DEFENCE PROCUREMENT POLICIES

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Major Changes in Procurement Policy

- CPPP, e-Marketing Portal
- Make in India , Filip to MSMEs
- Full powers to departments if not available in G e-M
- Global Tender: Items not available indigenously
- No global tender up to Rs 200 cr: May 2020
- Rejection of bids: Effective Competition Lacking, bids not substantially responsive, bids are substantially higher than the cost estimate
- Single bid not to be rejected, if advertised, & price reasonable

Promotion of MSMEs

- Target 25% of Procurement from MSMEs
- 469 Items Reserved
- Match L1 Price <= 15%
- Procurement from MSMEs
- Year(2015) : 13140 Cr(11.6%), 2022: 53337(34%) of total public Procurement of 1.55 lakh Cr

PUBLIC PROCUREMENT BILL: 2012

- Efficiency, Economy, Transparency
- Fair & equitable treatment to bidders
- Promote competition
- Debriefing Suppliers
- Mechanism to root out corrupt practices
- Integrity pact
- Publication in CPP

Code of Integrity

- Prohibits making offers, solicitation, or acceptance of bribes
- Disclosure of conflict of interest
- Collusion, bid rigging, and anti-competition behaviour
- Grievance redressal mechanism

OECD REPORT ON CORRUPTION IN PUBLIC PROCUREMENT

- Transparency of shortlisting and bid evaluation Process bolsters bidders' trust
- Legislation in India does not explicitly require announcement of tendering results to the unsuccessful bidders.
- Reasons for selection of the winner bidder must be recorded and made available to the bidders
- No Debriefing To Unsuccessful Bidders.

Scope of Presentation

- Evolution of Procurement (DPM) & Acquisition Procedure (DPP-DAP)
- Additional Provisions in DPM
- DPP 2006 & DAP 2020
- Key Provisions in DAP
- Offset Policy & Impact
- FDI Policy & Impact
- Case Study: Rafale Contract
- The Way Forward

DEFENCE PROCUREMENT/ ACQUISITION

- Boffors, Kargil Procurement, Phookan Commission (Coffin Scandal), CVC, Transparency International
- Bolster Transparency, Probity: DPM 2005 & DPP 2006
- Liberalization in Defence Manufacturing in 2001
- From Captive DPSUs & OFs to full private Sector Participation & 26% FDI
- FDI Increased to 49%, Presently 74%
- Kelkar Committee(2005): PPP, Level Playing Field, Offset
- Dhirendra Singh (2015) : Strategic Partnership Model: DPSU with Private Industry, OEM, Design Houses
- Promote Self Reliance: SRI (30%) to 70%

DPM - 2009

- Efficiency, Economy, Transparency, Equitable Treatment of Suppliers, Promote Competition
- Mil Spec(s) Vs COTS
- NIT: Description and Spec(s) of the goods and qty required
- Period and Term of delivery
- Cost of bidding Documents
- Place and deadline for receipt of Tender
- Place and time/date for the opening of the Tender
- EMD
- LTE: >25 Lakh: Urgency, not in the public interest, sources are definitely known

SINGLE TENDER ENQUIRY

- Emergency/Urgency, a particular source only
- Operational requirement
- To OEMs only
- PAC tendering: Certificate
- Two Bid systems: QR Compliance TEC, TPC
- Association of IFA in TEC
- Price Reasonableness
- Lack of competition - <2, cartel formation
- Retendering: Price quoted unreasonable high, sudden slump in prices
- Withdrawal of offer by L_1: Retendering (CVC)

Price Reasonability in STE

- LPR & Escalation in the Interregnum
- Cost Details: Book Examination Clause
- MHR, Manhours Involved
- Verification of Escalation: Buffers Ammunition& IMF World Bank Outlook for Escalation
- Government Indices, CPI, WPI,CMIE Data Base (Prowess), Metal Indices, WEO
- Quantity Discount, Benefit of Price of Electronic Items
- Reasonability Evaluation: UAV (RFI, Quantity)
- Source Development: Spares for MBT engine

REPEAT ORDER, OPTION CLAUSE

- Items delivered successfully
- Original order not placed to cover urgent demand
- No downward trend, certified
- Within 6 months of completion of the supply
- Original order was lowest after price negotiation
- If there is an option clause, total quality < 50%
- No downward trend, RFI
- Care to be taken in multi-vendor contract

OTHER CONTRACT TERMS

- R&E clause
- Fall clause
- Buy Back offer
- Global Tender Enquiry
- Pre-despatch inspection- (PDI) and JRI
- L/C payments: 6 month of the signing of the contract
- Export license
- Validity of L/C
- Irrevocable L/C
- Arbitration

DESIGN, DEVELOPMENT & CONTRACTS

- When OEM is closing down or closed
- TOT has been taken
- Import prices are exorbitant
- Source development
- Orders on two sources at slightly varying rates (10%): Pinaka Launcher
- Free flow items after one successful supply

C&AG SPECIAL REPORT ON KARGHIL PURCHASE

- 129 Contracts worth Rs.2175.4 crore
- Stores received six months after operation
- Contracts placed after Kargil operation
- 64% of purchase: material departure made from Established procedure
- Coffin Scandal: unreasonable price
- Price differential >10% of L_1 (BPJ)
- Phukan Commission report on Tehlaka expose

DPP 2006

- Buy (Import)
- Buy & Make (ToT, followed by IP, DPSUs)
- Make (Indigenous Design: DRDO)
- Offset Provision above 300 cr
- Integrity pact
- Increased level of transparency

Defense Acquisition Procedure : 2020

- Realize the Vision of Make in India
- Promote Indian D&D of Defense Equipment
- Contemporary Technology in time bound manner
- Leasing, Strategic Partnership
- 74% FDI, Ease of Doing Business
- Best Weapons at the Most Competitive Price
- Probity & Trust

Categorisation

- Buy (India-IDDM)
- Buy (Indian)
- Buy & Make (Indian)
- Buy (Global-Manufacture in India)
- Buy (Global)

Indigenization

- Proof of Indigenous Design: DRDO &IITs/IISC
- Proof of Indigenous Content: Vendor
- Verification by MoD / Nominated Agency
- If the Cost of IDDM> LPR (Buy)?
- Lack of Design Capability & Manufacturing Ability of Critical Subsystems: Weapons, Sensors & Propulsion
- SRI only 30% : Kalam Committee (1995)
- Japan: Importing F35 directly instead of domestic assembly: Cost a critical factor

ACQUISITION PROCESS

- RFI, SQRs, AON, Solicitation of Offers, TEC, Field Trials, Staff Evaluation, TOC, CNC, CFA, Contract
- SQR: (a) Essential Parameters (b) Enhanced Performance Parameters
- Broad Based SQRs
- Approved of SQRs (SHQs)
- Offset – Buy (Global) or (Buy and Make), ≥(2000cr)
- Single Stage – Two Bid System

CONDITIONS OF CONTRACT

- Applicable Law
- Arbitration
- Penalty for Use of under influences
- Agent/Agency commission
- Access to books of account
- Liquidated damages
- Termination

(a) Delayed beyond DP
(b) Bankruptcy
(c) Using agent

STANDARD CLAUSES OF CONTRACT

- Law (Laws of Republic of India)
- Arbitration (Three), Seat in India
- Arbitration & Conciliation Act 1996
- Force Majeure; Fires, Floods, Natural Disaster or other acts such as War, Turmoil, strikes, sabotage, explosion beyond the control of either party

Penalty for undue Influence

- Integrity Pact –IPBG
- Agents – 2% + LIBOR
- Cancellation
- Blacklisting

OFFSET PROVISIONS

- Buy (Global) or Buy and Make (2000 crore), 30%
- Leverage Big Buy to develop the Indian defense industry, Augmenting R&D capacity
- Encouraging the development of synergistic sectors like civil aerospace and internal security
- Types of Offsets; Direct purchase of products, Executing export orders, FDI in JV with Indian enterprises
- Involvement in ToT to Indian enterprises- JV, High-technology areas
- Direct Vs Indirect Offset(Education, Health)
- Offset partner , OEM free to choose IOP

OFFSET PROVISION

- Multiplier: 2.0 (Use by Indian Armed Services), 2.5 (Military and Civil Application), 3.0 (No restriction), including the right to export, 1.5 for MSMEs
- Defence Offset Management Wing
- Technical offset proposal and commercial offset proposals
- Penalty: 5% of the unfulfilled obligation
- No indirect offsets
- Dual use: Aerospace and MHA, Ship Building

IMPACT ANALYSIS

- CAG report: Zero value addition
- Low FDI inflow: $4.94M
- Impact on Export of parts and components of civilian aerospace items, BEL a beneficiary
- Not a catalyst to bring in TOT
- Very little impact on ‘manpower’ addition
- Keith Hartley’s study of the F-16 Contract with UK
- Brazil’s Embraer experience: Massive government interest, pooling together of R&D talent, subsidy, tax holiday, the synergy between Military and Civil Technology: Freeman
- Economic benefits are uncertain: Paul Dunne
- It’s doubtful if relevant technology will be transferred: Brauer

FDI Policy

- 2001: 25% FDI Allowed
- Increased to 49% in 2006
- 74% in 2020
- Tepid Inflow: Total FDI Inflow: $62 B; Defence $2.36M in Defense (21-22), $3.21M(22-23)
- Chary of Establishing JVs in India, Sharing State of Art Technology, Marketing Decision

LIFE CYCLE COST

- Total Cost of Ownership of an asset over its lifetime
- USA (the 60s), UK, Australia
- Cost of R& D, Testing, Production, Facilities, Maintenance, Environment Compliance& Disposal
- Acquisition Cost(28%), Operation Cost (12%), Logistics(60%)
- Total Discounted cost of Owning, Operating, Maintaining & disposing of the system, Womb to Tomb
- Operational Availability of a System
- Ao= MTBM/ MTBM+DT , Where MTBM is Mean time between maintenance & DT is Downtime
- Applied in MMRCA Contract
- Rafael & Typhoon shortlisted for LCC, Rafael L1
- Changed from Buy & Make to Buy: Make in India!

CORRUPTION IN THE DEFENCE SECTOR/OFFSET CONTRACTS

- Defence sector accounted for 50% of all bribery allegations (94-99)
- Opacity of Offsets
- Obsolete Technology Transfer
- Direct (40%), Indirect Military 35%, Civil indirect 25%: (European Union)

Source: Transparency International

RAFALE CONTROVERSY

- Jan 2012: MMRCA Contract: 126 aircraft, option 50%
- Fully assembled 18, balance to be manufactured by HAL (ToT)
- Lowest bidder based on life cycle costing
- HAL wanted Dassault to ensure the quality of aircraft
- Each aircraft cost Rs.746 crore
- 25th March 2015 CEO of Dassault “95% complete”
- April 2015: Modi – India to acquire 36 Rafale (FF)
- Tenders for 126 aircraft cancelled (2015), negotiation for 36
- IGA signed in September (2016) for 36 aircraft
- 50% offset clause ($39B)
- Reliance Group & DA creates JV (DRAL)
- Escalation of cost from 715 crore – 1600 crore

ISSUES AND CONCERNS

- Changing the character of the Contract (Buy & Make) to Buy
- IGA instead of Competitive tendering with all technically shortlisted firms of (2012) (like Typhoon (↓20%) price)
- Qatar and Egypt paid Rs.1319 crore vs. Rs.1670 crore paid by India
- Inexperience with Reliance as IOP
- SC did not find material for commercial favouritism

LETTER OF COMFORT

- Performance BGB is given by the foreign supplier, Sovereign guarantee Russia
- Foreign Military sales: USA: No PBG
- Letter of Comfort: The parent corporation will provide its subsidiary with the necessary resources to fulfil the contract
- EU Law: Does not require parent companies to fulfil obligations incurred by the subsidies
- Difficult to Enforce

MAJOR IRREGULARITIES IN CONTRACT

- Tailor-made specifications
- Arbitrary exercise of repeat order and option clause
- Inspection reports
- Arbitrary L/D waiver
- Poor Post contract management

Challenges of Make in India

- D & D of Key Technology ; Seekers, AESA Radar, Stealth ; Propulsion, Air to Air Missiles, Weapons & Sensors
- .8% of GDP on R & D Vs 3% by DCs
- Private Sector invests poorly in R&D
- Joint D & D: MR SAM with Israel. FGFA with Russia & JV with Russia, JV for Brahmos
- IIT, Kharagpur, Naval Warship Design, No such Centre Aero Space Design
- 25% of the DRDO Budget for Startup Academia, a Good Move
- From Build to Design to Design to Build, Sine Qua Non of a Knowledge Society.

Stealth Technology

What is Stealth?

In simple terms, stealth technology allows an aircraft to be partially invisible to Radar or any other means of detection. This doesn't allow the aircraft to be fully invisible on radar. Stealth technology cannot make the aircraft invisible to enemy or friendly radar. All it can do is to reduce the detection range or an aircraft. This is similar to the camouflage tactics used by soldiers in jungle warfare.

How does Stealth technology work?

The principle of reflection and absorption that makes vehicle "stealthy". Deflecting the incoming radar waves into another direction and thus reducing the number of waves does this, which returns to the radar. Another concept is to absorb the incoming radar waves totally and to redirect the absorbed electromagnetic energy in another direction. What ever may be the method used, the level of stealth a vehicle can achieve depends totally on the design and the substance with which it is made of.

Technology used

- Reflected waves
- Infrared (heat)
- Wavelength match
- OTH radar (over-the-horizon radar)
- Special coating

Global Scenario – Air Vehicle Development

Manned

B-2 Spirit – Northrop Grumman; F-22 Raptor – Lockheed Martin / Boeing; F-35 Lightning II – Lockheed Martin / BAE Systems / Northrop Grumman PAK FA – Sukhoi; FGFA – Sukhoi / HAL; Chengdu J-20 – Chengdu Aircraft Corporation; AMCA – ADA / HAL; PAK DA – Tupolev; 2037 Bomber

Unmanned

Boeing X-45; BAE Taranis; Dassault nEUROn; EADS Barracuda; Rheinmetall KZO; RQ-3 Dark Star; Armstechno NITI; Lockheed Martin RQ-170 Sentinel; MiG Skat – Mikoyan, Russia; Northrop Grumman X-47B – USA; DRDO AURA

Active Electronically Scanned Array (AESA) Radar

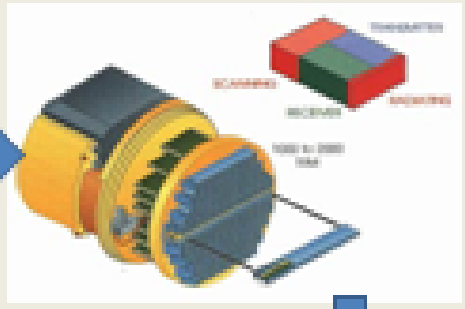
What is it? How it works?

A type of phased array radar whose transmitter and receiver functions are composed of numerous small solid-state transmit/receive modules (TRMs).

Advantages

-Low Probability of Intercept
-High jamming resistance
-Replacing a mechanically scanned array with a fixed AESA mount can help reduce an aircraft's overall radar cross-section (RCS)

Assembled AESA Elements



Sections view

Unmovable Eye of Platform to cover more than 300 kms. In all weather conditions

Technology

AESAs aim their "beam" by broadcasting radio energy that interfere constructively at certain angles in front of the antenna. They improve on the older passive electronically scanned radars by spreading their broadcasts out across a band of frequencies, which makes it very difficult to detect over background noise. AESAs allow ships and aircraft to broadcast powerful radar signals while still remaining stealthy.

Global Scenario –

- DRDO 'Arudhra'
-Northrop Grumman/Raytheon for the F-22 Raptor, Falcon, F-35, Boeing Wedgetail (AEW&C), E-2D Advanced Hawkeye,B-2 Spirit bomber
-AMSAR, research from the European GTDAR consortium, for Eurofighter and Rafale fighter Radar: Captor-E
-Mitsubishi Electric Corporation J/APG-1, AESA for the Mitsubishi F-2 fighter
-Ericsson PS-05/A MK-5 for JAS 39 Gripen.
-Phazotron NIIR Zhuk-AE, for MIG-35 & FGFA
-Elta EL/M-2052 for HAL Tejas. Also, suitable for F-15, MIG-29 & Mirage 2000
-Toshiba HPS-106, air & surface search radar, for the Kawasaki P-1 maritime patrol aircraft. -BAE Systems
-Mitsubishi Electric Corporation (The world's first Naval AESA radar)
-J/FPS-3 Japanese main ground-based
-J/FPS-4 Cheaper than J/FPS-3, produced by Toshiba
-JTPS-P16 Firefinder radar, Melco
-CEAFAR CEA Technologies A 4th generation

Focal Plane Array(FPA):

What is it? How it works?

Focal plane arrays (FPA) are detectors which consist of a linear or two-dimensional matrix of individual elements. They are used at the focus of imaging systems. e.g. Satellite Imagery etc.

Array Type:

- Linear Array: consists of single line of pixels
-Area Array: consists of rows and columns of pixels

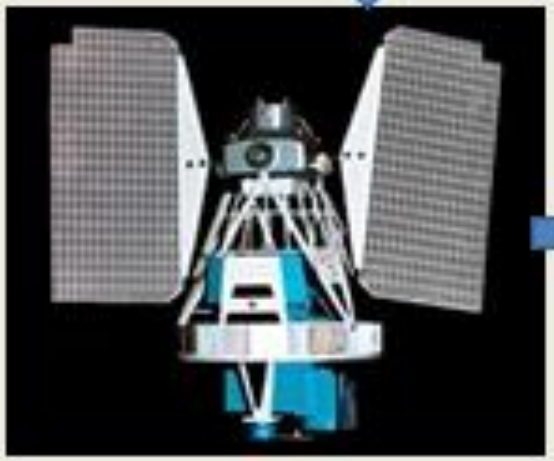
Spectral Range:

- Visible
- Near Infrared
- Mid Infrared
- Far Infrared

Specialized focal plane arrays:

- Avalanche
- Adaptive
- High-speed
- Industrial

FPA Assembly



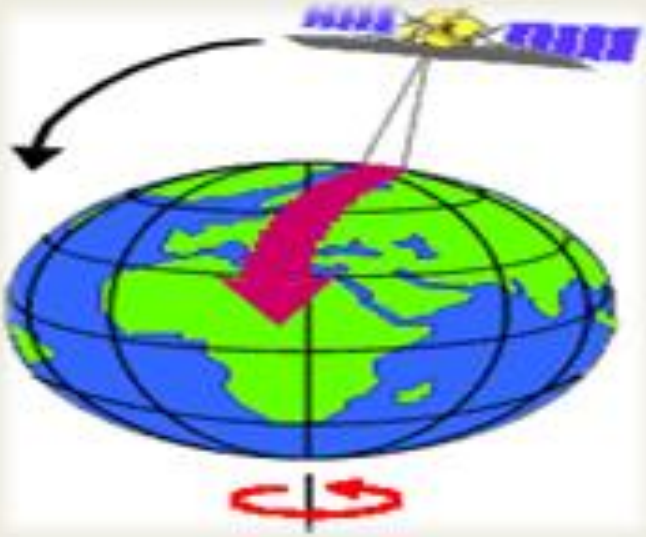
Imagery Satellite

Choices for spectral range:

X-Rays, ultraviolet (UV), visible, near-infrared (NIR), mid-infrared, far-infrared (FIR), and microwave

FPAs are used in:

-Astronomical imaging
-Aerial reconnaissance
-Aaerial mapping
-Spectrographic analysis
-Star tracking, machine vision, X-ray diffraction, and measurement applications.



Aaerial Mapping

Role of Supreme Court

- Equal Opportunity, Non-Arbitrariness
- Compliance of Procedure & Not Public Policy
- Open Sky Policy of the Government Upheld
- Spectrum Auction Policy: First Come First Serve Policy Struck Down, Open Bidding
- Public Policy on Specification, even if restrictive of competition, not open to Judicial Review

Way Forward

- Build up Design & Development Capability , Invest more in R&D (Government & Private Sector)
- Collaborate with Design Houses: SR SAM with Israel, FGFA, D&D& Production Scrapped
- JV with OEMs: Brahmos Cruise Missile as a template
- Increase Privatization: Helicopters, OPVs, Small Arms, Vehicles, Communication Systems
- Encourage Indirect Offsets, Embrace Best global practices, Dual Use Technology
- Eschew Protection & Deglobalization
- India as a Global Manufacturing Hub & MIC as Part of National Manufacturing Plan: NMZ Policy of Krishnamurthi