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Issue Brief

MMRCA Mess and the Need for Professionalism in the Defence Acquisition Process

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S*ummary*

The CAG report relating to the Indian Air Force has highlighted a number of anomalies and the unprofessional manner in which various important steps in the acquisition of platforms and weapon systems have been handled, causing unconscionable delays between the initial 'Acceptance of Necessity' and the final signing of the contract. Further, precious time is lost when it becomes necessary to annul the entire exercise due to such irregularities and reboot the process once again, resulting in wide capability gaps which at times necessitate 'out of the box' solutions as quick fixes.

The intense media focus of the past few weeks on the alleged improprieties in the inter-governmental agreement for the acquisition of 36 Rafale aircraft meant that only 12 pages of the Comptroller and Auditor General (CAG) Report tabled in Parliament on 13 February 2019 have received exclusive attention. In the process, other anomalies identified by the report with respect to the acquisition process of the 126 Medium Multi Role Combat Aircraft (MMRCA) have received very limited coverage. These other anomalies relate to the unprofessional manner in which various important steps in defence acquisition are handled, causing delays between the 'Acceptance of Necessity' and the signing of the contract. Further, precious time is lost when it becomes necessary to annul the entire exercise due to such irregularities and reboot the process once again, resulting in wide capability gaps which at times necessitate 'out of the box' solutions as quick fixes.

The Three-Stage Process of MMRCA Acquisition

The need to induct medium multi-role combat aircraft to fill the void that would be created by the phasing out of MiG-21 and MiG -23 aircraft and the delay envisaged in the Light Combat Aircraft (LCA) programme was foreseen in the year 2000. Accordingly, the Parliament Standing Committee on Defence was apprised by the Indian Air Force (IAF), "that a formal proposal for acquisition of a few squadrons of Mirage-2000-5 in the 10th and 11th plan has been submitted to the Ministry of Defence."¹ But the MMRCA acquisition process formally began only in August 2007 with the issue of a Request For Proposal as prescribed by the Defence Procurement Procedure (DPP), 2006. Thereafter, it went through a three-stage process: evaluation of technical offers, field trials, and commercial negotiation.

Evaluation of technical offers by Technical Evaluation Committee (TEC)

According to DPP 2006, the offers received should be opened on the notified date and time by the members of a committee chaired by the Technical Manager, in the presence of the bidders or their authorised representatives. The committee is to open only the envelope containing the sealed technical offer and thereafter send it to the Service Headquarter (SHQ) concerned for evaluation by a Technical Evaluation Committee (TEC). The sealed envelope containing the commercial bid is to be sent to the Acquisition Manager, unopened. The TEC is constituted by the SHQ for evaluating the technical bids with reference to the Qualitative Requirements (QR)s, under an officer from the SHQ. Its other members include: representatives of the user service and maintenance agency, representatives of the Quality Assurance

¹ Para 22 of the Seventh Report, Standing Committee on Defence (1999-2000) (Thirteenth Lok Sabha), Ministry of Defence, Modernisation of the Indian Air Force, Presented to Lok Sabha on 18 December 2000.

organisation (QA) and, where transfer of technology (TOT) is involved representatives of the production agency (in the MMRCA case, it was the Hindustan Aeronautics Limited which was designated as the lead production agency for the airframe, aero-engine, and assembly of aircraft and system integrator) and DRDO. The TEC's task is to examine the extent of variations/differences, if any, in the technical characteristics of the equipment offered by various vendors with reference to the QRs and prepare a 'Compliance Statement' shortlisting the equipment for trials/induction into service, as applicable. The TEC may invite vendors for technical presentations and clarifications on technical issues. A technical offer, once submitted, should not be materially changed subsequently. Minor variations that do not affect the basic character or profile of the offer may be acceptable. However, while permitting minor variations, the TEC must ensure the following:-

- (a) Accord an opportunity to all vendors in an equal measure to revise minor technical details, thus ensuring fair play.
- (b) Not provide any extra time to any vendor to upgrade its product with a view to making it Services Qualitative Requirements (SQR) compliant.
- (c) Not dilute the SQR.
- (d) The original commercial quote submitted earlier must remain firm and fixed.

The TEC is to submit its report to the Technical Manager on whose recommendations the Director General (Acquisition) accepts the report. In the case of the MMRCA acquisition process, the CAG's report highlights the following deficiencies in the technical evaluation:

The TEC commenced its work in May 2008. In its first report submitted to the TM (Air), the TEC brought out that only MiG-35 was compliant with the identified ASQRs. While Eurofighter, Gripen, F-16 and F/A-18 had one or two deviations from the ASQRs, Rafale did not meet as many as nine ASQRs parameters. Nor did Dassault Aviation submit the data for Manufacturers List of Spares and Engineering Support Package. Hence, the TEC rejected the bid submitted by Dassault Aviation. As brought out earlier in IAF's presentation to the Parliament Standing Committee, the initial proposal was to procure Mirage 2000-5. At the time of according Acceptance of Necessity (AON), MoD had said that procurement of Mirage 2000-5 would result in procurement on nomination basis and procurement needs to be done on competitive basis. It is also important to note that this was the first occasion when IAF was procuring combat aircraft on competitive basis. Rejecting all non-compliant bids (four for one or two variations) would have resulted MiG-35 being a resultant single vendor, negating the initiative of procuring combat aircraft on competitive basis. With the MiG-35 eventually not meeting the ASQR's in the flight evaluation trials, the TEC was right in its wisdom in using the provision in sub para (a) above.

Upon examining this report, TM (Air) raised queries about the noncompliance with ASQRs of the other four aircraft and directed the TEC to review its recommendations in the light of these observations. Thereupon, the TEC engaged with all the vendors to seek clarifications and submitted a fresh report to TM (Air) in March 2009 in which it upheld its earlier rejection of the Rafale.

On 12 March 2009, TM (Air) raised further queries about the warranty and option clause offered by the different vendors. The TEC once again interacted with the vendors and submitted a prompt reply on 25 March 2009, in which it once again upheld its decision to reject the Rafale.

The CAG report mentions that further clarifications were obtained (presumably by MoD) from Dassault Aviation (DA). Dassault Aviation is reported to have offered to modify six of Rafale's parameters to meet the Indian ASQR requirements, supply Engineering Support Package (ESP) and Manufacturer Recommended List of Spares (MRLS) data, and provide an additional commercial proposal for making these changes. But it still did not meet three other ASQRs and did not comply with the warranty and option clauses specified in the RFP. Thereupon, MoD rejected DA's technical bid and recommended that waiver be obtained from the Raksha Mantri with regard to the deviations from the ASQR of Eurofighter, Gripen, F-16 and F/A-18. MiG -35 remained compliant all through.

While the process of obtaining RM's approval was under way, in April 2009 the MoD received a representation from Dassault Aviation that it was willing to modify the aircraft to meet all ASQRs as well as comply with all the RFP requirements. During the discussion with Dassault Aviation, MoD observed five more deviations in Rafale, thus bringing its non-compliance with ASQR requirements to a total of 14. Nevertheless, MoD forwarded Dassault Aviation's representation to Air Headquarters for examination by the TEC.

After examining the vendor's representation, the TEC submitted a report on 13 May 2009 stating that the technical proposal of Dassault Aviation met the requirements. And it stated that, "the feasibility and modalities of implementing the modification proposed by the vendor may be verified during field evaluation trials and additional commercial proposal from the vendor may be accepted after due process."² This, despite the DPP 2006 provision that the original commercial quote submitted must remain firm and fixed. Subsequently, on 28 May 2009, the Raksha Mantri granted a waiver for deviations from ASQR and RFP conditions in respect of the other five vendors and approved the proposal to accept the additional commercial offer of DA.

² *Performance Audit Report of the Comptroller and Auditor General of India on Capital Acquisition in Indian Air Force, Report No. 3 of 2019*, presented to Parliament on 13 February 2019. Unless otherwise specified, all references to the CAG report hereafter should be understood as a reference to this report.

Given this history, the CAG report has naturally opined that the opportunity provided to Dassault Aviation to significantly modify its technical and price bid was in violation of DPP 2006.

Field Evaluation

With respect to the second stage of the MMRCA acquisition process, the CAG report has highlighted two main deficiencies in the Field Evaluation Trials (FET) and the Staff Evaluation Report (SER).

First, the Eurofighter and Rafale were cleared based on their presentations in the laboratory as to how they proposed to meet the shortcomings with respect to certain ASQRs. That is, while they were subjected to flight trials like the other four, the solution to the observed shortcomings in terms of meeting the ASQRs was demonstrated through simulation in a laboratory. In other words, no evaluation was carried out with respect to the significant modifications that the vendors of these aircraft proposed. Second, the other four aircraft, viz., *F-16*, *F/A-18*, MiG-35 and *Gripen*, were rejected in the field trials because they could not meet the ASQR parameters of “Growth Potential” and “Design Maturity”. The CAG report points out that “objective, verifiable, or measurable criteria” were not prescribed for evaluating these two parameters.

“Growth Potential” and “Design Maturity” do not find mention in DPP 2006. With respect to “design maturity,” what the RFP for MMRCA had probably highlighted was that the aircraft should be operational in an air force and should have the necessary design and production maturity to meet the prescribed delivery schedule. As for ‘Growth Potential’, the RFP could have conceivably stressed on this aspect with respect to the airframe, engine, power supply management system, computers and software, and radar. As the CAG report notes, the MoD highlighted verifiable measures only with respect to the power management system. In the absence of metrics, evaluations of the other parts of the aircraft may have been evaluated subjectivity in the field trials and staff evaluation.

Staff Evaluation Report (SER)

Based on the field evaluation, the Service Headquarters carries out a staff evaluation of the extent to which the demonstrated performance of the equipment is in compliance with the Qualitative Requirements. The staff evaluation report analyses the field evaluation results and shortlists those vendors whose commercial bids should be evaluated. The staff evaluation report is approved by the Service HQ and forwarded to the Acquisition Wing for acceptance.

The SER submitted by Air HQs to MoD on the MMRCA highlighted that Rafale’s non-compliance with three parameters of mode of radar would not have any operational impact. In addition, it also recommended the waiver of one more parameter (identified in the audit report only as W4 but without specific details) with respect to Rafale. In

response to an audit query, MoD stated that both the Rafale and Eurofighter Typhoon were noted as compliant with all ASQR requirements after obtaining the necessary waivers from the Raksha Mantri. However, Audit found the Ministry's response to be factually incorrect. The MoD had in fact not obtained the Raksha Mantri's formal waiver, and instead had recommended that these issues be dealt with by the Contract Negotiation Committee (CNC). The CAG report goes on to observe that Dassault Aviation had offered to modify 14 ASQR parameters for an additional amount, which included the four parameters that were deemed as unnecessary in the SER. The additional commercial offer was accepted by MoD and the modifications to be effected by Dassault Aviation were termed as India Specific Enhancements (ISE). This was never taken up by the CNC as recommended by the MoD, even though it had significant implications for the price.

Commercial negotiations by Contract Negotiation Committee

After Technical Evaluation, the Rafale and Eurofighter Typhoon were technically qualified for further price evaluation. Price bids were opened in November 2011 by the CNC. The RFP had required that the price bid be submitted for the Life Cycle Cost of the aircraft, and is known to have stated that the total life cycle cost would be the criterion for identifying the lowest bidder (L1). That meant that the price bid had to give the detailed cost break up of all the components as per the prescribed format. The CAG, after examining the report submitted by the subcommittee of the CNC mandated to identify the lowest bidder, has brought out the following:

- (a) Prices offered by Dassault Aviation and sub-vendors of EADS were not on a Firm and Fixed basis with a validity of two years. Dassault Aviation had offered costs with a base price of June 2007 subject to escalation, whereas, according to the CAG Report, the RFP had specified that the vendor should provide an indices based formula for product support "for 40 years with an annual cap". EADS had offered its commercial quote on a fixed price basis for the main equipment, namely, the aircraft. But "its sub vendors had quoted for the weapons on a non-firm cost with index based escalation formulae." In short, the offers submitted by Dassault Aviation and EADS were, in the judgement of the CAG report, non-compliant with the RFP and "liable for rejection as non-responsive bids".
- (b) Secondly, the RFP required that the price bid be submitted for the Life Cycle Cost of the aircraft as per a prescribed format (detailed cost breakup of the seven cost elements). DA did not do so. Instead, it quoted the price in two parts – Price of Direct flyaway aircraft, and price of Transfer of Technology. For its part, EADS had submitted its price bid in conformity with the prescribed RFP format giving the detailed cost breakup of the seven elements. A detailed cost breakup was essential to work out the requirement of number of reserve engines, reserve modules for engines, depot level reserves of

rotables, and the cost thereof. The CAG report notes that in the absence of such information, an independent validation of these costs with reference to the Total Technical Life (TTL), Time Between Overhaul (TBO) and Mean Time Between Failure (MTBF) data given by the vendors in their technical proposal is not possible.

- (c) Third, because the cost breakup was not available, the price evaluation L1 sub-committee derived the price of these components with whatever information was available in the bid. In the case of Rafale, since Dassault “did not quote for the Capital Expenditure for setting up of license production of aircraft”, the sub-committee took this price as nil. But since EADS had provided this cost, the sub-committee included that in calculating the cost of its aircraft.
- (d) Four, while submitting its additional commercial offer, Dassault Aviation had quoted only the “Non-Recurring Costs (NRC)” for 14 India Specific Enhancements. It had stated that the additional commercial offer did not include the costs related to implementation on serial production of aircraft by HAL and logistic support adaptation; these would be quoted later. But, as Audit noted, in evaluating the bids, the subcommittee incorrectly adopted Dassault Aviation’s additional commercial offer as inclusive of equipment and integration costs of ISEs on all the aircraft.
- (e) The contentious issue that stalled the conclusion of a contract as per the affidavit submitted by the Government in the Supreme Court was the issue of man hours required for production of the Rafale in India and HAL’s assertion that it would need 2.7 times the man hours qualified by Dassault Aviation as per French standards. The RFP had required the vendors to quote the man-hours for production in India. EADS had not qualified whether the man hours it quoted was for production in India. But the L1 sub-committee assumed that that the man hours quoted by EADS was for production in India. This meant a vast difference between the man hours quoted by Dassault and EADS for production of their aircraft in India – 84.24 million versus 25.2 million man hours. Yet, Rafale was finally chosen.

Though not brought out in the CAG report, the RFP ought to have contained important information pertaining to the ASQRs including technical parameters and roles envisaged for the aircraft. And it would have also stipulated the delivery schedule. The very fact that Dassault Aviation submitted an additional commercial offer for the so-called ‘14 India Specific Enhancements’ (ISE) was an admission that it had initially quoted for an aircraft that did not comply with the ASQRs. The CNC accepting and evaluating the additional commercial offer was thus uncalled for.

Retraction of RFP

The CAG report goes on to confirm what has been widely reported. That after the determination of the L1 Vendor in 2012, several complaints were raised alleging irregularity in the price evaluation process, including complaints from Honourable Members of Parliament. In May 2012, the price evaluation process, with the approval of the then Raksha Mantri, was referred to Independent External Monitors (IMs) appointed by the Ministry to oversee compliance with the Integrity Pact. Presumably based on inputs provided by the MoD, the Independent External Monitors reported a month later that they did not find any irregularity in the procurement process and that it was reasonable and appropriate. Yet, in June 2012, the Raksha Mantri directed that the matter be again examined by a team of Ministry officials. In the event, this team took nearly three years to submit its report on 27 March 2015. There is complete convergence in the findings of this committee and the CAG report that:

- (a) Dassault Aviation's proposal was non-compliant with the RFP at TEC stage and should have been rejected.
- (b) Acceptance of additional commercial proposal from Dassault Aviation post the submission of the bid for capabilities prescribed in the RFP was against the rules.
- (c) The commercial bid of Dassault Aviation was not in the prescribed format and hence non-compliant.
- (d) The initiative of the L1 subcommittee to extrapolate figures based on its assumptions was incorrect.
- (e) Even the commercial proposal of M/S EADS was non-compliant with the RFP.

In the light of all this, the MoD committee had recommended that the RFP for the procurement of 126 MMRCA may be withdrawn altogether.

Setting the Defence Procurement Process Right

These are very serious irregularities indeed. Unfortunately, CAG reports on MoD from 2018 are not being uploaded on either the CAG's or the MoD's website. The public at large remains ill-informed.

MMRCA is not the only case in which such irregularities have occurred in the acquisition process. For instance, CAG report No. 9 of 2018 details how, in the case of the acquisition of the P-8I maritime reconnaissance aircraft, vendors did not submit proper quotations for maintenance and the method of cost calculation adopted by the CNC favoured one bidder over another.

The point is that systemic deficiencies dog the defence procurement process and the unprofessional manner in which contracts are processed has greatly contributed to long delays in capability building. Professionalism in the context of defence acquisition may be defined as the possession and effective application of commercial skills. MoD has to make changes in policies and arrangements to ensure that professional human resource becomes an essential component of its functioning.

Maximising the value of money in defence acquisition involves turning money into maximum military capability. Maximising value is an economic rather than an accounting concept and therefore involves analysis of opportunity costs. It is a fact that, historically, defence industries and markets have been amongst the most protected from competition because of links to national security and the expenditure of state resources. Defence markets are also inherently imperfect because there are few customers (only governments) who are moreover served by a limited number of increasingly consolidated suppliers involved in large, long-term programmes. These factors tend to generate incumbents who are insulated from traditional free-market business incentives. Further, market restrictions are imposed in terms of government departments not being allowed to source from any available source. The government creates additional complexity by assuming multiple and, at times, contradictory roles such as those of customer, regulator and financier as well as being an agent involved in multilateral relations. The secrecy provisions applicable in defence acquisition means that officers engaged in acquisition activities have to work with partial information and also have to be careful about what sort of information they share. All these are at odds with the supply chain literature, which advocates openness and transparency in order to build trusting relationships that generate improvements. Secrecy provisions also make it hard for non-acquisition specialists to comment with authority on how to develop and improve the effectiveness of the acquisition process. Given all this, there is a need for focussed defence acquisition training which is not available in academic institutions.

There has been a long felt need for such training. CAG Report no. 4 of 2007 Union Government - Defence Services - Performance Audit - Army and Ordnance Factories had recommended that, "A specialised cadre pool of Acquisition Managers should be developed by imparting suitable training in different areas of acquisition viz. Project management, contract negotiations, contract management; and exposure to professional best practices of procurement." In 2011, the then Raksha Mantri tasked IDSA to prepare a Detailed Project Report (DPR) for defence acquisition training. A DPR for setting up a Defence Acquisition Institute was submitted to MoD in August 2012 and presentations were made to all the stakeholders. When the DG (Acq) who had encouraged this effort moved to another position, the proposal became forgotten.

All major military powers have a vibrant Defence Industrial sector and weapons platform and equipment programmes from conceptual stage to de-induction are handled by dedicated organizations that are fairly large. The US DOD has a Defense

Acquisition Workforce of over 1,50,000 personnel; the French DGA has close to 10,000 personnel; and the UK's Defence Equipment and Support (DE&S) is composed of around 12,000 personnel.

The way to bring in professionalism in defence procurement is by training, as all other major countries do, as well as by raising a dedicated cadre for defence procurement. In their absence, the same mistakes will continue to be repeated.

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