958 the "Office of Defence Technology and Procurement" became a higher authority directly subordinate to the BMVg and was called "Federal Office of Defence Technology and Procurement (BWB). The armaments sector was reorganised within the BWB structure, and the division "Project Area" was established in addition to the already existing technical divisions. The project officers in this division managed their projects in a way comparable to a "prime contractor" in the private sector. **On 03 October 1990 within the framework of the German reunification**, the Office of Procurement of the National People's Army (NVA) of the GDR became part of the BWB organisation as "Branch Division Berlin". This branch division was in charge of reducing NVA equipment (scrappage, disposal and sale) as well as procuring Bundeswehr equipment from contractors. In May 1993 the Federal Ministry of Defence redefined the tasks of the BWB and its agencies. The range of tasks now covered mainly management tasks as well as technical tasks focusing on systems engineering/integration. In Jan 1997 BWB was assigned charge of all the tasks related to information technology (IT) within the Bundeswehr. The Bundeswehr data processing centres and parts of the Federal Office of Defence Administration became part of the BWB. In April 2002, "Federal Office of the Bundeswehr for Information Management and Information Technology" (Bundeswehr IT Office) was established. In April 2003 BWB adopted a fundamentally new organisational structure (Executive Staff and enlarged Controlling as staff elements on the highest management level, four Project Divisions (system level management), two service divisions (economic/technical and central services) enabling the BWB to focus on its core task: project management. Technical tasks were delegated to the agencies of the BWB organisation. The reorganisation was based on the objectives of the program "Modern State – Modern Administration" adopted on 1 December 1999 by the Federal Cabinet. It was part of the reform concept elaborated by the commission "Common Security and the Future of the Bundeswehr" an essential step towards a more modern and effective Bundeswehr. In June 2005 The Project Directorate was established within the BWB. It was responsible for the coordination of projects across several sections to realize network centric operations. The objective was to enable the Armed Forces to conduct network

centric operations, which was of prime importance for the Bundeswehr transformation process. The aim was to achieve C2 and information superiority in a joint effort and thus increase the effectiveness of the Armed Forces considerably. The Service Division "Strategic Purchasing in the Bundeswehr" (SAbt E) was established in 2006.

The core task of SAbt E was to continuously enhance and modernize the identification of the demand for commercial goods and services and the satisfaction of this demand. On 30 September 2012 Federal Office of Defence Technology and Procurement (BWB) and the Federal Office of the Bundeswehr for IT Management and IT Technology (Bundeswehr IT Office) were disbanded and the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) established on 01 October 2012. The staff strength is 11000+2500 members<sup>13</sup>.

Article 87b of the Basic Constitutional Law of the Federal Republic of Germany assigns the task of personnel management and of satisfying the Armed Forces' requirements for material and services to the Federal Defence Administration<sup>14</sup>. The Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) and its agencies are subordinate to the Directorate of Equipment, Information Technology and In-Service Support (AIN) at the Federal Ministry of Defence.

The main task of BAAINBw is to equip the Bundeswehr with efficient and safe materiel. Development, field-testing, procurement and in-service management of defence materiel are focal tasks of this work. These tasks are partly processed by awarding corresponding contracts to trade and industry and partly by the BAAINBw organisation itself.

The spectrum ranges from highly complex weapon and IT systems, tanks, aircraft and ships to soldiers' personal equipment. The BAAINBw is responsible for the entire process from the preparation of technical solutions, the implementation and in-service control up to disposal and recycling of defence materiel – so to speak a "one-stop shop". It is supported by eight Bundeswehr Technical Centres and Research Institutes as well as the Bundeswehr Centre for Information Technology (Bundeswehr IT Centre). The Naval Arsenal, another agency of the BAAINBw, ensures the operational readiness of the German fleet. A liaison office in Reston/USA will represent the defence technology and armaments interests' vis-à-vis government organisations and industry in the United States and Canada.

<sup>13</sup> Sourcing Capabilities as a major element in governance reform: The case of service solutions as an important strategic procurement management capabilities at the Federal Office of Defence Technology and Procurement Siegfried Hoos, Managing Director of the BWB, Head of Strategic Procurement and Michael Essig, Director of the Institute for Law and Management of Public Procurement, Bundeswehr University Munich Andreas Glas, Scientific assistant at the Institute for Law and Management of Public Procurement, Bundeswehr University Munich

<sup>14</sup> The German Basic Constitutional Law separates the tasks of the Armed Forces from the tasks of the Federal Defense Administration: Art 87a: „The Federation shall establish Armed Forces for purposes of defense“; Art 87b: „The Federal Defense Administration shall be conducted as a federal administrative authority with its own administrative substructure. It shall have jurisdiction for personnel matters and direct responsibility for satisfaction of the procurement needs of the Armed Forces.

**ENABLING FRAMEWORK AND SUMMARY OF OBSERVATIONS  
& RECOMMENDATIONS**

“ Be the change that you wish to see in the world.”

Mahatma Gandhi



## CHAPTER 7

### ENABLING FRAMEWORK AND SUMMARY OF OBSERVATIONS & RECOMMENDATIONS

#### 7.1 Enabling Framework

##### Developing Consensus

7.1.1 A broad consensus should emerge on matters concerning defence which will take into its ambit strategic policy, an understanding of the nature of defence materiel and their attributes, the defence industry framework and procurement procedures. The last being a matter of such critical importance, will not be harnessed by a template devised and suited to civil products and the market which prevails therein. All these objectives need to be accomplished through discussions, debates, preparation of white papers, resolutions of Parliament and legislation, involving a wide cross section of society outside the formal Government establishments.

##### Make In India

7.1.2 The data base would be constantly updated to provide information on competence levels of indigenous industry (both in the public and private sectors) and monitor how it climbs upwards on the ladder so that the preponderance of BUY (Global) transforms itself into BUY (Indian) and MAKE in calibrated phases. The list of items would range from those of small value (under the current indigenisation programme of the Services) including those produced in base workshops to major systems integrated platforms. Participants accordingly would be across the spectrum from MSMEs to corporate conglomerates.

7.1.3 The decision flow chart on the mode of procurement would ensure that indigenous capabilities are given first preference. The fact that a single vendor situation has developed would not render the process invalid, if it meets the QRs, and the price is not 'prohibitive'. A symbiotic relationship would be established between policy and procedure.

##### The Procurement Executive

7.1.4 A proactive defence procurement executive, with specialist wings and personnel working outside the STAFF oriented environment of a Government of India Ministry would spearhead the procurement process working seamlessly with the Ministry of Defence and Services Headquarters. Its role would not be confined only to issuing of RFPs, forming CNC's and administering contracts. Driven by the mandate of 'Make in India,' it would seek out innovative ideas and nurture them in a holistic manner, providing R & D and QA support, devising funding arrangements, providing a level playing field and encouraging symbiotic relationships of Tier I, II, III industries amongst themselves and with major integrators. Preference wherever possible would be accorded to MSMEs. Hand holding and nurturing would become the DNA of the procurement executive, rather than a hands off approach and where meetings with industry personnel are looked upon with suspicion and discouraged. New comers especially amongst MSMEs find it difficult to establish footholds in the system. Innovative institutional methods of technology transfer and funding arrangements would be devised to render assistance to them.

### **Defence Industry**

7.1.5 Defence equipment purchase would ride on the broad backs of industry. Industry would be taken into confidence at various stages including preparation of the TPCRs, and development of PSQRs. Their representatives should participate in the Defence Production Board and Defence R&D Board. Data centres would be set up and managed where there would be constant flow of relevant information. The capabilities of the Public sector defence establishments, which today carry the bulk of the responsibility, would be enhanced through technology infusions, and managerial and structural changes to keep up with global trends. The private sector would be accorded a level playing field and its contribution taken into account whilst drawing up long term equipment induction plans.

### **Procurement Procedure**

7.1.6 The procurement procedure will be as comprehensive as possible and seek to reduce bottlenecks and time lines but once activity milestones are determined, the process will follow established management principles. All this is to avoid the use of discretionary power. Collegiate decision making would be the norm for all critical steps.

### **Partnership And Competitive Models**

7.1.7 Defence products have strategic value, are characterised by robustness and high quality and must also be cost effective. Depending upon the priority to be accorded to each of these attributes, industrial entities would be classified as strategic partners, development partners and those which are cost competitive. Transparent selection procedures would be set in place. Participating industrial entities thereafter need to be integrated into a system which requires long term relationships (defence materiel life span can last 50 – 60 years). This includes maintenance, repair, overhaul, product support, upgrades and follow on purchases, if any. It follows therefore that long term partnerships are not only between users and suppliers but also between systems integrators and their vendors. A robust vendor rating system needs to be put in place and frequent changes in vendors discouraged. The argument that this is necessary to ‘discover price’ is not always valid. It must be weighed against time expended in certifying new vendors and quality checks of their products. Moreover, the order quantities being limited and there being only one buyer, the induction of a new vendor in an established supply chain can only be done at the cost of the one already within it, leading to waste of national resources.

7.1.8 Long term partnerships do not imply that the doors are being closed to new vendors and that competition is being throttled. The defence industry in India is in a nascent stage and there is huge scope for expansion. When India is on a growth trajectory, there is considerable room available for new vendors coming in through innovation and competition.

7.1.9 Such a process should not imply that importance is not being accorded to cost considerations. Procedures for ‘price determination’ as against ‘price discovery’ would be established on the lines prevailing in many advanced economies involving open account books and cost audit. Thus there should be no apprehension that the MoD would be taken for a ride.

### **Trust and Oversight**

7.1.10 The system of Technical Oversight Committees, Ombudsman, Eminent Persons Group, and pre Audit will result in greater confidence building amongst decision makers leading to expeditious closure of procurement cases.

### **Support Base**

7.1.11 Indigenous industry needs to be supported by a strong R&D and QA system. The aspect of transfer of know-how from the R&D stage to production needs to be done carefully. Some institutional shortcomings have been noticed and these need to be attended to. The Indian Armed Forces have always encouraged upgrades realising that frequent purchases of new equipment is a costly affair. However, sometimes fitment of assemblies and parts in existing equipment during upgrades can destabilise the equipment if crucial design parameters are overlooked. Hence it is necessary that designers be always consulted in the upgrade process. Similarly manufacturing technology needs to be kept under watch for incremental changes in processes and materials. A study needs to be made of organisations like MANTECH in the US. This should be done by SODET (Society of Defence Technologists) and perhaps SODET itself could take on this responsibility. Agencies in-charge of quality assurance and standardisation have been kept in the periphery in spite of the vital nature of their work. Quality workmanship and standardisation can save crores of rupees. Unfortunately, this has not been quantified and hence the consequences of their neglect have not been highlighted. A regime which will progressively mandate quality checks, codification and standardisation needs to become an integral part of the policy framework.

7.1.12 A data centre would need to be established under the aegis of ‘digital India’ and manned by a dedicated staff in the Procurement Executive. Such a data centre would cater to the needs of all the stake holders and provide a digital meeting place. This by itself would be a herculean task but needs to be attended to expeditiously.

### **Working in Tandem**

7.1.13 The Ministry of Defence should work in tandem with other concerned GoI Ministries dealing with industrial policy, MSMEs, trade policy and export, taxation, provision of funds, skill development, industrial standards etc.

### **Internal Adjustments within The MoD**

7.1.14 The series of initiatives taken as a result of the recommendations of the Group of Ministers in 2002 led to greater integration within the MoD, including the Services. The constitution of the Defence Acquisition Wing and various coordinating and decision making Boards reflects the desire to bring about greater synergy. Production policies and procurement procedures would hereafter constantly impact upon each other. Thus, a greater convergence would need to be brought about between the Department of Defence Production and the Office of DG Acquisition.

### **Chinks In The Armour**

7.1.15 The success of any policy would depend on how effectively the weak areas have been addressed. There are weaknesses which cut across all sectors of the industrial economy, not only Defence. These relate to R & D, innovation and skill development. Emphasis needs to be put on studies in pure sciences, giving prominence to researchers and academics and in massive programmes of skill development. Recent published data shows some disturbing trends. The Global Innovation Index (GII) of 2014 indicates that India has slipped since the last report. The data gleaned from the World Intellectual Property Organisation (WIPO), the US Patent and Trademark Office (US PTO) and the European Patent Office (EPO) indicates that in the global patents race India is still a small player. There is a lack of Intellectual Property (IP) growth which, after peaking in 2007, shows a declining trend. Even amongst the IPRs, pharmaceuticals and organic chemistry account for forty percent. Defence products are technology intensive and apart from the normal red lines drawn by countries for ToT, there are several control regimes which hinder ToT. Thus, emphasis on defence R & D is all the more important. Measures should be implemented to encourage innovative thinking, while at the same time ensuring that they lead to demonstrable output.

7.1.16 Having crossed the obstacle of R & D, the production of Defence equipment is another major challenge because it demands highly skilled labour, inherent in the manufacturing process. Here again, there is considerable skill deficit in the country. Recently published data collected by the Socio Economic and Caste Census of 2011 indicates that the distribution of casual workers in unskilled labour across states is large. Success in manufacture would depend on how we are able to address the problem of skill deficit.

### **Looking Ahead**

7.1.17 It is expected that with these initiatives the trend in imports would see a downward trend and the seventy percent target of indigenous products by value would be reached by 2027. At the same time, our Forces would be kept battle ready at all times, through a comprehensive, well understood and easily implementable Defence Procurement Procedure. The aforesaid enabling framework is the environment in which the proposal in this report be examined for implementation. A summary thereof follows.

### **Summary of Observations**

#### **7.2 Chapter 1: Defence Materiel**

i. Defence systems acquisition, defence production and formulation of doctrines of offensive and defensive warfare are all intertwined. These are conducted within an overarching strategic defence and foreign policy environment. (Para 1.1.01)

ii. The overarching responsibility of the political executive and consequently the decisive voice in the field of foreign and defence policy is axiomatic in democratic politics. The Services understand and respect this position. In defence matters a national consensus must be developed to generate military power. (Para 1.3.01)

iii. However the Armed Forces must have a decisive role in the choice of the characteristics of defence systems and equipment based on user preference and tactical and operational doctrines.

(Para 1.4.01)

iv. Defence materiel has several distinctive features. They are technology intensive, costly to develop, and composed of complex systems. Equipment needs to go through rigorous trial procedures and personnel need to be trained to exploit them. A combination of man and machine is what matters in times of war. It differs considerably from civil products. (Para 1.5.01)

v. The distinctive feature of defence materiel has a bearing on purchase procedures, search for an industrial source and price fixation because of non operation of traditional market forces. (Para 1.5.05)

vi. Because of the nature of defence systems the procedures need to be different from civil procurement procedures. Oversight and audit procedures need to be instituted to cater to these specialised procedures. The procurement executive must have in house professional expertise in diverse disciplines. (Para 1.6.01)

### 7.3 Chapter 2 : Defence Industry

i. The standard of performance demanded of defence systems is extremely high and scrutiny of the qualitative requirements intense. This, coupled with fast changing technologies requiring huge investment in R & D and the need to integrate many sub-systems to arrive at the finished product, leads to high cost;

ii. Even in the case of electronic equipment used in defence systems the so called Grosch's Law does not apply and costs of defence systems continue to rise because of lesser quantities to be produced. There are negative economies of scale;

iii. Since fewer weapon systems of a given type are purchased, very little investment in advanced production plant technologies can be economical. Most weapon systems are almost entirely made by hand, with a profligate use of costly skilled labour.

iv. Another crucial factor is that the military, used to traditional platforms, but enamoured of technical developments mainly in electronics, insists on fitting modern electronics into traditional platforms, a costly process indeed. The basic structures of commonly used platforms have not changed since they came into being in the closing years of World War II;

v. The result is that the number of defence manufacturers continues to be low; Defence purchases are a monopsony and purchases take place from relatively few manufacturers;

vi. The normal cost constraining function of the free market is absent from military purchasing. Export regulations by seller countries and offset requirements by buyer countries further distorts the market. Mergers and acquisitions are the norm.;

- vii. Majority of defence materiel manufacture in India is in the public sector, which has two models (as a Government entity - OFB or as a corporate body - DPSUs). However, large private sector industries and MSMEs are keen to participate in defence equipment manufacture.
- viii. Many countries with a strong public sector defence base relaxed state controls and increased privatisation. Private companies were made partners not only in production but also R & D. This has paid rich dividends not only in enhancing production, but helping exports.
- ix. Having brought the private industry into the defence industry fold, it would be imperative for Government to support the limited numbers (who do venture into the business) on a long term basis. This would require both long term projections and stable current orders, and hand holding in various stages of the procurement cycle ranging from R&D to life cycle support and upgrades.
- x. Long Term Planning of equipment needs to be harmonised with requirements of R&D and skill development, both of which also have long lead times.

#### 7.4 Chapter3: Make in India

- i. To convert 'Make in India' into a reality in defence sector, the Defence Procurement Procedure needs to help create an eco-system where design, R & D, manufacturing, maintenance, upgrade and export capabilities thrive.

[Para3.1.01]

- ii. We need to aim to reverse the current imbalance between the import of defence materiel and indigenous manufacture of defence materiel without adversely affecting the requirements, capability and preparedness of the services. A 'Conceptual Competence Ladder' in defence sector has been drawn to chart our course.

[Para3.1.02]

- iii. Since all the indigenous capacity cannot be built overnight, a graduated approach needs to be taken starting with a conscious shift in favour of the Make, Buy (Indian) and Buy and Make (Indian) category and significant increase in the indigenous content. At the same time to ensure that 'Make in India' concept does not become just 'assemble in India', it is necessary to develop the capability for design and development and capacities for manufacturing, as well as the ability to service, maintain and upgrade a given system. Increased coverage of Make schemes will strengthen this further.

[Para 3.1.05]

- iv. Once a higher portion of the defence procurement starts coming from the Indian vendors, a shift in the offset policy towards direct and directed offsets, leveraging the same towards acquiring critical technologies, should be made. This should be particularly so in the cases of various G to G purchases.

[Para 3.1.06]

v. The culture of increasing the share of Indian vendors and indigenous content in our capital procurements needs to spread to other entities like the DRDO, the DPSUs, the OFB or any integrator for that matter, in their own sourcing. They must also follow the floor level for indigenous content stipulated in DPP 2013, if not better it.

[Para 3.1.07]

vi. The up-gradation plan of in-service weapon systems must be launched, both for managing obsolescence as well as infusing additional capabilities by way of inserting contemporary technologies, and most cases must be executed under 'Make' procedure.

[3.1.08]

vii. An analysis of the AoN data for 2013 -2015 shows a decisive shift in favour of the Buy (Indian) and Buy and Make (Indian) category. This needs to be further consolidated through more Make programmes and an increase in the floor level for the Indigenous content, and also by prescribing higher IC level in individual cases at the categorization stage.

[Para 3.2.01 – 3.2.07].

viii. A vibrant Defence Industrial Base must necessarily include the private industry, both large, medium and small scale. This would enable utilisation as well as consolidation of the national manufacturing base in areas such as shipbuilding, engineering and metallurgy, automotive, electronics, avionics, telecommunication etc. Considering the available synergies between civil and defence technology applications, and the existing capability of Indian private industry, fostering a constructive, long term partnership is a strategic imperative to minimise dependence on foreign vendors. Larger and sustained production volume of any system leads to optimisation of cost as well as improved production efficiency. We have described the contours of Models for partnership with private industry. These are 'Strategic Partnership Model' – for six selected segments, 'Development Partnership Model' – for other quality critical weapons & sensors and 'Competitive Model' – for the other general requirements.

[3.3.01 – 3.3.03]

ix. In Strategic Partnership model, a private sector partner is chosen for the development of a specific, identified, strategic platform / system or material, on a long term basis taking into consideration existing capacities in the Public Sector. The selection process is required to be transparent and based on clear criterion stated upfront. To guard against any conglomerate formation or cartelisation one private industry can become a strategic partner for only one platform / system and cannot have cross holdings in a company that is a strategic partner for another platform. Their books of account will be open to the Government. This will help curb any monopolistic tendencies, particularly when capacity for the strategic system also exists in the public sector units.

[3.3.04 – 3.3.09]

x. Realising the idea of 'Make in India' in the Defence sector will require that indigenous design, development and maintenance capacities are significantly enhanced. Additional required capacities would have to come from Indian private sector, who will

need to be engaged with and facilitated through regular interaction and communicating specific requirements of the Services, making test and trial infrastructure available etc. The role of MSME cannot be underestimated, they should be equal partners in the increased out sourcing by DPSUs / OFB and other system integrators.

[3.3.17 – 3.3.23]

xi. ‘Make’ category lies at the base of the creating credible indigenous capacity and a vibrant Defence Industrial Base (DIB). The current DPP provisions are essentially aimed at large projects. However, the Make culture needs to percolate across entire range of products from spares to sub-systems to entire systems to promote, wherever possible, indigenous development as well as import substitution. This will call for a nuanced approach both to the development phase, including funding and the induction phase. The proposed broad-basing of the scope under the ‘Make’ category should open up the initiative to many sub-categories.

[3.4.02 – 3.4.015]

xii. Given that the ‘Make’ cycle requires considerable lead time, there is a strong need to pre-position ourselves for ‘Make’ activities based on the projections under the LTIPP particularly items required from the 6th year onwards particularly so for large projects.

[3.4.16]

xiii Development of indigenous capability in the Aerospace sector is inadequate. Considering that this is a technology-intensive sector, and any enhancement of indigenous capability in this sector would result in phenomenal downstream effect. A more effective partnership model, with “Industry lead—DRDO supported model” could bring higher dividends. The participation by foreign industry can also be included, where necessary.

[3.4.10]

## 7.5. Chapter 4 : Defence Procurement Procedure

### 7.5.01 Introduction

i. DPP, since its inception, has continued to evolve in response to the feedback and needs of Services and industry, as well as experience gained by the acquisition executive in the implementation of the procedure.

ii. The industry remains very enthusiastic about their participation in defence sector given the preferred categorisation in favour of Buy (Indian) and Buy & Make (Indian) in DPP 2013. Together with the provision of reduced validity period (01 year) of AoN, the pace of accord of AoN and issue of RFPs has improved. A clear trend of increased participation of Indian industry through Buy (Indian) and Buy & Make (Indian) cases is discernible.

iii. However, feedback from the Services and industry reflects that the overall procurement process from RFP to Signing of Contract is still very prolonged, owing to delays attributable to various aspects of the process e.g. technical evaluation, field evaluation, rigidity of adherence to SQRs, resolution of complaints.

[4.1.01 – 4.1.04]

#### 7.5.02 **Basic Architecture for Defence Procurement**

- i. A preamble to the DPP as its integral part should explain the distinctive features of defence materiel and the nature of the industry. It should also explain the dynamic relationship between weaponry and strategic and tactical thinking and the role of the political executive and Armed forces in choice of systems based on requirements as well as on the inventory of adversaries.
- ii. The primary aim of the procedure is to provide requisite defence materiel to the Armed forces in the desired quantities and the desired time frame to enable them to perform their tasks efficiently. However, it must also pursue the long term goals of self-reliance in defence equipment manufacture to provide strategic depth.
- iii. The procedure should embody the key ingredients of a fair, transparent, efficient and accountable system. It should build and foster trust among its constituents.

[4.2.01 – 4.2.11]

#### 7.5.03 **Indian Vendor – Definition**

- i. The term ‘Indian Vendor’ mentioned in various sections of DPP, has however not been defined, leading to different interpretations of the same term by different stake holders. Moreover different criterion have been used in different procedures for the eligibility of an Indian entity e.g. in Make procedure, in selection of the Indian Offset Partners, or in the Press Note No. 7 (2014 series) which prescribes eligibility criteria for Indian entities under the revised FDI policy. A clear, unambiguous definition of Indian Vendor, therefore, ought to be included in DPP.

[4.3.01 – 4.3.09]

#### 7.5.04 **Categories for Capital Acquisitions**

- i. Existing categories viz. ‘Make’, ‘Buy (Indian)’, ‘Buy & Make (Indian)’, ‘Buy & Make’, and ‘Buy (Global)’ for capital procurement have served well and need to be retained as such for the present.
- ii. There is, however, a need to prescribe ‘Defining Attributes’ of each category clearly and unambiguously. The categories should be based on readiness or otherwise of the Indian industry and R&D organisations to deliver a particular defence capability in a specified timeframe. These should seek to assess for each scheme, the Indian industry’s capabilities to deliver the required equipment, as per Services Qualitative Requirements (SQRs), with stipulated Indigenous Content (IC) firstly for trials and secondly for operational use as per indicated schedule and in requisite numbers.

[4.4.01 – 4.4.05]

#### 7.5.05 **Linkage to Acquisition Plans**

TPCR in its present form is considered very broad and information therein is not actionable by the industry to make investment decisions. It also does not enable the industry to plan and get technology partnerships firmed up for specific programs. Sharing of Preliminary Staff Qualitative Requirements (PSQRs), along with required quantities and time frame, for specific

schemes in the time horizon of next 5 to 8 years would be more pragmatic approach to initiate preparatory activities i.e. capability / capacity assessment and enhancements required thereof, in industry.

[4.5.03]

7.5.06 **Request for Information**

- i. RFI function should be made a structured interaction with the Indian industry and should be conducted after placing the broad details of the scheme under consideration on MoD website. Adequate time should be given to industry to comprehend the scheme.
- ii. The information generated from RFI function should be meaningfully utilised for preparation of SQRs / refinement of PSQRs into SQRs and assessing the capability / capacity of industry or shortfalls thereof.
- iii. The information on capacity / capability of industry so derived should be utilised to update the 'Competency Map'. A suitable process should be instituted to maintain an up-to-date 'Competency Map' of the Indian industry.

[4.6.01 – 4.6.04]

7.5.07 **Services Qualitative Requirements (SORs)**

- i. SQRs should accurately describe all essential operational as well as technical characteristics of the capability envisaged to be inducted by the user Service. These should also be realisable in the timeframe envisaged for acquisition of the capability. Relevant inputs on the technologies including materials, manufacturing and testing facilities etc. should therefore be obtained from all possible sources, particularly during RFI.
- ii. Technologies which go into making defence equipment are evolving at a fast pace, it is not practical to make the acquisitions 'future proof'. To that extent, it would be pragmatic to specify acceptable range of the parameters, wherever practical.
- iii. Competition facilitates price discovery in market place. However defence acquisitions do not necessarily follow the dynamics of commercial markets. In many a situations 'capability' sought by the Service should not be negotiated in favour of 'best price'. Therefore, 'broad' vendor base requirement should not lead to reduced or sub-standard capability. Single vendor situations, even at ab-initio SQR stage, should not always be construed as unacceptable.
- iv. SQRs once approved by the designated authority, should not be changed, except with the explicit approval of the same authority.
- v. The provision of finalising the SQRs, prior to accord of AON, incorporated in DPP 2013 has significantly improved issuance of RFPs within the period stipulated after accord of AON.
- vi. Accepting amendments to SQRs after issuance of RFP certainly have implications, in terms of disturbing the "level playing field" and could also undermine

the process of selection of L1 vendor. However, correcting minor deviations from SQRs at technical or field evaluation stages, typographical errors or minor omissions without which the SQR statement would be incomplete, needs to be accepted to avoid setting the acquisition clock back by many years.

[4.7.04]

7.5.08 **Acceptance of Necessity (AoN)**

- i. A reduced period of validity of AoN, from two years earlier, to one year now, SQR finalisation at AON stage and preferred order of categorisation have made a significant positive effect on the acquisition process. The period of validity of AoN could be reduced further since the SQRs for Buy (Indian), Buy & Make and Buy (Global) are required to be finalised prior to accord of AoN, and the DPP 2013 stipulates issue of RFP within 08 weeks from accord of AoN,.
- ii. To lend high credibility and consistency to the categorisation process, a structured procedure of assessment of defining attributes needs to be adopted during preparation of Statement of Case.
- iii. There is a need to develop a Registry of Indian Defence Industry cataloguing its capability. This document should be published by DDP and updated on annual basis.

[4.8.01 – 4.8.12]

7.5.09 **Technical Evaluation**

- i. Dwell time of a scheme on technical evaluation function is usually much longer than that which is stipulated, due to reasons attributable to the intricacy of the technical evaluation function as well as to the delayed response of bidders in furnishing the clarifications on points raised by TEC.
- ii. TEC report is approved at the Vice Chief/ Deputy Chief / Director General level in service, and accepted by DG(Acquisition) through TMs. This is considered duplication of effort.
- iii. The current DPP stipulation to retract the RFP in case only one vendor qualifies at TEC stage, sets the clock back by at least 36 weeks even for the most efficiently conducted case.
- iv. Situations such as “single vendor, multiple bids” and “multiple vendors, single product” are likely to emerge in ‘Buy & Make (Indian)’ or ‘Buy & Make’ cases. Provisions to address such situations would be required in DPP.

[4.9.03 – 4.9.06]

7.5.10 **Field Evaluation Trials & Staff Evaluation**

- i. While the technical evaluation is the first insight into the products on offer, field evaluation facilitates its thorough assessment of the demonstrated performance in the specified mission environment, maintainability and qualifying standards / specifications of its design / manufacture vis a vis SQRs.

ii. FET is a critical process. It has also been brought out that maximum delays occur during the field trials. In certain cases field trials have taken over two years. This aspect of protracted field evaluation of equipment for 'selection' is one of the major factors of delay in acquisition process.

iii. FET report is processed for Staff Evaluation by concerned Service HQ. Staff Evaluation report is approved at the Vice Chief/ Deputy Chief / Director General level in service, and accepted by DG(Acquisition) through TMs. This is again considered duplication of effort.

[4.10.04]

#### 7.5.11 **Technical Oversight**

i. A single stage scrutiny by Technical Oversight Committee on completion of evaluation of SHQs and prior to commencement of contract negotiations would be adequate and also necessary

ii. The TOC may also review and bring out the status of complaints, if any, pertaining to the scheme to the notice of the senior executive.

[4.1103 – 4.11.06]

#### 7.5.12 **Contract Negotiations**

i. Constitution of CNC is linked to acceptance of TOC report.

ii. In a multi-vendor competitive bidding, after selection of L1, price negotiations are still undertaken based on its variation from the 'benchmark price' fixed by the CNC.

iii. The CNC often does not have the requisite data to arrive at a 'benchmark' price for each and every scheme forcing them to rely largely on some historical data available with the user and certain industrial indices prevalent in the country of the vendor. These activities take considerable time and delay the acquisition cycle. Such a situation neither serves the acquisition executive / user service or the vendor.

[4.12.01 – 4.12.03]

#### 7.5.13 **Single Vendor Situations**

i. DPP 2013 comprehensively addresses the various Single Vendor situations, both at ab initio categorisation stage as well as during the acquisition stages. Retraction of RFP in case of single vendor at bid submission and technical evaluation at stages has been stipulated.

ii. However, defence materiel by their very nature do not always permit competitive multi-vendor environment for all segments of military products on the same lines as other commercial markets. This is required to be recognised and, in due course, the private industry would also be need to be treated in the same way as we do for DPSUs / OFB now for areas of their core competence as bona fide source of defence equipment.

[4.13.01 – 4.13.10]

#### 7.5.14 **Indigenous Content**

- i. During revision of DPP 2011, the low threshold of 30% in Buy (Indian) category was kept while the criteria for IC was refined to capture the realistic value added in all tiers of the supply and manufacturing chain.
- ii. The ‘defining attributes’ of various categories of acquisition schemes and the ‘Decision Flowcharts’ for categorisation aim to ‘putting into practice’ the concept of ‘Make in India’ and progressively enhancing the competence levels through defence procurements. Higher IC is a highly desirable by-product of these efforts though not the sole, non-negotiable goal.
- iii. It is necessary to recognise the reality that many of the vital material inputs are not available in India. The lack of system level design capability in many areas of defence applications precludes initiatives to undertake design at sub-assembly levels, and development of materials. Therefore in initial stages, industry is constrained to import sub-assemblies / assemblies. Quantities for a given scheme do not allow economic manufacture at component / sub-assembly level in view of high capital cost and little assurance of future business.
- iv. Even for platforms (ships, aircrafts) as well as equipment (radars, electronic warfare systems etc.), being produced by DPSUs for a considerable period of time, indigenous content is still low. For fighter aircrafts, it may be as low as 25%. On the other hand, in areas where top down system design approach has been adopted, IC is relatively high.
- v. There is thus a need to give flexibility to Categorisation Committees to recommend IC threshold for a given scheme based on competence level of Indian industry.

[4.14.08 – 4.18.15]

#### 7.5.15 **Transfer of Technology**

There are three provisions of DPP, in respect of TOT, which require amendment. These are; (i) selection of PA for Buy & Make category cases, (ii) selection of Indian entity for receiving Maintenance ToT in Buy (Global) category cases, and (iii) keeping the option of negotiating the ToT at a date later than the main contract.

[4.15.05 – 4.15.07]

#### 7.5.16 **Turnkey Projects**

- i. DPP 2013 outlines the provisions for turnkey projects. The nature and characteristics of the projects as well as the process for taking up schemes under these provisions are clearly stated.
- ii. The nature / characteristics of projects has been further refined and enhanced to include setting up of requisite specialised technical infrastructure.
- iii. Most ICT projects involve development (of proprietary applications) and deployment phases. Software development may entail ab-initio development or

customisation of commercially available software products to realise the user requirements. Duration of a project is linked to the complexity of application software as well as system architecture. It is therefore a standard practice to de-lineate development and deployment phases. Positioning of hardware and requisite software licences is linked with deployment, lest it becomes obsolete. The ICT projects therefore, also fit the characteristics of ‘Turnkey Projects’ as outlined in DPP.

#### 7.5.17 **Bid Evaluation Criteria**

Although there are numerous methods in vogue for evaluation of techno-commercial and price bids, the DPP by and large follows the ‘L1’ method. As we make progress and consolidate our defence acquisition set up, there would be a need to adopt known scientific and well established models like ‘L1-T1’, ‘PBL’ and ‘LCC’ or ‘TCA’ to generate ‘Best Value’ decisions in acquisition. Their application, on experimental basis initially, to select schemes needs to be considered.

[4.17.01 – 4.17.24]

#### 7.5.18 **Defence Offset Guidelines**

i. Presently, 25 offsets Contracts valued at approx. USD 4.87 Billion have been signed. There are 44 more contracts under various stages of procurement with a potential value of USD 15 Billion for discharge until the year 2028, in a phased manner. All of these are governed through offset guidelines in different versions of the DPP. However, over the years, experience indicates that the execution and monitoring of the offset contracts has been fraught with complexities. As such, offsets contract negotiations, monitoring and implementation has not been a smooth process thus far.

ii. Although offset guidelines have been liberalized and scope for discharge widened from time to time, the resultant complexity in the procedures was an unintended consequence with a heavy emphasis on documentation and paper work and adherence to procedures.

iii. The proposed revised guidelines seek to adopt ‘direct’ and ‘directed’ avenues for discharge of offset obligations, with a much simplified procedure. The existing ongoing offset contracts as well as those in the pipeline, would however require to run their course under the provisions of earlier DPPs.

iv. There is an imperative need to address the concerns of the stakeholders for smooth processing of the existing offset contracts.

[4.18.01 –4.18.07]

#### 7.5.19 **Guidelines for Putting on Hold, Suspension and Debarment of Entities**

The committee concurs with the draft guidelines for putting on hold, suspension and debarment of the entities dealing with MoD, with the premise that misdeeds of an entity or its employees should not be visited on the equipment / system or platform which have been carefully chosen by the Services after following the prescribed procedure.

Further, pragmatism demands that such issues be decided taking national and public interests into account.

[4.19.02]

#### 7.5.20 **Agents / Marketing Intermediaries**

The engagement of Agents / Marketing Intermediaries by Foreign Vendors (applicable for capital procurement) would typically be done as; (i) Omnibus for all defence equipment and services of the Vendor either globally; for the region (of which India is a part) or specifically for India, (ii) Only for a particular RFP. These aspects need to be taken into account in the guidelines on the subject.

There should be uniformity in the text of the relevant clauses pertaining to Agents / Marketing Intermediaries throughout the DPP i.e. RFP, pre-contract IP and Standard Contract.

[4.20.01 – 4.20.03]

#### 7.5.21 **Integrity Pacts**

Integrity Pacts (IP) as propagated by Transparency International have been adopted by the MoD, DPSU's and OFB at the behest of the Central Vigilance Commission since 2007. They appear to have had a salutary effect.

[4.21]

#### 7.5.22 **Standard Contract Document**

i. Various stakeholders, including Indian and foreign vendors, have made certain observations as well as suggestions, regarding the text, content of the clauses in Standard Contract Document. Though this is stated to be a guideline document, the executive is often reluctant to make even minor textual change, to lend clarity without impacting the meaning of the clause. The clauses in the Standard Contract Document need to be reviewed and updated to conform with the best international business practices, as have also been adopted by foreign Governments. However, some of these suggestions will require detailed scrutiny from financial and legal experts.

ii. The 'Payment Terms' for Indian vendors under Buy (Global) category need revision to create a level playing field for Indian vendors vis-à-vis Foreign vendors. The facility of Letter of Credit (LC) payment to the Indian vendors, as already available to the foreign vendors, needs to be extended. The vendor would have the option to either opt for payment through LC or continue with the current procedure of payment through bank transfers.

[4.22.02][4.22.05]

#### 7.5.23 **Tax Exemption for Royalty/ Fee for Technical Services Income Arising in The Hands of a Foreign Company**

i. India has historically been dependent on international suppliers for its defence purchases. The limited indigenous defence industry is concentrated within Public Sector Units. Payments to foreign companies are often required to be made on account of technology transfer, maintenance services, consultancy etc. broadly classified under the ambit of royalty or Fee for Technical Services ('FTS').

ii. In order to provide an incentive to the foreign companies having such technology, the extant provisions of the Income Tax Act, 1961 ('the Act') provide a specific tax

exemption under section 10(6C) of the Act in relation to Royalty and FTS income arising to the foreign company received in pursuance of agreement entered into with the Government of India ('GoI'). The exemption is available for services provided within or outside India for projects connected with the security of India provided a specific exemption notification is issued by the GoI in the Official Gazette.

iii. Considerable difficulties have been experienced in the implementation of these provisions resulting in tax surprises leading to difficulties for foreign suppliers. This requires an early resolution.

[4.23.01]

#### 7.5.24 **Procedure for 'Make' Category**

i. For a vibrant and responsive 'Defence Industrial Base', it would be necessary to involve industry on long term basis as equal partner in creating and maintaining defence capability. The procedure for 'Make' category schemes forms the base of this partnership.

ii. While for short / medium term requirements, 'Buy' and 'Buy & Make' categories can be chosen; for long term requirements, it would be essential to adopt 'Make' procedure for creating the projected defence capability.

iii. 'Make' decision must precede other categories for acquisition by at least one plan period (05 years) or longer depending upon the nature of capability sought, technologies involved and the existing capability / capacity of industry. The aim should be to pre-position the make schemes. Therefore, list of 'Make' projects as drawn from LTIPP, AoN for which is to be taken up during the next 2-3 years (envisaged fructification of scheme during next 5-8 years) should be shared with industry.

iv. 'Make' procedure in its present form addresses large projects and eligibility criteria (public limited company, net worth, credit rating), exclude the innovative and agile industry space comprising the 'not so big' and Small & Medium Enterprises (SME).

v. The procedure needs to also encompass a much larger spectrum of defence requirements from design, development & manufacture of major equipment to import substitution level innovations at assembly / sub-assembly level.

vi. The industry participating in 'Make' schemes of MoD need to be given tax incentives, in addition to funding the cost of development, by way of categorising their contribution (i.e. 20% of the development cost of the scheme) as qualified R&D expenditure.

[4.24.02 – 4.24.04]

#### 7.5.25 **Procedure for Defence Ship Building**

i. Revised shipbuilding procedure under DPP 2013 has been in operation since Jun 2013. A number of schemes (Training Ship, OPVs, LPD, Shallow water ASW Crafts etc.) have either been already contracted or are in progress. As such, it has been

indicated by the stakeholders that bringing in a separate RFP on shipbuilding in DPP 2013 has been a highly facilitating feature. Only a few refinements have therefore been proposed by the stakeholders to fine tune the procedure further.

ii. The Committee also reckoned that warship/ submarine construction has been hitherto undertaken by Defence shipyards. Programs for construction of Aircraft Carrier through Cochin Shipyard and construction of non-combatants such as offshore Patrol Vessels (OPVs), Cadet Training ship and Fast Interceptor Crafts (FICs) by private Indian shipyards have been taken up during the last 8 – 10 years, on account of constraints of capacity / infrastructure of DPSUs as well as limited scope for expansion of their capacity by virtue of their geographical locations. Keeping in view the future capability requirements of Indian Navy as well as Coast Guard, it has been appreciated that additionally required capacity can come from the private Indian shipbuilding industry. The existing capacity in the private Indian shipbuilding is also needed to be gainfully utilised.

[4.22.03, 4.22.06]

#### **7.6. Chapter 5 : Trust and Oversight**

i. In Chapter 1 it was emphasized that an environment should be built in which decisions can be taken with courage. Courageous acts are based on trust, and over the years trust has taken a beating. It is only with trust that results will be achieved.

ii. It is necessary to address the dilemma of those who are trained and prepared to take decisions in the overall interests of the defence preparedness of the country, but who would not be prepared to do so in an atmosphere vitiated by allegations of corruption wherein everyone in the hierarchy is looked at with suspicion. Measures of confidence building should be institutionalized.

#### **7.7. Chapter 6 : Beyond DPP**

i. Indian defence industry, public as well as private; large and small, need to be supported through favourable policies to achieve multiple objectives—(i) consolidate the existing capacities and core competence of DPSUs / OFB and private industry, (ii) enhance capacities and competence of industry across all segments of defence sector to increase its share in defence business both domestic as well as export, and (iii) meet the capability requirements of the services in a time bound manner.

ii. In this effort, MSME sector lies at the base of the pyramid and has the potential to generate large employment. It therefore deserves deeper, if not preferential, attention.

iii. The MoD needs to create facilitating and enabling framework, apart from considering tax incentives, of initiatives and programs for enhanced participation of industry.

iv. Incentives for R&D and infrastructure investments are needed to encourage the industry. Exports of defence materiel by industry, both public and private, would enable expansion of defence sector output.

- v. There is an urgent need to create and maintain an up-to-date ‘competency map’ and registry of Indian defence industry. Decision making committees would need this input at RFI and at categorization stages. It will also give a snapshot of the status of the industry to the policy maker.
- vi. Initiatives for development of human resources and skill in defence sector have to go hand in hand with those for expansion of defence industry, whose needs range from research to operation levels. Formation of Defence Sector Skill Council and institution of Defence Industry Internship program would lend focus as well as direction to these initiatives and encourage participation of all stakeholders.
- vii. Defence Production Policy and the initiatives/programs also need to be reviewed. These need to address the rising aspirations evolving from the ‘Make in India’ call. There is a need to balance the expectation of the industry while keeping in view the peculiar nature of defence materiel, characteristic of defence industry as well as capability requirements of the Services. A holistic review would therefore be eminently necessary.
- viii. Institutions, viz. DDP, Acquisition set up, DRDO, OFB, DGQA, Directorate of Standardisation; need to be nurtured and their structure refined to re-align with the re-defined goals for defence industry.
- ix. The Committee has, therefore, analysed the structure of acquisition organizations as prevailing in other countries and recommended creation of a well staffed, distinctive organisation to meet the growing challenge of defence procurements as well as Indian Defence Industry.
- x. Acquisition work force needs to be equipped with requisite skills in diverse fields involving appreciation of technology, trial procedures, commercial negotiations and legal issues in contractual matters, estimation of costs, financing structures, project management and data analysis. Formal institutions of training for workforce at induction level and throughout career are required to be created, with the wide participation of all stakeholders.
- xi. The ‘Triad of Vectors’ i.e. the Policy, the Procedures and the institutions need to align towards the objectives viz. (i) Consolidate the existing capacities and core competence of DPSUs / OFB and private industry, (ii) Enhance capacities and competence of industry across all segments of defence sector to increase its share in defence business both domestic as well as foreign and (iii) Meet the capability requirements of the services in a time bound manner.

[Para 6.11]

## **7.8. Summary of Recommendations**

Recommendations relating to TOR1- Facilitating Make in India are in regular font and for TOR2 – *Removing bottlenecks and simplifying procurement* in italics.

7.8.01 “Strategic Partnership model” recommended for creating capacity in the private sector on a long term basis. Such a capacity will be created over and above the capacity and infrastructure that exists in Public Sector units.[Para 3.3.03]

7.8.02 A Task Force needs to be constituted to lay down the criteria in detail for selection of Strategic partners in the six segments viz. (i) Aircraft - fighter, transport and helicopters and their major systems (ii) Warships of stated displacements and submarines and their major systems (iii) Armoured Fighting Vehicles and their major systems/ weapons (iv) Complex weapons which rely on guidance systems, to achieve precision hits, which may include anti-ship, air defence, air to air; air to surface, anti-submarine, land attack (v) Command, Control, Communication and Computers, Intelligence, Surveillance, Target acquisition and Reconnaissance (C4ISTR), and (vi) Critical materials ( Titanium alloys, Aluminium alloys, Carbon composites, Nickel/ Cobalt alloys etc.)

[Para 3.3.04, 3.3.07]

7.8.03 The compensation package to the SPs have to be subjected to a rigorous audit, including cost audit. The contract would allow for inspection of books for the purpose.

7.8.04 DDP should set up a Facilitation Desk, through an internal mechanism, to maintain a two way communication with private industry including MSME. [3.3.20 and 3.3.23]

7.8.05 The scope under the 'Make' category needs to be broad based and include the following sub-categories:-

- i. Make (large projects) with DPSU / Private industry as the lead developer with support from the DRDO
- ii. Make (large projects) with DRDO as the lead developer with support from the industry as co-producer
- iii. Make (components and sub-systems or spares) by the Industry
- iv. Make (components and sub-systems) by the DPSU / OFB
- v. Make (components, sub-systems or spares) by the Service Workshops / Repair Depots

[Para 3.4.04]

7.8.06 *The following definition of an Indian Vendor be included in DPP:*

*“For defence products requiring industrial licence, an Indian entity/ Partnership firm, complying with, besides other regulations in force, the guidelines / licensing requirements stipulated by the Department of Industrial Policy and Promotion as applicable. For defence products not requiring industrial licence, an Indian entity/ Partnership firm registered under the relevant Indian laws and complying with all regulations in force applicable to that industry” [3.2.11]*

7.8.07 *There should be a PREAMBLE to the DPP as an integral part, explaining the distinctive features of Defence materiel and the nature of the Industry. [Para 4.2.01]*

7.8.08 **Indian Vendor– Definition and Related Issues.**

- i. *Definition of Indian Vendor be incorporated at all relevant sections of DPP.*
- ii. *List of defence items requiring industrial licence, promulgated vide Press Note No.3 (2014 series) dated 26 Jun 2014, may be rationalized and nomenclature of such 'defence products' which merit licensing be incorporated. [Para 4.3.10]*

7.8.09 **Categories for Capital Acquisitions.** *Defining attributes of categories for capital acquisitions be incorporated in the DPP. [Para 4.4.06]*

7.8.10 **Linkage to Acquisition plans**

- i. Publication of TPCR with its content made specific with respect to the nature of systems that would be required during the next 15 years.
- ii. Schemes amenable for 'Make' procedure be shared with the industry.
- iii. The details of other schemes to be included in 5 years Services Capital Acquisition Plan (SCAP) be shared with the industry.

[Para 4.5.05]

7.8.11 **Request for Information (RFI).** *RFI be listed as the first function in the acquisition process before SQR function in the DPP. Process be instituted to maintain an up-to-date 'Competency Map' of the Indian industry. [Para 4.6.05]*

7.8.12 **Services Qualitative Requirements (SORs).** *Minor deviations, typographical errors or minor omissions that do not materially alter the character of RFP be approved by DPB. Paras 13 to 16 of Chapter I of DPP 2013 be organized under sub-headings characteristics/attributes of SQRs, preparation and approval. [Para 4.7.05]*

7.8.13 **Acceptance of necessity(AoN)**

- i. *Period of validity of AoN for 'Buy(Indian)', 'Buy&Make' and 'Buy(Global)' categories be reduced to 06 months from the existing one year.*
- ii. *The authorities which are empowered to approve issue of RFP may also be delegated the authority to accord extension of validity period of AoN for a further 08 weeks, provided that conditions of original decision and categorisation have not changed.*
- iii. *To bring about more credibility and consistency to the categorization process, the structured procedure of 'Decision Flow Charts' be included in the DPP as Annexures to Appendix 'A' to Chapter I of DPP2013.*
- iv. *A Registry of Indian Defence Industry needs to be published annually by DDP.*

[Para 4.8.13]

7.8.14 **Technical Evaluation**

- i. *In a single vendor situation, post technical evaluation by TEC, retraction of RFP may be resorted to as an exception rather than a rule.*
- ii. *Suitable provisions need to be made in the DPP to address "single vendor, multiple bids" and "multiple vendors, single product" as are likely to emerge in 'Buy & Make (Indian)' or 'Buy & Make' cases.*
- iii. *Existing authorities for acceptance of TEC report may be reviewed. It should be carried out entirely at SHQs [Para 4.9.10]*

7.8.15 **Field Evaluation Trials & Staff Evaluation**

- i. *Scope of field trials should be optimized to cover all 'essential' operational parameters.*
- ii. *Emphasis on environmental tests, maintainability trials, EMI/ EMC trials etc. needs to be weighed against certification.*
- iii. *Trial methodology given in the RFP should be comprehensive and unambiguous.*
- iv. *A group of competent personnel, including QA, MET, EMI/EMC to work under the acquisition agencies of the service HQs as a composite team till the completion of trials.*
- v. *In case of 'multiple vendor single equipment' situation in Buy & Make (Indian) cases only one joint trial to be carried out.*

*Approval of Staff Evaluation Report may be done entirely in Service Headquarters.*

*[Para 4.10.07]*

7.8.16 **Technical Oversight**

- i. *All schemes in excess of Rs300 Crores and any other cases selected by the CFAs, Defence Secretary or DPB may be brought under the purview of TOC.*
- ii. *The charter of TOC be enhanced to review and bring out the status of complaints, if any.*
- iii. *Members of TOC be drawn from a standing Panel of Specialists (comprising of serving or retired officers of Services, DRDO and bureaucracy). The term of such a panel may be two years.*

*[Para 4.11.07]*

7.8.17 **Contract Negotiations**

- i. *CNC may be constituted on acceptance of the Staff Evaluation Report, with the caveat that opening of commercial bids and negotiations with the vendor would not be done till acceptance of TOC Report.*
- ii. *In a multi-vendor situation, at CNC stage, benchmarking and price negotiation with the LI vendor should not be required.*
- iii. *Services of experts/consultants could be utilized for benchmarking.*

*[Para 4.12.04]*

7.8.18 **Single Vendor Situations**

- i. *The DPP provisions regarding 'ab-initio' single vendor situations should, in addition to DPSUs, also cover equipment / systems produced by Indian private industry under 'Make', 'Buy and Make (Indian)' or 'Buy and Make' categories and those being produced under ToT from DRDO.*
- ii. *A provision to consider single vendor situation at bid submission stage needs to be made where there may not be scope for review of SQRs or other vendors may have abstained from submitting their bids on account of own inabilities.*

iii. *Single vendor situation at technical evaluation stage in all categories of acquisition be included under the scope of para 70 of DPP2013. “Single vendor, multiple bids” and “multiple vendors, single product” as are likely to emerge in ‘Buy & Make (Indian)’ or ‘Buy & Make’ category cases be also included.*

iv. *There is a case for making suitable contractual and legal measures so that Government can enforce cost control, its verification /audit and also take punitive steps in case of violation by participant industry.*

[Para 4.13.11]

#### 7.8.19 **Indigenous Content**

i. Minimum IC threshold for Buy (Indian) and Buy & Make (Indian) categories should be revised to 40% and 60% respectively. For Make category, Minimum IC for prototype stage should also be revised to 40%.

ii. Categorisation Committee, be empowered to give specific recommendations for lower or higher IC threshold for the total contract value.

iii. There is a need to create adequate mechanism in defence production so that such provisions of IC as outlined in DPP can be effectively assessed, monitored as well as enforced.

[Para 4.14.16]

#### 7.8.20 **Transfer of Technology**

i. Eligibility criteria for selection of PA (from amongst private Indian industry) to receive ToT in case of Buy & Make category schemes and Indian entity to receive ToT for maintenance in case of Buy(Global) category schemes need to be devised and promulgated.

ii. Provisions for ToT to Strategic Partners in the specific segments as mentioned at para 4.15.05 (iii) need to be made in DPP, after promulgation of relevant policy guidelines.

iii. Existing technical arrangements, if any, of the foreign OEMs with Indian industry be taken cognizance of while selecting an Indian entity to receive ToT for maintenance in Buy (Global) category schemes.

iv. Provisions for keeping the option of negotiating ToT at a date after signing of main contract may be reviewed. In case such provisions have not been made use of, since their incorporation in DPP, these may even be removed.

[Para 4.15.08]

7.8.21 **Turnkey Projects.** *The peculiar requirements of ICT projects be taken cognizance of and suitable provisions for the same be made in DPP. Enlarging the scope of para 45 of Chapter I of DPP2013 to include ICT projects is recommended.*

[Para 4.16.06]

7.8.22 **Bid Evaluation Criteria.**

- i. 'L1' method of bid evaluation as is prevalent now may be continued with.
- ii. 'L1-T1' concept be taken up, on experimental basis, for some specific cases in which the number of parameters to be weighted are manageable (say 5 or less) and their effect clearly quantifiable.
- iii. PBL model is recommended to be adopted for acquisition schemes, as considered necessary by Service HQ.
- iv. TCA model be adopted for all platforms / systems such as aircrafts, helicopters, Main Engines / Gas Turbines of Ships. The formal procedure may be brought into DPP, after fine tuning the same through iterations over a few schemes.

[Para 4.17.26]

7.8.23 **Offset Guidelines.** The Committee has examined offset issues in detail and has made separate recommendations for existing offset contracts and those in the pipeline under DPP-2013; On the proposed offset policy and has suggested an innovative funding mechanism for consideration.

- i. The recommendations of the Committee on existing Offset Contracts and those in pipeline (Under DPP 2013) are given in para 4.18.07.
- ii. The recommendations of the Committee on the proposed Offset Policy are given at para 4.18.10.
- iii. **Innovative Funding Mechanism.** A suggestion was made that could increase FDI flow not directly but through a SEBI registered, privately managed Venture Capital (VC) fund. FOEMs with offsets obligations who have contracts with MoD, could subscribe to such a fund. The fund thereafter in consultations with FOEMs invests in to production units which are expected to be mostly MSMEs. That investment should lead to actual output of defence products. The formula for meeting defence offsets obligations under this dispensation should be 50% for VC investment in production units and 50% on actual output of defence products. The administrative and legal aspects of such provisions may be examined by MoD, in consultation with other concerned ministries.

[Para 4.18.10 (viii)]

7.8.24 **Guidelines for Putting on Hold, Suspension and Debarment of Entities.** The premise that misdeeds of an entity or its employees should not be visited on the equipment / system or platform is concurred. Amendments have been suggested in the draft provided to the Committee.

[Para 4.19)

7.8.25 **Agents / Marketing Intermediaries.** There should be uniformity in the text of the relevant clauses pertaining to Agents/Marketing Intermediaries throughout the DPP. The proposed provisions related to engagement of Agents/ Marketing Intermediaries appear in various sections of DPP viz. Standard Clauses of Contract, Integrity Pact, and in RFP at paras

related to Integrity Pact, Standard Clauses of Contract, Offset Contract, Agents / Marketing Intermediaries. It is considered essential that the text of all these sections is uniform, harmonious and not prone to differing interpretations.

[Paras 4.20.]

7.8.26 **Integrity Pact.** Industry has drawn attention to the unworkable sweeping ambit of Clause (ix) of Para 10 of the I.P. Committee agrees that such a clause is unworkable and recommends that this clause be discontinued.

[Para 4.21.]

7.8.27 **Standard Contract Document.** The Committee has taken note of the suggestions of stakeholders for modifications to the Standard Contract Document for removal of uncertainty. It is recommended that these issues may be examined further by MoD.

[Para 4.22.05]

7.8.28 **Payment Terms for Indian Vendors under Capital Acquisition, Category 'Buy (Global)'**. The proposal referred to the Committee has been concurred except on the issue of expenses connected with establishment of Letter of Credit. The Committee recommends that all expenses connected with the establishment of Letter of Credit in India should be borne by the buyer and the seller in equal proportion.

[Para 4.22.06]

7.8.29 The committee recommends that submissions of the industry regarding Royalty/ Fee on technical services and income tax incidence on foreign supplier in G-2-G contracts be examined by MoD to remove existing uncertainty in tax regime.

[Para 4.23]

7.8.30 **Procedure for 'Make' category.**

The Committee recommends that the following features may be incorporated in the draft Make Procedure prepared by DDP:

- i. Eligibility criteria, for participation at EoI stage, may be reviewed.
- ii. **Indigenous Content.** The requirement of minimum 40% indigenous content, on cost basis, as defined in Appendix 'F' of Chapter I of DPP 2013, may be stipulated. Lower or higher threshold could be considered by SCAPCHC / DPB / DAC for each scheme.
- iii. **Linkage to Long Term Plans.** List of 'Make' projects as drawn from LTIPP, AoN for which is to be taken up during the next 2-3 years (envisaged fructification of scheme during next 5-8 years) should be shared with industry. There should be a separate 3 year roll on plan for 'Make' schemes. This should be reviewed each year and updated.
- iv. **Flowcharts.** Process flow charts for category of schemes in Part B & Part C be also included in the procedure, as has been done in the case of schemes in Part A (i.e. Appendix-J) so as to bring greater clarity.

v. **Incentivise the Industry.** *The industry participating in 'Make' schemes of MoD may be given tax incentives by way of categorizing their contribution (i.e.20% of the development cost of the scheme) as being qualified for treatment as R&D expenditure. Further, 300% weighted tax deduction of such development cost in Defence schemes should be considered against 200% given by Department of Science &Technology.*

[Para 4.23.13 to 4.23.17]

7.8.31 **Procedure for Defence Shipbuilding**

i. *The procedure for regular capacity assessment of Indian shipyards by IHQMOD (N) be streamlined and promulgated. The concept of Strategic Partners for major projects such as Landing Platform Dock(LPD), Aircraft Carrier and Submarines needs to be adopted.*

ii. *Timelines for shipbuilding cases be also drawn up and included in Chapter III of DPP. It is considered essential that the time period between AoN and issue of RFP should be maintained as it is and if possible reduced to12–18 months for Section 'B' cases.*

iii. *Model contract documents for shipbuilding, both for Section 'A' as well as Section 'B' cases may be drawn up and promulgated as guideline document for clarity as well as consistency. The issue of 'Builders Risk Insurance' of platforms under construction in private shipyards be also considered for inclusion in the ship building contracts.*

iv. *It is considered a sound policy for the service to first select a design and then seek bids for construction of the platform. Such a step may, however, restrict the shipyard's involvement during evaluation/ selection of design. Therefore, such a provision can be adopted for 'Strategic Partners' and involve them fully during the evaluation / selection of the design and subsequent negotiations for design consultancy or ToT.*

v. **OFB Supplied Items.** *Suitable provisions need to be made in contract to cater for cost escalations attributable to items sourced from OFB.*

[Para 4.24.07]

7.8.32 *Ombudsmen may be appointed to address issues arising before CNC and after conclusion of contract, including offset issues.*

[Para 5.2.2 & 5.2.4]

7.8.33 *The committee recommends creation of an EPG for considering cases referred by Raksha Mantri or Defence Secretary. Concurrent / pre-audit be done by the C&AG of major defence negotiations and contracts.*

[Para 5.2.3 & 5.2.5]

7.8.34 *The Defence Production Policy may be reviewed to facilitate and incentivise Private Industry including MSMEs to move towards 'Make in India'. Likewise, modifications would be required in other policies such as Skill Development and Exports Policy. Following initiatives are recommended :*

- i. MoD may have regular and structured interactions with Industry.(para 6.2.01)
- ii. The Indian private industry have highlighted various factors that impact their competitiveness as compared to DPSUs, foreign OEMs and other sectors. There is thus a need to review such related policies to provide a level playing field and encourage their participation. (6.2.03)
- iii. Companies having Industrial License for a product must be issued RFP for the same. (para 6.2.05)
- iv. Sharing Infrastructure of R&D, Qualification Testing and Proof Firing Ranges. Private industry and MSMEs be provided access to all government facilities. (Para 6.2.06)
- v. **Single Window Clearance**. A single window system for clearance of project proposals in the defence sector to meet Buy (Indian) and Buy and Make (Indian) regulatory and compliance requirements for commencement of business operations should be created. (para 6.2.07)
- vi. A part of the proposed Technology Development Fund (TDF), may be reserved for funding development projects and limited production from the MSME sector. Whenever MSME is granted TDF, 30% advance be extended. Based on the success of such funding, the portfolio may be increased in subsequent years. Defence industry particularly for the MSME be brought under priority sector lending norms (paras 6.2.13 and 6.2.14).
- vii. **Export Facilitation and Process**. An independent body should be created to ensure expeditious single window clearance for defence exports. (para 6.3.01).
- viii. **Deemed Exports For Offset Contracts in Buy (Global) Cases**. Deemed export benefits can be considered with preference for direct purchases from Indian Industry. (para 6.3.02)
- ix. A Defence Manufacturing Sector Skill Council be set up with the support of Government and Industry. Defence internship programs should be launched. (para 6.4.08)
- x. **Adapting Tool Rooms being set up under Ministry of MSME for Defence Sector**. MoD to suggest to ministry of MSME to set a few tool rooms around the defence clusters exclusively aligned with the needs of defence sector.(para 6.4.08(v))
- xi. **Skill Development as Part of the Offset**. Skill development should be clearly allowed for defence offsets for all current and future offset contracts.(para 6.4.08(iv))

7.8.35 **Technology Security Policy**. MOD should start working on formulation of an appropriate technology security policy and necessary institutional framework to implement the policy. (para 6.5.07)

7.8.36 **Road map for Indian Defence Industry**. In addition to laying down the Defence Production Policy, the MoD should also promulgate a 10 year road map for Indian

Defence Industry, with measurable targets both in terms of revenue as percentage of defence capital expenditure as well as in terms of indigenous content value. (Para 6.5.07,6.5.08)

7.8.37 **Acquisition Organisation.** Steps be initiated to set up a specialised Defence Acquisition structure outside the formal structure of the Ministry of Defence. In the interim the Acquisition Wing be augmented with JS (ICT, Policy and Tri-Services). Department of Defence Production needs to more proactively engage with Indian private industry, just as they do so with OFB and DPSU's. A road map for the purpose be drawn up.(para 6.6.07)

7.8.38 **Building the Acquisition Work Force.** A tiered system of educating the acquisition work force be evolved by HQ IDS and implemented after due approval by MoD. (para 6.7.04)

7.8.39 **Ordnance Factory Board (OFB).** The committee fully endorses the recommendations of previous committees for the need to alter the management structure of the OFB. The corporatisation of the OFB can also be seen in the context of the 'Make in India' policy with its emphasis on a level playing field. ( para 6.8.08(i))

7.8.40 **Shipyards.** The committee recommends that the four shipyards within the MoD fold be merged into one corporate entity, retaining the yard facilities in their present geographical locations but working under one single management. (para 6.8.09)

7.8.41 **DRDO**

i. **DRDO Export Arm.** The Committee feels that the proposal for setting up a commercial arm on the lines of the Antrix corporation of ISRO, for providing different services including exports must be considered.

ii. DRDO may hold the AHSP for all such projects and DRDO may ensure to keep alive the product support teams in the respective labs for encouraging subsequent upgrade.(para 6.9.08)

7.8.42 The salient points emerging out of discussions on quality assurance have been enumerated for consideration and review of MoD. (Para 6.10.01)

7.8.43 **Standardisation.** In the long run, Standardisation must be embedded in acquisition activities. Awareness, Codification and linkage to acquisition are the key recommendations. (para 6.10.02)



## LIST OF APPENDICES

1. Appendix 'A' : Convening Order dated 01.5.2015
2. Appendix 'B' : Meetings with Stakeholders / Dignitaries
3. Appendix 'C' : Indian Private Industry (Association / Company)
4. Appendix 'D' : Sectoral Industry Associations
5. Appendix 'E' : Small Industry Associate
6. Appendix 'F' : Representatives of Foreign Companies based in India
7. Appendix 'G' : Think Tanks / Consultants
8. Appendix 'H' : Questionnaire

**Ministry of Defence**  
**[Acquisition Wing Secretariat]**

**Subject: CONVENING ORDER – COMMITTEE OF EXPERTS FOR AMENDMENTS TO DPP 2013 INCLUDING FORMULATION OF POLICY FRAMEWORK.**

In order to evolve a policy framework to facilitate 'Make in India', align it with the Defence Procurement Procedure and suggest requisite amendments in DPP-2013, the Raksha Mantri has approved appointment of a Committee of Experts drawn from various fields including the industry. The Committee is constituted as under:-

(i)	Shri Dharendra Singh, IAS (Retd)	Chairman
(ii)	Shri Satish B.Agnihotri, IAS (Retd)	Member
(iii)	Air Marshal S. Sukumar (Retd)	Member
(iv)	Lt Gen AV Subramanian (Retd)	Member
(v)	Rear Adml Pritamlal (Retd)	Member
(vi)	Shri Prahlada, DS & CC&RD (Retd.)	Member
(vii)	Shri Sujith Haridas, DDG, CII	Member
(viii)	Col K.V. Kuber (Retd)	Member
(ix)	Shri Sanjay Garg, Joint Secretary, (DIP), DDP	Member
(x)	Shri Subir Mallick, Joint Secretary & Acquisition Manager (LS)	Member Secretary

2. The Terms of Reference of the Committee are as under:-

- (a) To evolve a policy framework to facilitate 'Make in India' in Defence manufacturing and align the policy evolved with the Defence Procurement Procedure (DPP 2013).
- (b) To suggest the requisite amendments in DPP 2013 to remove the bottlenecks in the procurement process and also simplify/rationalise various aspects of the Defence procurement.

3. The Committee will interact with various stakeholders including the industry and submit a report of its recommendations within a period of 45 days from the issue of this Convening Order. However, the Committee may submit interim reports on specific aspects from time to time.

*...cont'd 2*

4. The Members of the Committee will work in honorary capacity and would be provided transport, logistics and secretarial assistance by HQIDS.

  
(Praveen Kumar)  
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**Distribution:**

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10. Shri Subir Mallick, Joint Secretary & Acquisition Manager(LS)

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MoD ID No. 1(3)/D(Acq)/15 dated 01.05.2015

Copy to:

Secretary (DP)	Secretary(R&D)	FA(DS)	SS(DP)	
CISC	VCOAS	VCNS	VCAS	DG(CG)
FA(Acq)	AS(R)	DCOAS(P&S)	DCAS	

All Joint Secretaries/Addl FAs/FMs/TMs/DGWE/ACAS(Plans)/ ACNS(P&P)/DDG(P&P)

Copy also for information to:

PS to RM/ PS to RRM/ SO to Defence Secretary/Sr. PPS to DG(Acq).

## Appendix 'B'

### Meetings With Stakeholders / Dignitaries

Sl. No.	Agency / Person	Designation	Date
1.	MoD	RM, Defence Secretary, CISC, Vice Chiefs	11.5.15
2.	MoD (Acq Wing)	DG (Acq), AMs & TMs	05.6.15
3.	HQ IDS	DCIDS (PP & FD)	01.6.15
4.	Service HQs		
	(a) Army HQ	DCOAS (P & S), DG (WE)	14.5.15
	(b) Navy HQ	VCNS, ACNS (P&P)	19.5.15
	(c) Air HQ	DCAS, ACAS (Plans), ACAS (Projects)	14.5.15
5.	HQ Indian Coast Guard	DDG (P&P), DIG	28.5.15
6.	DRDO	DS&CCR&D (TM)	28.5.15
7.	DDP (alongwith DPSUs / OFB)	Secretary (DP), Member (OFB) and CMDs of DPSUs	03.6.15
8.	MoD (Finance)	Smt Anuradha Mitra Sh A.R. Sule Sh Dhananjay Kumar Sh RK Sinha	08.07.15
9.	QA	Maj Gen Shamsher Singh Brig Sanjay Chouhan RADM Sanjay Choube Mr SC Sharma Brig Gautam Narayanan Mr Anil Garg	02. 07.15
10.	DOS	Brig JK Bansal Gp Capt B Bose Col KS Uppal Gp Capt Nayak	06.07.15

## Indian Private Industry (Association / Company)

Sl. No.	Agency	Designation /Person	Date
1.	Confederation of Indian Industry (CII)	<p><b>Shri Baba N Kalyani,</b> Chairman, CII National Committee on Defence &amp; Chairman and Managing Director, Bharat Forge Limited</p> <p><b>Shri Satish Kaura,</b> Chairman, CII Defence Offset Committee &amp; Chairman &amp; Managing Director, Samtel Group</p> <p><b>Shri Rajinder S Bhatia,</b> Chairman, CII Land Systems Committee &amp; President &amp; CEO, Bharat Forge Limited</p>	21.5.15
2.	Federation of Indian Chamber of Commerce & Industry (FICCI)	<p><b>Shri Jayant D Patil,</b> Executive Vice President &amp; Member of the Board (Heavy Engineering Independent Company), Larsen &amp; Toubro Limited</p> <p><b>Shri Ashok K Kanodia,</b> Founder and Managing Director Precision Electronics Ltd</p> <p><b>Shri Bhaskar Kanungo,</b> Deputy Director, FICCI</p>	21.5.15
3.	Associated Chambers of Commerce and Industry of India (ASSOCHAM)	<p><b>Shri Vaibhav Gupta,</b> MKU Pvt. Ltd.</p> <p><b>Shri NK Sharma,</b> CEO, OIS Advanced Technology Pvt Ltd</p> <p><b>Gp Capt Sanjiv Aggarwal,</b> Sr. Advisor, A&amp;D</p> <p><b>Cmde Mukesh Bhargava</b> Vice President (International Defence &amp; Aerospace Business), Heavy Engineering Independent Company, Larsen &amp; Toubro Limited</p> <p><b>Shri Himanshu Rewaria,</b> Sr. Executive, (ASSOCHAM)</p>	21.5.15

## Sectoral Industry Associations

Sl. No.	Agency	Designation /Person	Date
1.	PHD Chamnber of Commerce and Industry (PHDCCI)	<b>Maj R S Bedi,</b> Co - Chairman, Defence Committee, PHD Chambers  <b>Mr Sandeep Arya,</b> Member, Defence Committee, PHD Chambers & Managing Director, Amtrak Technologies Pvt Ltd	22.5.15
2.	Automotive Components Manufacturers Association of India (ACMA)	<b>Shri Vinnie Mehta,</b> Director General, ACMA  <b>Shri Lokesh Raina,</b> Senior Director, ACMA	22.5.15
3.	Electronic Industries Association of India (ELCINA)	<b>Shri Rajoo Goel,</b> Secretary General, ELCINA  <b>Lt Gen (Retd) AKS Chendele,</b> AVSM, PVSM, Advisor (Strategic Electronics), ELCINA	22.5.15
4.	National Association of Software & Services Companies (NASSCOM)	<b>Ms Bishakha Bhattacharya,</b> Director, NASSCOM  <b>Mr Ketan Makhania,</b> Head - Industry Defence, Cyient	22.5.15
5.	National Small Industries Association of India (NSIC)	<b>Shri P Udayakumar,</b> Director (Planning and Marketing), NSIC  <b>Shri K Ravindranathan</b> Director NSIC	22.5.15

## Indian Private Industry (Association / Company)

Sl. No.	Agency	Designation /Person	Date
1.	Confederation of Indian Industry (CII)	<b>Shri Satish Kaura,</b> Chairman, CII Defence Offset Committee & Chairman & Managing Director, Samtel Group  <b>Col H S Shankar, VSM (Retd),</b> Chairman & Managing Director Alpha Design Technologies Pvt Ltd  <b>Dr Rajesh Kapoor,</b> Director, CII	26.5.15
2.	Federation of Indian Chamber of Commerce & Industry (FICCI)	<b>Shri Ashok Kanodia,</b> Founder and Managing Director Precision Electronics Ltd  <b>Brig Anjum Shahab (Retd)</b> Vice President (Projects & Coordination), Zen Technologies Limited  <b>Shri Vivek Pandit,</b> Senior Director, FICCI	26.5.15
3.	Associated Chambers of Commerce and Industry of India (ASSOCHAM)	<b>Shri S L Deshmukh</b> Alpha Design Tech  <b>Shri Gyanesh Chaudhry</b> Managing Director Serval Electronics Pvt Ltd	26.5.15
4.	Federation of Indian Micro and Small and Medium Enterprises (FISME)	<b>Shri Anil Bhardwaj,</b> Secretary General, FISME  <b>Shri V N Sastry,</b> Joint Secretary (Projects), FISME	26.5.15
5.	Laghu Udyog Bharati (LUB)	<b>Shri Sushil Kumar Gupta</b> Former National President, LUB  <b>Shri Ravikumar V Kulkarni,</b> Owner, Shreyash Industries  <b>Ms Anju Bajaj,</b> Member National Working Committee, Laghu Udyog Bharati	26.5.15
6	Federation of Associations of Small Industries of India (FASII)	<b>Shri SP Singh,</b> National General Secretary, FASII	26.5.15

## Representatives Of Foreign Companies Based In India

Sl. No.	Agency	Designation / Person	Date
1	ADS, UK	Sh Gobinder Singh	02.6.15
2	Airbus Group	Maj Gen G.S. Kohli, Sr Director and head of Institutional Projects	
3	Airbus Group	Sh. Raina Farid, VP Sales & Customer Relations- India & South Asia	
4	Airbus Group	Sh Yves Guillaume, President	
5	AMCHAM, India	Ms Udaya Arun, Programme Manager- Aerospace & Defence	
6	BAE Systems India (Services) Pvt Ltd	Mr Kamal Deep Sanan, Commercial Manager Offsets	
7	Bell Helicopter India	Wg Cdr (Retd) B.S. Singh Deo, VM, MD	
8	Boeing India	Sh Pratyush Kumar, President	
9	Boeing India	Sh Pawan Anand, Director- International Contracts & Strategic Partnership	
10	British High Commission	Sh Glenn Kelly, Head of Defence and Security Organisation (India), UKTI	
11	Counsellor, Russian Embassy, FSMTC Rep in India	Sh Alexander Tifor	
12	Dassault	Ms Camille Brandicourt, VIE	
13	DGA / French Embassy	Sh Jean Pierre Dupre, Deputy Armament Attache	
14	Honeywell Defence & Space	Sh Swami Iyer	
15	Israel Aircraft Industrie3s	Sh Eli Glisberg, Assitant Director	
16	Indra Sistemas S.A. Spain	Cdr Sunil Chauhan (Retd), Director Business Development	
17	Lockheed Martin, USA	Sh Phil Shaw, Chief Executive	
18	MBDA	Sh Stephen Edwards, Industrial Offset Coordinator	
19	Pilatus Aircraft Ltd, India Project Office	Mr Prashanth Rajanna, Director, India Office	
20	RAFAEL	Sh Moti Hoffer	02.6.15
21	Rafael Adv Systems	Sh Samir Advani, Director Offsets	
22	Raytheon	Sh Nikhil Khanna	
23	Rolls Royce Group	Sh Simor Barr, Head of Commercial	
24	Rosoboronexports	Sh Sergey Maksimov, Deputy Representative of Ros-tec and JSC Rosoboronexport	
25	SAAB India Technologies	Sh Vineet Khunger, Assistant Vice President	
26	Safran India	Sh Stephane Lauret, CEO	
27	SIBAT	Ms Sari Dar, Deputy Defence Attache	
28	Textron	Sh Pankaj Kaushik, Director, Business Development	
29	Thales	AVM Pradeep Singh (Retd), Director	
30	US India Business	Sh Rahul Madhavan, Director- Aerospace & Defence	

**Think Tanks / Consultants**

<b>Sl. No.</b>	<b>Institution</b>	<b>Remarks</b>
1.	Institute of Peace and Conflict Studies	Submitted a paper
2.	Vivekanand International Foundation	Organised a Seminar on 27.5.15
3.	United Service Institution of India	Submitted a paper
4.	Institute for Defence Studies and Analyses	Submitted a paper
5.	Ernst and Young Shri Ganesh Raj,	Deemed exports and taxes
6.	Shri Rajesh Narayan	India Rizing fund on 07.7.15

**QUESTIONNAIRE**

1. **Service HQs / CGHQ**
2. **HQ IDS**
3. **DRDO**
4. **DDP**
5. **MoD (Acquisition Wing)**
6. **Indian Industry**

**Questionnaire**  
**Interaction With Expert Committee / SHQ / CGHQ**  
**(DPP 2013 Review)**

1. **Information**

(a) Number of procurement case in progress indicating date of AoN (Version of DPP under which AoN was accorded), category and stage at which these stand.

(The nomenclature of the program (equipment/system/platform name) and estimated budgetary implications need not be provided. Need to observe the trend in categorisation of cases and establish forward movement towards Indian industry involvement)

(b) Specific/perceived reasons for delay vis-a-vis schedule given in DPP in progress of cases. What is the actual time taken from identification of a need for defence equipment till the signing of contract?

(c) Number of AoNs accorded under DPP 2013 indicating categorisation.

2. **Views/Suggestions on DPP 2013**

(a) Efficacy of DPP 2013 to meet service timeline requirements w.r.t equipment/system/platform procurements.

(b) Positive aspect of DPP 2013 which has improved the acquisition processes. Suggestions, if any, on further refinements.

(c) Such aspect of DPP 2013 which either lead to delays or even stall the acquisition processes. Suggestions on refinements/amendments or even deletion of such provisions

(d) What is the effect of Offsets on the procurements process? Any suggestions for alternatives?

(e) Are the Expertise level of functionaries involved in acquisition process in various quarters considered satisfactory? Has any need for specific training/exposure etc been felt? If so, have any steps been taken to address the situation?

3. **Comments**

(a) Alignment of DPP with “Make in India” Policy of Govt. What specific steps does the service envisage to facilitate the policy and enhance participation of Indian Industry towards development of Defence Industrial Base as well as higher level of self-reliance? Is there a need to tweak the categorisations, so as to incorporate “Make in India” in terms of percentage of indigenisation content?

(b) Is there a need felt to institutionalise a mechanism to finalise mode of defence procurement (Limited Tender, Single Vendor, Open Tender, Government to Government, etc)? Though this aspect is included in AoN, the mechanism is not institutionalised.

(c) It has been commented that Technical Evaluation and Field Evaluation Processes

consume a very large part of acquisition process and add to delays. Are there any suggestions to reduce the time taken for these processes?

(d) It has been observed that complaints/representations by any entity are seen to stall or bring interminable delays to the acquisition processes at various stages. Existing mechanisms of Independent Monitors as well as conventional CVC/CBI route are not able to address the situation in a time bound manner. Is there necessity for additional appellate organisational structure or special standing committee within MoD?

(e) With the prioritised categorisation in DPP 2013 [Buy (Indian)], Buy & Make (Indian), Buy & Make, Buy (Global), what is the relevance of “Offsets”? Suggestions for improving the “Offset” contract finalisation processes.

(f) How to build indigenous capability in the private sector in Aerospace industry? Any suggestions or methods to facilitate utilisation of testing and development facilities of DRDO and DPSUs.

(g) Any suggestions for encouraging private sector to get into R&D in defence sector like the DARPA model.

(h) How to assimilate progressive indigenisation into contracted weapons and equipments?

(j) Should life cycle costing aspects be included for major systems acquisitions?

(k) Should up-gradation be reserved for Make in India?

(l) What are the resources that can be made available by services to facilitate public and private sector development of weapons system?

(m) How to improve indigenisation of systems and components and maintenance activities?

(n) Is there a need for a separate chapter for procurement of aerospace systems?

**Questionnaire**  
**Interaction With Expert Committee / Hq IDS**  
**DPP 2013 Review**

1. Efficacy of DPP 2013 to meet service timeline requirements w.r.t equipment/system/platform procurements.
2. Positive aspects of DPP 2013, which have improved the acquisition processes. Suggestions, if any on further refinements.
3. Identify such aspects of DPP 2013 which either lead to delays or even stall the acquisition processes. Suggestions on refinement/amendments or even deletion/addition of such provisions.
4. Do the Officers assigned with 'acquisition' duties suffer from lack of expertise in any crucial discipline viz; legal and contract negotiation, and economic analysis for life cycle costs or ToT and if so, your suggestions on how to address the problem ?
5. What are your views on DPP which lays down broad principles for acquisitions under several scenarios viz, G to G tender etc, with detailed procedures being left to be determined through an institutional mechanism on a case to case basis?
6. What are your suggestions on institutional arrangements for periodic oversight and for dealing with complaints of procedural violations and corruption ?
7. What has been the experience of HQ IDS in dealing with industry during various stages of categorisation ? How can this interface be harmonised with 'Make in India' ?
8. How many feasibility studies have been undertaken/initiated for 'Make' schemes since its incorporation ? What are your suggestions to simplify this procedure to position this as the key driver of "Make in India" policy in defence sector ?
9. Other suggestions for alignment of DPP to 'Make in India' policy.

**Questionnaire**  
**Interaction With Expert Committee / DRDO Hq**  
**DPP 2013 Review**

1. DPP envisages an important role of DRDO during various stages of the procurement process outlined therein. How do DRDO HQs see this in light of “Make in India” policy of the Govt?

- Enumerate positive aspects of DPP 2013 and how to improve these further.
- Suggest specific changes to DPP 2013, which can make the processes more efficient so that services can meet their capability requirement within the timeline envisaged.

2. Directorate of Industry Interface and Technology Management (DIITM) have played a key role in engaging with the industry. Please give suggestions, if any to enhance DIITM’s role towards following:-

- (a) Wider participation of Indian private industry in R & D activities.
- (b) Enrolment of Indian private industry to become production agencies for DRDO developed equipment/platforms?
- (c) Easing procedure for Indian private industry to utilise testing, design and simulation/modelling facilities’ of DRDO.

3. Indicate the DRDO technologies which have been transferred to Indian private industry for licensed production and the level of success achieved.

4. How has the offset policy (2012) aided acquisition of key sensitive technologies for DRDO? Suggestions, if any, for speeding up this process so that indigenous development and production for defence requirement can be increased substantially, in value as well as volume terms.

5. What are your views on a DPP which lays down broad principles for acquisition under several scenarios viz; Govt. to Govt. global tender etc with detailed procedures being left to be determined through an institutional mechanism on a case to case basis.

6. In your opinion, does the acquisition executive suffer from lack of expertise in any crucial discipline viz; legal and contract negotiation, economic analysis for life cycle costing or ToT, and if so your suggestion on how to address the problem.

7. What are your suggestions on institutional arrangements for periodic oversight and for dealing with complaints of procedural violations and corruption ?

8. What are your suggestions on creating partnership with industry, both public and private, at the commencement of each program for developing systems/platforms for defence, with the aim to imbibe concurrent design and engineering and reduce program delays ?

9. The management model followed for development and production of LCA have resulted in excessive delays and the aircraft not fully meeting the design goals and ORs. Can DRDO propose any alternative management model to ensure timely completion of future programs ?

10. How to incubate the culture of R&D in the private sector as private sector develops to meet the defence needs?
11. There is a common opinion that DRDO developed technology is not as easily transferred to private industry as it is done to DPSU and OFB.
12. How is the DRDO developed technology is re-worked for mass manufacture? Is there a need to start an organisation that will be responsible for design for manufacture?
13. How is IPR handled in DRDO? When technology is transferred, is IPR priced?

**Questionnaire**  
**Interaction With Expert Committee / MOD (DDP)**  
**DPP 2013 Review**

1. DPP-2013 envisaged giving major impetus to Indian industry's participation in defence programs and also create level playing field between the private and public sector. What has been your experience so far? Please enumerate the strong as well as weak points of DPP 2013 and suggestions thereof.
2. How many cases have been initiated under the "Make" procedure under DPP 2013? Specific difficulties experienced during the execution of the 'Make' procedure and remedial suggestions thereof may be elaborated.
3. What are your views on the efficacy of the existing 'Offset' guidelines and management structure? Specific areas to be improved upon and suggested measures may be elaborated.
4. In your opinion, are the offsets effectively leading towards wider participation of Indian private industry? Can the benefits accrued so far be quantified in terms of products ToT etc?
5. What steps have been taken or are envisaged to be taken towards enhancing the participation of private Indian industry in defence sector?
  - (a) Ease of granting defence manufacturing licence.
  - (b) Parity with defence PSUs.
  - (c) Nomination of private sector for specific programs for which they may have established the capacity and capability, on the similar lines as is being for DPSUs.
  - (d) Incentivising investment in defence R&D by private industry.
  - (e) Tax incentives for defence private industry to provide parity with DPSUs as well as global vendors.
6. Can MoD (DDP) be made a 'single window' for according industrial licenses for defence production and FDI?
7. What are the views on corporatisation / privatization of OFBs? And can the infrastructure of OFBs be opened up for private industry?
8. DPSUs have over the years established extensive design, testing as system integration infrastructure, which are considered capital as well as time intensive. Can these be opened up for use by private industry in their initial endeavours?
9. Have any mechanisms been established for regular assessment of the development of defence industry in various verticals such as ship building, aviation, electronics / avionics, etc.
10. Your views on transfer of DPSUs to Ministry of Heavy Industries so that their functioning can be harmonized with the other private / public industries.

**Questionnaire**  
**Interaction With Expert Committee/ Acquisition Wing**  
**(DPP 2013 Review)**

**1. Information**

- (a) Number of procurement case in progress indicating date of AoN (Version of DPP under which AoN was accorded), category and stage at which these stand.  
(The nomenclature of the program (equipment/system/platform name) and estimated budgetary implications need not be provided. Need to observe the trend in categorisation of cases and establish forward movement towards Indian industry involvement).
- (b) Specific/perceived reasons for delay vis-a-vis schedule given in DPP in progress of cases.
- (c) Number of AoNs accorded under DPP 2013 indicating categorisation.
- (d) Mechanism for monitoring the progress of cases within MoD and corrective measures instituted to reduce delays.

**2. Views/Suggestions on DPP 2013**

- (a) Efficacy of DPP 2013 to meet service timeline requirements w.r.t equipment/system/platform procurements.
- (b) Positive aspects of DPP 2013 which have improved the acquisition processes. Suggestions, if any, on further refinements.
- (c) Such aspects of DPP 2013 which either lead to delays or even stall the acquisition processes. Suggestions on refinements/amendments or even deletion of such provisions
- (d) What is the effect of Offsets on the procurements process? Any suggestions for alternatives?
- (e) Are the Expertise level of functionaries involved in acquisition process in various quarters considered satisfactory? Has any need for specific training/exposure etc been felt? If so, have any steps been taken to address the situation?

**3. Comments**

- (a) Alignment of DPP with “Make in India” Policy of Govt. What specific steps does the service envisage to facilitate the policy and enhance participation of Indian Industry towards development of Defence Industrial Base as well as higher level of self-reliance? Is there a need to tweak the categorisations, so as to incorporate “Make in India” in terms of percentage of indigenisation content?
- (b) Is there a need felt to institutionalise a mechanism to finalise mode of defence procurement (Limited Tender, Single Vendor, Open Tender, Government to Government, etc)? Though this aspect is included in AoN, the mechanism is not institutionalised.
- (c) It has been commented that issue of RFP is invariably delayed by months though

time line for issue of RFP after AoN, as shown in Annexure to Appendix 'A' of DPP (Page-29), is 08 weeks. Are there any suggestions to reduce the time taken for this first stage of acquisition process?

(d) It has been observed that complaints/representations by any entity are seen to stall or bring interminable delays to the acquisition processes at various stages. Existing mechanisms of Independent Monitors as well as conventional CVC/CBI route are not able to address the situation in a time bound manner. Is there a necessity for additional appellate organisational structure or special standing committee within MoD?

(e) With the prioritised categorisation in DPP 2013 [Buy (Indian)], Buy & Make (Indian), Buy & Make, Buy (Global), what is the relevance of "Offsets"? Suggestions for improving the "Offset" contract finalisation processes. There is also a view that multiplicity of agencies involved in management of offsets also contributes to ineffectiveness of the set up.

(f) Is there a need for a separate chapter for procurement of Aerospace Systems?

## Questionnaire

### Interaction With Expert Committee / Industry

#### DPP 2013 Review

1. 'Make in India' policy aims to further consolidate the efforts of the Ministry of Defence towards maximizing indigenous content in defence equipment / platforms. What are your suggestions to achieve these goals in the light of your experience with DPP 2013? How does the defence industry plan to realise the goals of "Make in India"? Please, give suggestions, if any, for alignment of DPP 2013 with "Make in India" policy.
2. A simplified 'Make' procedure was promulgated in DPP 2013. In your opinion, which aspects of this procedure need further refinements? Please give specific suggestions.
3. The Defence Industrial Licensing process has largely stabilised over the years. FDI norms for Defence Industry have also been revised. As DPP has evolved, efforts have been made to place Indian Private Industry as an even pedestal with the foreign vendors as well as DPU's. How have these multi-pronged policy initiatives helped the industry? Please give suggestions, if any, on further improvements in these areas.
4. Technology Perspective Capability Road map (TPCR), highlighting broad requirements of the Indian Armed Forces, has already been shared with the Industry. How has the information given in TPCR facilitated the industry to make a business case? What are your suggestions to make this exercise more meaningful?
5. Headquarters Integrated Defence Staff (HQIDS) has been engaging the Industry stakeholders through regular dialogues and interactions. What are your suggestions for further strengthening the existing processes of categorisation of schemes?
6. MSMEs have been playing a pivotal role in strengthening the industrial base in every country. What are your suggestions to enhance their contribution in defence manufacturing? Please also give details of MSME participation at present.
7. DRDO, DPSUs and DGQA organisations have established extensive design and test facilities for defence systems / platforms. Please give details of the utilisation of these by the private industry. Please also give suggestions, if any, for further improvement if the industry so feels the need to use these facilities.
8. How do you perceive setting up of institutional structures for collaborative research by Indian Entities considering that cutting edge Defence technology from abroad will not be forthcoming? What are your suggestions?



## ACKNOWLEDGEMENTS

The committee of experts has had meetings on 11 May 2015 and consecutive days for more than six weeks. HQ IDS hosted the committee at Purple Bay, Jodhpur Officers Hostel, India gate, New Delhi.

Committee members hail from Delhi and places elsewhere and were dependent on Purple Bay for their logistics arrangements, throughout the duration of functioning of the Committee.

With gratitude the committee has great pleasure in placing on record, the excellent logistics support they received from HQ IDS. Director Acquisition, has been of immense help in scheduling various meetings and providing required documents and reports.

Support staff, especially Sgt Ashok Kumar and Hav RP Singh from HQ IDS, has been helpful for all secretariat functions. Mr Pawan from M/s Creative has helped put the report in the format required. We also thank CII for helping the committee with preparation and printing of its reports.

Mr Monu and staff of M/s Aroma Kitchen, engaged by HQ IDS for catering services displayed immense devotion and dedication to their task.

