

CHAPTER II: MINISTRY OF DEFENCE

2.1 Delayed acquisition of armaments for a frontline fighter aircraft

The Indian Navy (IN) followed a flawed approach in acquiring its new fighter aircraft fleet by not finalising the associated weapon package with the contract for the aircraft. 11 out of 16 MiG 29K aircraft, acquired at a cost of USD 740.35 million, (₹ 3405.61 crore) have been delivered in December 2009 and May 2011. No item of armament contracted for in March 2006 has been delivered as of October 2010 adversely affecting the operational capabilities of the aircraft. Further, the IN has selected a BVR missile with an unsatisfactory track record. Lastly, the complete armament package finalised for the aircraft contains certain ammunitions worth USD 20.98 million (₹ 93.68 crore) which did not have the approval of the competent authority.

Under the aegis of the Inter Governmental Agreement (IGA) signed by the Government of India with the Government of the Russian Federation in October 2000 for procurement of an aircraft carrier along with deck-based aircraft for onboard operations, the Ministry of Defence in January 2004 concluded a contract with Russian Aircraft Corporation “MiG” (RAC-MIG) for procurement of MiG 29K aircraft.

A chronological summary of the procurement process for MiG 29K aircraft and weapon equipment package is tabulated below.

Sl. No	Date	Event	Financial Implication	Remarks
1.	October 2000	IGA for procurement of aircraft carrier(INS Vikramaditya) with deck-based aircraft	-	-
2.	February 2003	Selection of MiG 29K for INS Vikramaditya by Indian Navy	-	-
3.	January 2004	CFA approved procurement of 16 MiG 29K	USD 740.35 million (₹ 3,405.61 crore ¹)	Contract signed on 20 January 2004 (without associated armament package)

¹ 1 USD = ₹ 46

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4.	January 2004	CFA approved un-negotiated armament package	USD 139.48 million (₹ 641.59 crore ²)	Approval of the competent authority was obtained on the armament package on a "cost not exceeding" basis without deliberating on the weapon package.
5.	March 2006	Contract concluded for armament package by the Ministry	USD 132.85 million (₹ 593.18 crore ³)	Armament package included procurement of spares, test equipments hitherto not included and reduced quantities of bombs, cartridges from CCS approved armament package.
6.	December 2009	Indian Navy received six aircraft without any weapons/armaments	-	Aircraft delivered not exploited with ammunition.
7.	May 2011	Indian Navy received five more aircrafts	-	Aircraft are likely to be inspected by Navy between August and October 2011 for acceptance

Mention has already been made in paragraph No.2.2.3.4 of the Report of the C&AG of India, No.7 of 2010-11 that the delay in delivery of the aircraft was attributable to the fact the aircraft prototypes along with the weapon and equipment fit were yet to be proved and certified by the Russian Certification Agencies. Audit further reviewed the acquisition of the weapons package complement for the MiG 29K aircraft.

I. Procurement of aircraft sans armaments

The Defence Procurement Board in February 2003 approved the selection of MiG 29K as the deck-based aircraft for INS Vikramaditya (aircraft carrier). After receipt of the approval, given the necessity to dovetail the arrival of the aircraft with the induction of the aircraft carrier, Naval HQ began negotiations for the aircraft due to their longer delivery schedule as compared to the armament package. Indian Navy was guided by assurance given by RAC MiG, the Russian vendor that the weapons would be supplied within 18 - 24 months. Deliberations on the weapon package were, thus, postponed and delinked from the negotiations for the aircraft and it was decided to include an armament

² 1 USD = ₹ 46

³ 1 USD = ₹ 44.65

package on a “cost not exceeding” basis in the proposal mooted for obtaining approval of the Competent Financial Authority (CFA).

Thus, approval of CFA was obtained in January 2004, for the procurement of 16 MiG 29K aircraft at a cost of USD 740.35 million (₹ 3,405.61 crore⁴) with the armament package still under finalisation at an un-negotiated cost not exceeding USD 139.48 million (₹ 641.59 crore). The Ministry concluded a contract with RAC-MiG in January 2004, for procurement of 16 MiG 29K at a cost of USD 740.35 million without an associated weapons package. Thereafter, Naval HQ (February 2004) sought the Ministry’s approval for initiating negotiations for procurement of armaments for the MiG 29K fleet. The Ministry, in July 2005, approved undertaking of negotiations with RAC-MiG but was critical of the approach to buy an aircraft without its weapons.

Though, as mentioned above, decision to delink the negotiation for the armament and aircraft was based in part upon the assurance given by the RAC MiG that the weapons would be supplied within 18-24 months, the contract ultimately signed had a delivery period of 49 months. Thus, even though delivery of MiG 29K was delayed by more than two years, failure to freeze requirements and conclude the contract resulted in the fighter aircraft being delivered and exploited without ammunition.

Audit noticed that in December 2009, Indian Navy received six aircraft without any weapons/armaments. Subsequently, in May 2011 Indian Navy received five more aircraft, which are likely to be inspected by Navy between August and October 2011 for acceptance. Audit further noticed that till October 2010, Indian Navy has received (in November 2009) only one system, meant for preparation of weapons, out of the total 26 items contracted for. The 18 different types of armaments, six items of spares and one type of operation and maintenance publications are also yet to be received.

II. Determination of Armament Package and its rationalisation

The weapon fit for MiG 29K approved by the CFA in January 2004 at a cost not exceeding USD 139.48 million was for the first stage which caters to the needs of the first batch of 16 aircraft for a period of four years and included a tentative list of 14 different types of munitions and two systems⁵. The list did not include the requirements of critical items such as spares, ground support

⁴ 1 USD = ₹ 46

⁵ Erlan 2 information system and OKA-E1 system

equipment, test equipment etc. As a result, RAC-MiG, in August 2005, submitted a commercial quote of USD 138.08 million, which did not include training documentation, ground support equipment, spares and training weapons. Since these items were considered essential, the Navy then undertook an exercise to ascertain the requirement of support facilities for fully exploiting the armament package. These requirements were communicated to RAC-MiG during technical discussions.

However, this obviously entailed higher expenditure. Given the CFA approved ceiling and the fact that Indian Navy had imprudently worked out the details of the weapons package prior to seeking approval, a rationalisation exercise to cut costs by restricting quantities was undertaken. Out of these 16 items, two items were deleted from the list. After deletion of the two items, namely a logistic management system (ERLAN-2) and S-24 rocket (costing USD 4.51 million) from the CFA approved cost of USD 139.48 million, a sum of USD 134.96 million only was available for induction of armaments.

Post-rationalisation, the quantities of three different types of bombs approved by the CFA in January 2004 were reduced by 37.50, 43.75 and 15 *per cent* respectively. To realize full scale of armaments, procurements would have to be made in future which will entail higher costs.

Audit also noticed that the contract concluded by the Ministry in March 2006, *inter alia*, included procurement of spares, test equipment and increased quantities of approved armament worth USD 20.98 million (₹ 93.68 crore⁶), which were not envisaged at the time of seeking approval of CFA. The procurement of additional items which did not carry CFA approval was worked out, within the cost ceiling approved by CFA, by reduction in quantities of certain ammunitions.

III. Serviceability of Missiles is suspect

A critical armament for the MiG 29K aircraft is a BVR missile, which augments the 'Beyond Visual Range' capability of the aircraft. The missile "X", one such BVR missile was acquired by the Indian Air Force between 1999 and 2002. However, the serviceability status of the missile, in evidence prior to the Navy contract of March 2006, has been poor as brought out in paragraph No. 3.2 of the Report of the C&AG of India, No. CA 18 of 2008-09.

⁶ 1 USD = ₹ 44.65 as on March 2006

High rate of unserviceability was noticed by IAF since 1999 from the first lot of missiles received. By November 2005, IAF decided against refurbishing the missiles “X” after life expiry and started considering a suitable replacement for future procurements. Nonetheless, Indian Navy concluded the contract in March 2006 for supply of armaments for MiG 29K aircraft which, *inter alia*, catered for supply of 40 Air to Air missiles (Missile “X”) at a cost of USD 21.88 million.

Audit noted that there was a delay of 51 months in finalising the weapon package for MiG 29K aircraft, Indian Navy failed to adopt an integrated approach to utilise the data/knowledge base of IAF and consequently ended up by procuring 40 missiles worth USD 21.88 million (₹ 97.67 crore⁷) whose serviceability has been found unreliable by the IAF.

Thus, the Ministry modified the decision of CFA by decreasing the quantity of approved armament and procured additional items worth ₹ 93.68 crore which were not envisaged at the time of seeking approval of CFA to sustain within the financial ceiling. Further, Indian Navy procured Air to Air missiles (Missile “X”) costing USD 21.88 million which had a track record of poor serviceability for which the IAF is seeking replacement since November 2005.

The matter was referred to the Ministry in November 2010; their reply was awaited as of July 2011.

2.2 Extra expenditure on procurement of Low Level Transportable Radar

Acquisition of critical Low Level Transportable Radars was considerably delayed besides additional expenditure of ₹ 57 crore without justification.

Air Defence (AD) is critical to the nation’s security both during war and peacetime. Successful air defence is dependent upon four cardinal capabilities i.e. detection, identification, interception and destruction. It is imperative that an AD system incorporates radars of appropriate type in adequate numbers as the detection capability is attained through AD radars.

⁷ 1 USD = ₹ 44.65 as on March 2006

In 1982, the Indian Air Force (IAF) reviewed its requirements for high, medium and low level radars to ensure effective radar surveillance from 50 meters upwards. In order to provide a credible low level detection capability⁸, the IAF put up a proposal to acquire 37 Low Level Transportable Radars (LLTRs), which was approved 'in principle' by Raksha Mantri in January 1998. Ministry initiated procurement process on four occasions between March 1998 to February 2002 and finally concluded two contracts in July 2009. While one contract was concluded with M/s. Thales, France (OEM⁹) for procurement of six Fully Furnished (FF) LLTRs along with communication and associated equipments and breakdown kits for 13 radars along with Transfer of Technology (ToT) at a total cost of ₹ 572.20 crore. The other contract was concluded with M/s Bharat Electronics Limited, Ghaziabad (BEL) at a total cost of ₹ 699.54 crore for manufacture and supply of the 13 LLTRs from breakdown kits supplied by OEM along with communication and associated equipments. Audit scrutiny of the acquisition revealed the following:

I. Inordinate delay in finalisation of contract

The Raksha Mantri (RM) accorded 'in-principle' approval in January 1998 for procurement of 37 LLTRs in two phases, i.e. 19 LLTRs to be procured in the 9th Plan (1997-2002) and the remaining 18 LLTRs in the 10th plan (2002-07). Although Requests for Proposal (RFP) for 19 LLTRs were issued by the Ministry on four occasions in March 1998, February 2001, July 2001 and February 2002, yet the acquisition process had to be aborted each time due to changes in the requirement of ToT and lack of transparency as indicated below:

Sl. No.	Month of Issue	Extent of ToT in RFP	Reasons for cancellation
Ist RFP	March 1998	None	Due to anonymous complaints.
IInd RFP	February 2001	Full ToT	Scientific Advisor (SA) to RM was in favour of only limited ToT for repair and maintenance facilities not for manufacture as it would affect their indigenous R&D efforts. RFP with full ToT was cancelled.

⁸ Detection of enemy air strikes flying at low level to avoid early detection and execute a surprise attack

⁹ OEM – Original Equipment Manufacturer

IIIrd RFP	July 2001	Limited ToT for maintenance only	SA to RM agreed to procurement and manufacture of LLTRs through full ToT route. RFP with limited ToT was cancelled.
IVth RFP	August 2002	Full ToT	Representations were received from Israel's side and from other dignitaries regarding rejection of M/s ELTA offer. The case was re-examined and the entire procurement process was cancelled in May 2004 by RM.

In October 2005, as per the Defence Procurement Procedure (DPP), the Defence Acquisition Council approved the procurement of 19 LLTRs under 'Buy and Make' with ToT and the balance 18 under 'Make category'. However the two contracts were finally signed only in July 2009. Procedural hurdles in finalisation resulted in pre-contract process taking up more than four years after re-establishment of requirement in June 2005. The details of timelines actually taken for the procurement *vis à vis* timelines contemplated in the DPP-2005 were as under:

(in months)			
Sl. No.	Activity	Time to be taken as per DPP-2005	Actual time taken
1.	Acceptance of Necessity(AON)	1	5
2.	Request for Proposal	4	11
3.	Technical and Field Evaluation	17	19
4.	Technical Oversight Committee recommendation	1	4
5.	Commercial Negotiation to finalization of contract	6	10
	Total Time	29	49

As against the envisaged time of 29 months, the procurement took 49 months due to delay in each stage. This apart, with the two contracts being signed only in July 2009, the entire process took more than 11 years. Air Headquarters (Air HQ) while admitting that there was a void in the air defence, stated in September 2010 that remedial actions have been taken to ensure the best possible air defence surveillance with the existing radars and the induction of Aerostat has also alleviated the situation. Air HQ reply is not tenable as out of two Aerostat commissioned in March 2007 and November 2008, one is non-functional since May 2009. Moreover, while projecting the requirement for LLTRs, Air HQ had emphasised that the requirement of LLTR would continue to exist in spite of the acquisition of Airborne Warning and Control System (AWACS) and Aerostat.

Ministry in its reply (January 2011) attributed the delay in procurement of LLTRs to lack of agreement over ToT and complaints, leading to finalization of contract only in July 2009. However, fact remained that every step in the contract finalization process had taken additional two to seven months and the actual time taken between AON leading to signing of the contract in 49 months as against the stipulated 29 months. Ministry further stated that IAF had taken remedial measures by deploying available radars. Reply was not tenable as the radars deployed by IAF in the absence of LLTR's were either 2D radars, obsolescent or had very low detection range.

II. Extra expenditure in procurement of support equipments

The fourth RFP issued in February 2002 was cancelled in May 2004 after reaching the stage of Commercial Negotiations with OEM and BEL. As per the negotiations, BEL was to finalize details of the payments with OEM. Thereafter, contract was to be finalized between BEL and Ministry. In August 2003, BEL offered a total package cost of ₹ 789.438 crore including ₹ 388 crore (equivalent to 74.0528 Million Euro¹⁰) payable to Thales on the premise that the total order package alongwith associated equipments for 19 LLTRs (with 3D specification) would be placed on BEL and BEL in turn would place an order on Thales for the total package including cost of ToT, Training, Documentation, Spares Package and Depot Level Repair Facility. After cancellation of this RFP, Ministry finally concluded two contracts in July 2009 with Thales and BEL. Audit compared the two contracts with Thales and BEL in 2009. Rate comparison of support equipments in respect of the two

¹⁰ 1 Euro = ₹ 52.50

contracts concluded in July 2009 with M/s Thales and BEL revealed wide variation ranging from 18 to 201 *per cent* in respect of 12 out of 16 items having identical specification. Cost of equipment charged by BEL was substantially higher than the cost charged by M/s Thales, which led to an additional avoidable expenditure of ₹ 57.46 crore (as shown in the table below) to BEL:

(₹ in lakh)

SI No	Items	Unit cost (Thales) contract	Unit cost (BEL) contract	Diff-erence	Qty purch-ased	Variatio n in per-centage	Extra cost per radar
A	B	C	D	E (D-C)	F		
1.	Lorry 3 Ton 4x4	15.28	18.24	2.96	1	19	2.96
2	Station wagon 4x4	7.28	9.41	2.13	2	29	4.26
3	Car 5 CWT	5.87	8.30	2.42	1	41	2.42
4	Motor cycle 100 cc	0.44	0.58	0.14	1	30	0.14
5	Bicycles	0.02	0.03	0.01	1	50	0.01
6	Trailers	2.83	3.50	0.67	7	23	4.69
7	Tentage	55.79	88.06	32.27	1	58	32.27
8	Mobile kitchen	15.28	33.89	18.60	1	121	18.60
9	Fork lifter	9.64	12.45	2.81	1	29	2.81
10	Set of surveillance equipment	88.01	103.54	15.53	1	18	15.53
11	Mobile toilets	2.29	6.92	4.63	1	201	4.63
12	Communication shelter	431.16	784.88	353.72	1	82	353.72
Total							442.02
Extra cost for 13 radar							5,746.52 lakh

Thus, the support equipment directly procured from foreign OEM was more economical. M/s BEL, a DPSU sourced these equipment from OEM but charged an exorbitant mark up. Clearly, Ministry during commercial evaluation and negotiation stage overlooked this aspect leading to an extra expenditure of ₹ 57.46 crore.

Ministry in its reply justified the additional payment to BEL towards procurement of support equipments on the plea that the offered package cost of M/s BEL was cheaper than the OEM and the benchmarked cost. Giving a reference of DPP 2005, Ministry further stated that once the commercial offer are opened and the quoted price of the vendor were found within the benchmark fixed, then there should be no need to carry out any further price negotiation.

However, Ministry's reply is not acceptable as DPP provisions do not prohibit Commercial Negotiating Committee (CNC) for effective negotiation and comparison of prices offered by OEM as well as BEL, for achieving greater economy in public spending. The offer of M/s BEL, a Defence Public Sector Undertaking (DPSU), being the designated agency was not based on competition, but was result of nomination, which called for rigorous price negotiation. This was possible particularly when the quote of M/s BEL to Ministry was available after receipt of the offer of M/s Thales. Thus, Ministry ought to have compared M/s BEL's rates with those of M/s Thales so that the difference of ₹ 57.46 crore for supply of identical equipments, over what was charged by M/s Thales, within a comparable period, could have been addressed and strict economy enforced.

Thus, a critical requirement of air defence surveillance could not be fulfilled even three decades after it was first thought necessary due to frequent changes in the requirement of ToT as well as delay at each stage in the pre-contract finalization process. Further, additional expenditure of ₹ 57 crore was incurred by the Ministry without justification. The shortfall in the holding of LLTR would impact adversely the Air Defence cover against low flying aerial threats.

2.3 Extra expenditure on operation of a surveillance system

To meet low level surveillance requirement, IAF procured two Aerostat systems at the cost of ₹ 676 crore. Due to inadequate weather monitoring, one of the Aerostat met with an accident and became non operational since May 2009. Besides, the fabrics used in both the systems have also started decaying prematurely causing recurring extra expenditure on operation.

For air surveillance, four types of platforms *i.e.* static ground based, vehicle mounted mobile, aircraft and elevated platform (Aerostat) are used. To meet low level surveillance requirement, Aerostat based radars are considered useful. Aerostat radar is an Aerial Early Warning System consisting of four dimension array radar, communication intelligence and electronics intelligence equipments installed in a large helium filled aerodynamically shaped balloon. It can operate at an altitude of approximately 15,000 feet above sea level and can support payload consisting of radar capable of detecting a low flying fighter sized aircraft up to 250 km and SIGINT system capable of gathering signal intelligence. Aerostat is also a weather intensive system. Apart from the positioning of operational and maintenance manpower, Aerostat operating

unit has an approved establishment of meteorological manpower for enhancing forecasting of weather phenomena for safe Aerostat Operation.

In 1996, Indian Air Force (IAF) worked out the requirement of six Aerostat system to provide gap free low level surveillance coverage over the large areas. To meet immediate critical requirement, it was proposed to procure two systems initially. Based on the CCS approval, Ministry, in March 2002, concluded a contract with M/s Rafael, Israel for supply and installation of two Aerostat based surveillance system at a total cost of USD 145 million (₹ 676 crore). Each system comprised of two subsystems i.e. Payload (electronic equipment) supplied by M/s Rafael and Aerostat Balloon supplied by M/s TCOM of USA to Rafael. M/s Rafael as the prime vendor was to provide product support for both the sub-systems. The Systems were commissioned in March 2007 and November 2008 at two Aerostat Units at site “A” and site “B” respectively. Audit examined the operation and maintenance of the systems since commissioning and noticed the following:

I. Non-availability of the system for operational role

The Aerostat System was commissioned at Aerostat Unit ‘A’ in March 2007. The maintenance schedule of Aerostat system involves activities like change of ropes, inspection of payloads/sensors, checking of the helium leakage and fabric conditions etc. The SOP¹¹ for ‘snubbing’¹² required light wind conditions, that weather changes were to be watched at all time, the wind direction was within limits and thus required continuous monitoring. Accordingly, the Aerostat Unit “A” had authorised posts of four Meteorological officers and nine posts of Meteorological Assistant.

As against the authorization of four Meteorological officers and nine Meteorological Assistants the unit had no Meteorological officer and only two Meteorological Assistants in position. Inadequate manpower at the unit resulted in failure to continually monitor the development of clouds/changes in winds direction and the Aerostat balloon along with its airborne payload met with an accident in May 2009 and was damaged substantially, while under planned maintenance by IAF personnel.

Based on a Court of Inquiry constituted to investigate the accident of the Aerostat, three officers were held responsible for their failure in adequate supervision of the ongoing snubbing activities and follow up on maintenance

¹¹ SOP - Standard Operating Procedure

¹² Snubbing period - Restraining of Aerostat to carry out maintenance activity

activities being carried out in the unit. Further, *inter alia*, it observed that there was failure to continually monitor the development of cloud, updation of weather activity in the area, in adequate cautioning Duty Flight Director on the likelihood of wind direction change which had an indirect bearing on the accident. Based on these findings, all the three officers were awarded severe displeasure for six months. The officers thus failed to carry out their responsibilities which led to the accident of the Aerostat costing ₹ 338 crore.

The repair of damaged system is estimated to cost US\$ 63 million (₹ 302 crore)¹³. The recovery programme¹⁴ of the damaged Aerostat would take 18 months from the commencement of repair work. However, Air HQ / Ministry of Defence could issue RFP to vendor for damage assessment in April 2010 only and the contract is yet to be concluded (June 2011).

Air HQ stated, in August 2010, that though the case for posting of Meteorological officers was referred to Directorate of Meteorology, it was opined that due to acute shortage of officers, Met officers had to be posted at flying stations, to meet the day to day requirements. It further added that the strength of Meteorological Assistants at Aerostat Units has been increased from three to five which would be adequate to meet the requirements. Despite increasing the strength of Meteorological Assistants from three to five, their strength is still below the sanctioned strength of nine Met Assistants at the unit. This coupled with non posting of Met Officers at the units is a severe constraint in their functioning.

Ministry in its reply (January 2011) attributed the accident to failure to continually monitor the development of clouds during snubbing period of the Aerostat and stated that instructions have been issued to Aerostat Units to be extra vigilant during weather sensitive activities. It further added that posted establishment of Met officers (*i.e.* 57 per cent of sanctioned strength) in IAF is barely enough to cater to requirements of flying stations. Ministry's reply confirms the shortage in positioning Met Officers which was a mandatory requirement as Aerostat is a weather intensive system and any mishap not only affects surveillance capability of IAF but also has huge cost implications.

II. Excessive leakage of helium

The life of an Aerostat is 10 years from the date of inflation. The vendor in its technical proposal assured full life by citing various safety and testing factors

¹³ 1 US\$ = ₹ 48

¹⁴ Recovery Programme= Consist of Damage assessment and repair

undergone by the Aerostat. However numerous problems were noticed in the Aerostat at both the locations.

In the case of Aerostat Unit 'A', it was observed:

- Aerostat fabric started showing signs of decay after third year of operational life/inflation.
- The helium leakage had increased from the specified 30 lbs/day to 140 lbs/day (August 2008) due to development of cracks in fabric.
- Aerostat flight duration in air ranged from 3 to 24 days as against prescribed 28 days per month between April 2008 and April 2009.
- The average height also remained less than 10,000 feet as against the desired altitude level of 15,000 feet.

In the case of Aerostat Unit, 'B', it was observed that:

- Aerostat fabric started showing signs of decay in the fourth year of inflation life.
- The helium leakage had increased from specified 30 lbs/day to 170 lbs/day (January 2010) due to development of cracks in fabric.
- The average flight duration was 20 days in a month as against prescribed 28 days each month during the period from November 2008 to February 2011.
- The lower flight duration was sustained by refilling of helium 3 to 14 times in a month.

Therefore, IAF not only found it difficult to maintain altitude and continuous flight operation of one month impacting aerial surveillance adversely but also incurred extra expenditure of approximately Rupee one crore annually at each site on procurement of helium gas due to excessive leakage.

Scrutiny of the contract agreement revealed that inspite of request from M/s Rafael to enter into a tripartite agreement with M/s TCOM, the OEM of aerostat balloon, which encountered decay in fabric, leakages etc., the Ministry of Defence failed to enter into such an agreement. The absence of such an agreement adversely affected the repair of the aerostat balloon.

While Air HQ stated (August 2010) that M/s Rafael has been approached for reimbursement of the cost of excessive leakage in June 2010, Ministry in its reply (January 2011) stated that under normal operational conditions purity of helium above 94 *per cent* is required to be maintained, achieved by purification process performed twice in a year. Due to excessive helium

leakage, necessity of this process has been obviated. Ministry computed the savings of ₹ 18.50 lakh per site due to obviating the purification process.

The reply is not tenable because as per OEM¹⁵ defined purification cycle, the expenditure on purification cycles twice a year per site worked out to ₹ 32 lakh per year whereas cost due to excessive helium leakage at one site alone works out to ₹ 91 lakh¹⁶. Thus, there was an excess expenditure of ₹ 59 lakh per annum on account of helium leakage for each site even after obviating the purification process.

In sum, a vital surveillance system procured at a cost of ₹ 338 crore remained non-operational since May 2009 and is not likely to be available to IAF for another two years due to its damage in accident attributable to failure in keeping track of weather change. Non-positioning of adequate Meteorological staff, a mandatory requirement, for operation of vital and expensive weather intensive system had safety repercussion on Aerostat system. The case shows improper planning and unprofessional approach on the part of IAF for optimal utilisation of a system that was procured at a huge cost. By the time system will be made operational *i.e.* by 2012, at considerable expenditure of ₹ 302 crore, 80 *per cent* of its prescribed life would be over. In the meantime, operational preparedness would also be impacted adversely. Besides, the operation cost of the other system has also increased due to excess leakage of helium as the fabric used in the system is decaying prematurely.

2.4 Procurement of unsuitable communication sets

Ministry / IAF accepted communication equipment, designed and developed by HAL, even though the equipment did not meet technical requirements. As on date, IAF's critical requirement of jam-resistant and secure radio sets has not been met even after spending ₹ 116 crore and considerable period of time.

Air Defence V/UHF¹⁷ communication links play a vital role in all air operations. The radio sets available with the Indian Air Force were scheduled to be phased out by 2004. In order to meet this replacement requirement and other future needs the Ministry of Defence sanctioned, in March 1993, a project for designing and developing two each airborne and ground-based

¹⁵ OEM - Original Equipment Manufacturer

¹⁶ One of the sites became non-operational due to accident.

¹⁷ V/UHF - Very/Ultra High Frequency

secure V/UHF (INCOM) R/T¹⁸ sets at a total cost of ₹ 2.62 crore by M/s HAL¹⁹ Hyderabad. As per the sanction, the IAF was to share 50 per cent of the development cost amounting to ₹ 1.31 crore. HAL was to offer airborne sets to IAF for flight trials by June 1994 and ground-based sets for trial by March 1995. The INCOM airborne sets were planned for equipping different types of aircraft in IAF with the aim of indigenisation, uniformity and inter changeability of sets.

The R/T sets so developed were to be as per JSQRs²⁰ formulated in March 1987. As V/UHF links/networks are susceptible to electronic counter-measure and, thus, vulnerable to deliberate interference and jamming by the enemy, the INCOM sets to be developed were expected to be 'jam-resistant'. However, during the development stage itself, certain concessions in specifications were granted by Air HQ in view of technological constraints. Based on the performance of the system during laboratory evaluation, IAF accepted the INCOM airborne radio sets in 1996 and signed a contract with M/s HAL in March 1997 for supply of "X" number INCOM sets for aircraft "A" at a total cost of ₹ 70.89 crore. HAL sought more concessions in 1999 and 2001 to facilitate completion of the certification process and for clearance of system for flight trials. The delivery of the sets for the aircraft "A" fleet continued till 2004 during which time evaluation trials revealed poor performance and unreliability of the system with respect to range, inter-frequency interference, software and frequent breaks in communication.

Despite being aware of these unsatisfactory trial results and the fact that the INCOM sets were expected to be used in a highly sophisticated environment in the future for data linking and for communication with an airborne warning system, five more contracts were signed between July 2003 and March 2006 by Ministry with HAL for induction of "Y" number INCOM on various aircraft fleets at a cost of ₹ 45.24 crore with temporary concessions. These concessions were to be made good subsequently during further development process. Most of the sets have been supplied between March 2004 and July 2010.

Audit observed that the performance and reliability of the newly delivered sets was also far below the requirements of IAF. Contracted specifications in the area of frequency range, speech secrecy and anti jamming etc, considered vital for flight safety of combat fleet, have not been met. This has led to aborted

¹⁸ R/T - Radio/Telephone

¹⁹ Hindustan Aeronautics Limited

²⁰ JSQRs - Joint Staff Qualitative Requirements

missions, potentially unsafe situations in the air and low aircraft availability. The ECCM²¹ modes have not been proven to be satisfactory on any aircraft.

HAL failed to rectify these defects and instead stated, in May 2008, that they had reached the limit of their technological capability to develop the sets any further. HAL, therefore, sought a permanent waiver to the deviations from the JSQRs. HAL also indicated that existing deviations of INCOM sets were due to system-architectural limitations and could not be corrected without total redesign. This would be equivalent to a *de novo* development cycle. The development project was closed in 2008.

IAF stated (February 2009) that the below-par performance of the INCOM had been adversely affecting operations on aircraft fleets where the INCOM is installed. As the INCOM sets have not been able to meet the entire replacement requirement for the existing radio sets, in the mean-time, IAF continues to use the obsolescent radio sets which have outlived their life. Air HQ accepted, in February 2010, that operations are adversely affected due to continued use of the existing sets as they are unreliable and can no longer be maintained due to non-availability of spares.

Accepting the facts, Ministry, however, stated in December 2010 that the entire expenditure of ₹ 116 crore could not be treated as unfruitful as the INCOM sets continued to be used on aircraft albeit with reduced capability. Ministry's reply is not acceptable as the main requirement of the IAF was to replace the V/UHF R/T sets with INCOM system having secure and jam resistant feature. This was to be met by incorporating ECCM capability consisting of encryption/decryption system. Since the airborne system supplied by HAL did not have ECCM feature, the very purpose of inducting the system has been defeated. Thus, even after spending ₹ 116 crore and a considerable period of time, the INCOM equipment developed could not meet the IAF requirement of jam-resistant and secure radio sets rendering the entire expenditure unfruitful.

²¹ ECCM= Electronic Counter Counter Measure

2.5 Abnormal delay in procurement of Precision Approach Radar

Protracted negotiations for procurement of Precision Approach Radar delayed its availability to a Naval Unit for over eight years. The negotiations were also not fruitful in achieving any price reduction as Navy ultimately ended paying ₹ 2.01 crore more for the radar.

The Ministry of Defence (Ministry) promulgated the 'Fast Track Procedure (FTP)' in 2001 in order to ensure expeditious procurement for urgent operational requirements. The time frame envisaged under the FTP from the initiation of proposal to contract signing is three and a half to five months.

A Precision Approach Radar (PAR) is an important navigation equipment which is used for guiding the aircrafts for landing on the runway. It is an essential aid as the existing fighter aircraft of the Indian Navy are not equipped with airfield/runway approach instruments and thus, require to be 'recovered', both during day/night and bad weather using ground-based radars. The requirement of PAR is all the more essential in inclement weather when the visibility is low. A PAR, commissioned at INS Hansa in 1991, was rendered unserviceable since 1999 due to ageing and non-availability of spares. HAL²², the OEM²³, was unable to repair the radar and indicated in March 2000 that the process would be uneconomical since the reliability of the radar could not be established. Thereafter, a Board of Officers, in November 2000, declared the radar as beyond economical repair and recommended its replacement. The Ministry of Defence, in September 2001, approved the procurement of one PAR on "Fast Track Basis" as a replacement for the existing PAR at INS Hansa.

I. Delay in contract conclusion and increase in cost

The Ministry, in March 2002, concluded a contract with HAL, Hyderabad for supply of 17 PARs at a unit cost of ₹ 11.09 crore to meet the requirements of Indian Air Force. This contract included an option clause according to which the purchaser could purchase an additional system within 18 months before the end of the production deliveries in the contract. Audit observed that the 'option' clause did not mention the price at which the option would be

²² Hindustan Aeronautics Limited

²³ Original Equipment Manufacturer

exercised. The 'option' clause merely provided that the purchaser shall have an option for procurement of additional system, but stipulated that the cost thereof would have to be negotiated and agreed to by both parties. The Navy decided to include its PAR requirement in April 2002, on the grounds of criticality and urgency, under the option clause of the contract concluded by the Ministry in March 2002.

In turn, HAL, in May 2002, submitted their budgetary quote at ₹ 13.23 crore for the radar. A PNC²⁴ was held in October 2002 during which the Committee opined that since HAL was now supplying 18 sets of PARs to the Ministry of Defence, it should obtain price advantage with the foreign supplier. The PNC also held that HAL should supply the PAR to Navy at the contract price of ₹ 11.09 crore, if not less. HAL, however, did not agree to make supplies to Navy at the IAF rates, owing to variation in exchange rate of Euro since the time of their conclusion of contract with IAF. Audit noted that the increase of ₹ 2.14 crore in the quote for supply of PAR to Navy could not be justified on grounds of FE variation alone, as this amounted to only ₹ 0.50 crore²⁵. When HAL was asked to review their price for the radar and submit their revised proposal, HAL (January 2003) revised their quote upward for the radar to ₹ 14.92 crore. Another PNC held in April 2003 also proved to be inconclusive as HAL stuck to their prices. HAL was reluctant to supply PAR to Navy at their quote to IAF because costs like wage revision, idle hours, gratuity etc. are reimbursed by IAF additionally to HAL directly. Clearly, Ministry could neither effectively formulate and exercise option clause nor effectively intervene to ensure that HAL, a DPSU set up for Aviation needs of the country, fulfils the needs of Navy, timely and at reasonable cost. Thereafter, Navy revised its negotiating stand and suggested that HAL should waive the 10 per cent profit included in the prices quoted and the Ministry in June 2003 took up the case for omission of 10 per cent profit from the price quoted by HAL. In April 2004, HAL, submitted a revised offer of ₹ 15.81 crore. In April 2004, the proposal was de-linked from the IAF contract and a PNC held in the same month worked out a mutually agreed price of ₹ 15.24 crore which was exclusive of any profit.

The Ministry, in October 2004, accorded sanction for the procurement of PAR, from HAL, Hyderabad at a cost of ₹ 15.24 crore (inclusive of spares and services).

²⁴ Price Negotiation Committee

²⁵ The exchange rate of Euro vis-à-vis a registered an increase ₹ 2/- in the intervening period i.e ₹ 43/- per Euro to ₹ 45/- per Euro.

Thus, the inclusion of an option clause that provided for negotiation and the resultant inflexible stands of Ministry and HAL led to a stalemate. This resulted in delay of about 30 months in finalisation of contract with a consequential extra expenditure of ₹ 2.01 crore. Against the FTP prescribed timelines, the contract finalisation was delayed by almost four years.

II. Avoidable Payment of ₹ 0.87 crore

It was further seen that the rate (₹ 15.81 crore) quoted by HAL Hyderabad in April 2004 for supply, installation and commissioning of radar at INS Hansa which, *inter alia*, included a profit element @ 10 per cent amounting to ₹ 1.44 crore and ₹ 0.03 crore for installation and commissioning. The PNC held in July 2004 worked out a mutually agreeable price of ₹ 15.24 crore for the radar, which was exclusive of profit. Audit noted that though the PNC apparently achieved omission of the profit element of ₹ 1.44 crore yet cost of installation and commissioning of the radar was increased from ₹ 0.03 crore to ₹ 0.90 crore for which no transparent reasons were recorded, leading to an avoidable payment of ₹ 0.87 crore to HAL.

Accepting the facts, the Ministry, in February 2011, stated that though HAL agreed to waive off the profit element, yet the price for installation and commissioning of the system and subsequent assurance of product support for 20 years was still required to be paid to HAL, thereby, resulting in increase of cost. The contention of the Ministry is not tenable as the element of 'other charges' was neither quoted by HAL in any of their quotations nor was this issue discussed in any of the PNC meetings.

III. Radar is defect-prone

HAL supplied the radar in October 2008 and commissioned it at INS Hansa in April 2009. Thus, the requirement of a PAR, at INS Hansa, though felt way back in 2000 and sanctioned by the Ministry for procurement on 'fast track basis', could materialise only in 2009. The Ministry accepted that the Military flying during the interim period (October 2008 – April 2009) was undertaken utilising other navigational aids at the Air Stations with certain operating restrictions during periods of bad weather/poor visibility.

The performance of the PAR commissioned in April 2009 has also not been defect free. It was noticed that there was recurrent failures in the channels of radar, which resulted in despatch of parts of radars to the OEM. Ministry also admitted that the radar has continued to experience defects post its commissioning in April 2009.

The case relating to 'fast track' procurement of Precision Approach Radar by the Indian Navy revealed that on account of an open ended option clause and non-intervention by Ministry for speedy supply of radars to Navy by HAL the procurement process was inordinately delayed and resulted in an additional expenditure of ₹ 2.01 crore over and above the initial quote. Inadequate scrutiny in Integrated Headquarters, Ministry of Defence (Navy), contributed to an avoidable payment of ₹ 0.87 crore towards 'Other charges' in the total additional expenditure of ₹ 2.01 crore. The radar intended to be purchased on fast track basis was commissioned in April 2009, eight years after initiating the procurement process.

2.6 Avoidable expenditure in procurement of Naval Stores

Failure on the part of MO, Mumbai to exercise the option clause for repeat procurement of VLF-HF Receiver led to an avoidable expenditure of ₹ 68.95 lakh.

The Ministry, in March 2008, concluded an agreement with M/s Bharat Electronic Limited (BEL) for supply of 204 VLF-HF Receiver (with MSK attachment, accessories and associated equipments) at a cost of ₹ 32.96 crore (excluding taxes). The agreement, *inter alia*, provided that the buyer had the right to place another order on the seller for purchase of additional 50 *per cent* quantity at the same cost, terms and conditions, on or before 12 months from the date of agreement.

In February and March 2009 when the agreement was under execution, Material Organisation (MO), Mumbai placed two purchase orders on BEL for supply of 11 and 13 sets of VLF-HF at a cost of ₹ 1.90 crore and ₹ 2.75 crore respectively.

Audit noticed, in May 2010, that:

- MO, Mumbai, though being the main procurement agency for the naval stores and equipments for naval formations, failed to exercise the option for placing a repeat order on BEL, in terms of the agreement of March 2008, and instead resorted to an independent procurement.
- The rates accepted by MO, Mumbai in the two purchase orders were higher by ₹ 28.64 lakh and ₹ 40.31 lakh (including 12.5 *per cent*

VAT)²⁶ *vis à vis* the rates accepted by the Ministry in March 2008. This resulted in an avoidable expenditure of ₹ 68.95 lakh. MO, Mumbai accepted, the audit finding in August 2010.

The matter was referred to Ministry in December 2010; their reply was awaited as of July 2011.

2.7 Delay in procurement of urgent aviation stores through Indian Embassies

Procurement of critical and urgent aviation stores/spares through Indian Embassies abroad was beset with delays. The Air Wings did not demonstrate due diligence in inviting commercial offers from prospective vendors and in concluding the contracts after receipt of expenditure angle sanction from Air HQ. Even the decision-making at Air HQ was slow and led to delay in conclusion of contracts in a number of cases. The contract delivery schedules were significantly longer thereby undermining the urgency of procurement. The vendors failed to meet the contract delivery schedules for which no liquidated damages were levied. The spares support for Advance Jet Trainers was inadequate.

I. Introduction

Procurement of urgent defence stores through Indian Embassies abroad is guided by the Defence Procurement Manual (DPM). The Defence Attachés abroad are required to take immediate procurement action on receipt of urgent indent from the Service Headquarter, either under their delegated financial powers or in consultation with the local IFA²⁷. The DPM provides for a time frame of 90 to 180 days for delivery of urgent stores from the date of signing of contract.

II. Scope and audit objective

Audit conducted a selective scrutiny of 55 procurement cases of urgent and critical aviation stores finalised by Air Wings of four major Embassies abroad²⁸ between November 2007 and June 2010 at a total cost of USD 1.21 million (₹ 6.30 crore). This included scrutiny of nine procurement cases

²⁶ The actual extra expenditure is worked out after adding 12.5% VAT on the difference in prices of 2008 agreement and February/March 2009 prices

²⁷ Integrated Financial Advisor

²⁸ Moscow, Kyiv, London and Paris

valuing ₹ 1.89 crore in Moscow and 17 cases valuing ₹ 2.73 crore in Kyiv for aircraft and equipment of Russian or ex-soviet origin²⁹. Besides, 23 purchase orders placed by Air Wing London at a cost of ₹ 1.34 crore to provide material support to Advance Jet Trainers (AJT) and six purchase orders placed by Air Wing Paris at a cost of ₹ 0.34 crore for Embraer aircraft dedicated to VVIP duties were also examined in audit. The purchase transactions were examined to seek an assurance that all the procurements were timely, economical and efficient and met the key criteria of preventing Aircraft on Ground (AOG) situation or cutting down on AOG periods and that the operational commitments of the Indian Air Force (IAF) were not hampered.

III. Audit findings

Audit scrutiny of procurement of urgent and critical aviation stores/spares in four Embassies revealed a number of inadequacies which are discussed in the succeeding paragraphs.

(a) Delay in inviting commercial offers by Air Wings

In 21 out of 27 indents (78 per cent) raised by the Air HQ, Air Wing London invited commercial offers from the manufacturer of AJTs (M/s BAE Systems, UK) after a time lag of 02 to 30 days. In case of procurement of two items³⁰ repeat requests for quotes were issued to BAES after a time lag of 76 days and 138 days respectively. These delays were critical as it had a spiralling affect on conclusion of contracts and timely availability of items. The Ministry stated (July 2011) that at times there had been delays in floating request for proposals due to delay in receipt of indents from the Air HQ through mail bag or receipt of corrupt or incomplete indent details via fax. However, measures have been instituted to ensure that request for quotations are floated on the day of the receipt of the indents. The reply is not tenable as audit referred to the delays that had taken place after receipt of indents from the Air HQ.

Similarly, Air Wing Moscow took 74 days in inviting commercial offers from the prospective vendors for procurement of 10 lines for AN-32 aircraft. No reasons for delay in inviting offers were available on record. The Ministry accepted that there had been delays on the part of the IAF in floating request for proposals.

²⁹ AN-32 aircraft, MI-17 Helicopters, ST-68 Radars and MiG fighters

³⁰ Jack Assy, Main Under Carriage Door and Cable Assy

(b) Limited tendering

Though Air Wing Kyiv has 17 registered vendors, yet in eight out of 12 indents raised by Air HQ (67 *per cent*) Air Wing invited commercial offers only from two³¹ suppliers. A limited offer not only precluded competition, it also did not provide a reasonable assurance about the reasonability and fairness of the prices so achieved. The Ministry stated that all efforts are being made by the Air Wing to ensure competitive, fair and viable prices including broadening of vendor base. The name of two additional firms have been recommended to Air HQ for registration with IAF.

(c) Delay in receipt of quotes from vendors

In 16 out of 27 indents (59 *per cent*) BAES submitted quotes after time lapse of 10 to 218 days from date of issue of request for proposal by Air Wing London. The Ministry stated that BAES does not stock majority of items and it has to obtain quotes from its sub-vendors. The Ministry, however, opined that the solution lies in having a long-term product support and pricing contract which was stated to be under consideration.

(d) Delay in according approval by Air HQ

In five out of 17 contracts concluded by Air Wing Kyiv, the Air HQ took at least two to nine months to convey expenditure angle approval or technical suitability of an item, which was significant and led to delay in conclusion of contracts. In particular, for procurement of *Drive of Pump and Fuel Pump* for MiG 29 aircraft, Air HQ took five months to merely convey its approval to the budgetary quotes of the supplier. The Ministry stated that while the delay may appear inexplicable, in reality when cases are referred for technical or pricing clarification a lot of effort is put in. The issue is referred to the concerned Base Repair Depot for a thorough technical appreciation and comments. At times it goes through a couple of iterations, thus, causing delays. While there is no denying the fact that clarification on technical and pricing issues are both vital and time consuming, there is a definite scope for reducing the time frames if viewed in the context of urgency of requirements.

(e) Deficient price negotiation system

The Air Wing Kyiv routinely despatched letters to the short-listed suppliers requesting them to reduce the rates. No minutes of the meeting of price negotiations held with the suppliers were available on record. Against an indent for procurement of *Device UV-454* for ST-68 Radar raised by the Air HQ in October 2008, Air Wing Kyiv negotiated with two vendors *viz.*,

³¹ Either M/s Spets alone or M/s Spets and M/s Aviant

M/s Spets Techno Export and M/s Tasko Export. The contract was finally awarded to M/s Tasko Export after 14 months in December 2009 even though the difference between the initial offered price of M/s Spets Techno Export and the final contract price was merely USD 250. The Ministry stated that as per recommendations of audit, Air Wing Kyiv is maintaining the minutes of meetings of price negotiations as well as a diary of action for every indent. It added that all efforts are made to negotiate prices which may not be successful every time due to limited source of supply and vintage of equipment.

(f) Delay in conclusion of contracts by Air Wings

Air Wing London placed only four POs on time (*i.e.*, very next day of receipt of quotes from BAES). The remaining POs were placed after a time lag of two to 11 days (14 cases) and 21 to 40 days (five cases). Delay in awarding contracts after receipt of quotes was not justified. For instance, Air Wing did not exercise adequate discretion to avoid delays in procurement of *Cable Assy* and *Unit Brake*. Audit observed that Air Wing initially held the POs in abeyance as the price quoted by BAES for these two items was on the higher side. However, Air Wing accepted the same prices subsequently and placed POs for these two items after a time lag of seven months and two months respectively. The Ministry attributed the delays, *inter alia*, to time taken in referring the cases to the local IFA. The reply is not tenable as only four out of 23 POs were beyond the delegated financial powers of the Wing that required approval of local IFA and the remaining 19 POs were processed by the Wing within its own powers. The Wing was, therefore, expected to act promptly in decision-making and accorded highest priority to the operational commitments of the Services.

In Moscow, Air Wing concluded three contracts for 22 lines (out of total 33 lines) for AN32 aircraft after an inexplicable delay of 42 to 82 days from the dates of receipt of expenditure angle approval from the Air HQ. In one case, the Air HQ took more than four months to merely answer the query of a vendor regarding the requisite length of the *Hose* to be fitted on AN32 aircraft. Similarly, the contract for *flight data recording units* for Mi17 helicopters was awarded to M/s Aviahelp after a delay of six months in February 2010 even though Air HQ had approved the transaction in favour of Aviahelp way back in August 2009. In another case, Air Wing Moscow unnecessarily kept the procurement of *Spring and Fork Bushing* for Mi17 helicopters on hold for 10 months and took retendering action in July 2010 only after Air HQ enquired about the status of procurement of these two items. Procurement of *Fuel Regulating Pump* for Mi17 helicopters was also delayed by at least eight months as Air Wing initially shortlisted (June 2009) a vendor on the basis of

his lowest quotes who, incidentally, did not furnish the requisite OEM³² certificate, as per condition stipulated in the request for proposal. The contract was belatedly awarded to another vendor (M/s Aviahelp) in February 2010 despite the fact that Aviahelp was the only vendor (out of four) who had submitted the quotes with OEM certificate way back in May 2009.

The Ministry accepted that there had been delays in concluding contracts for Russian spares. It added that procedures have been put in place to minimize the delays. On Procurement of *Fuel Regulating Pump* the Ministry stated that the OEM certificate subsequently submitted by the lowest vendor (M/s Russavia) was found to be invalid and, therefore, the contract was awarded to M/s Aviahelp, the second lowest vendor. The Ministry's reply is not acceptable for the reason that M/s Russavia did not furnish (May 2009) the mandatory OEM certificate along with commercial quotes and, thus, its quotes should not have been considered in the first instance, as per condition stipulated in the request for proposal. The Ministry attributed the delay in procurement of flight *data recording units* to delay in receipt of CFA sanction (November 2009), finalization of draft contract with the vendor and national holidays in Russia on account of Christmas (January 2010). The contract was eventually signed in February 2010. The Ministry, however, did not explain the conduct of Air Wing Moscow for unnecessarily keeping the procurement of other two items (*Spring and Fork Bushing*) on hold for 10 months.

In Paris, POs in five out of six cases were placed after a time lag ranging from 03 days to 96 days from the date of receipt of quotes from M/s Embraer.

(g) Long lead time for delivery

In London, the expected lead time for delivery of critical stores for AJTs varied from 73 days (2½ months) to 465 days (15½ months), which was significantly higher than the lead time of 90 days indicated by Air HQ in the indents or that stipulated in the DPM (180 days maximum). Longer delivery schedules not only undermined the objective of urgent procurement but also raised concerns over the serviceability of aircraft and their sustained availability for pilot training at the air base. The Ministry stated that despite concerted efforts by Air Wing, BAES is unable to supply the items within the stipulated period due to non-receipt of items from their sub-contractors. The Ministry added that the Air HQ through the Ministry of Defence is in the process of finalising a long-term product support program with BAES to ensure uninterrupted supply of spares and consumables within the stipulated time period, as recommended by audit.

³² Original Equipment Manufacturer

In case of procurement of Embraer spares, while Air HQ intended the stores to be delivered within “four hours” of placement of POs, the AOG priority stores were actually delivered by Embraer after time lag of 01 to 99 days. The lead time for delivery was significant considering that these were single source procurement from the manufacturer of aircraft that has a worldwide customer support network, including one in France. The Ministry stated that “four hours” quoted in the indents is based on the assumption that stocks are available in the warehouse. Such a time frame appears a little unrealistic and unachievable for the reason that if the item is not readily available “off the shelf” the vendor normally quotes a lead time of few weeks for its procurement. The Ministry further added that M/s Embraer had already forwarded a list of suppliers to Air HQ and efforts are afoot to enter into a contract agreement with the suppliers.

(h) Failure to adhere to contract delivery schedules

In six contracts examined by audit for purchase of spares for AN32 aircraft the Russian vendors failed to maintain the original or the extended delivery schedules. Only 10 out of 33 lines were delivered within the schedule indicated in the contracts; 17 lines were delivered/partially delivered after a delay ranging from 17 days to 810 days (27 months); and the remaining six lines were not delivered even after a time lag of 365 days to 870 days (29 months) as of August 2010. Incidentally, no liquidated damages (LD) were levied on the vendors, though provided for in the contracts, for their failure to supply the stores by the dates specified in the contracts. Non-supply of critical AOG items on time admittedly affected the fleet serviceability of AN32 aircraft and hampered the operational commitments of the IAF. The Ministry stated that the firms have been asked to remit the LD amount in respect of all the cases where delays have taken place in delivery of spares.

Likewise, delivery of 10 *Pilot Parachutes* for MiG 29 aircraft contracted on fast-track in September 2008 at a total cost of USD 99,990 was delayed by 53 days for which no liquidated damages were levied on the firm (M/s RAC-MiG). The Ministry stated that M/s RAC-MiG is the only vendor authorized to supply spares for MiG 29 aircraft as per Russian decree. Since the procurement was carried out under General Contract signed between the Russian side and the Indian side in 1999, no LD was levied on M/s RAC-MiG for delay in supply of pilot parachutes, as per provisions of the contract. The fact, however, remains that it took an overall 17 months (April 2008 to August 2009) for the critical demand for this vital flight safety equipment to be met from date of raising of indent by the Air HQ, thereby defeating the very purpose of taking up the procurement on fast-track.

(i) Advantage of minimum order quantity and volume discount not obtained

There were inconsistencies in approach on the part of Air Wing London while availing of the advantage of minimum order quantity (MOQ) from BAES. Similarly, the advantages of discount on bulk orders or volume discounts offered by BAES were not availed of in number of cases³³. The Ministry stated that MOQ considerations will be taken into account wherever felt advantageous. It added that Air Wing does not have the details about the requirement of bulk orders for the particular fleet and only quantities indicated in the indents raised by the Air HQ are processed. The Ministry reiterated that the Air HQ is in the process of finalizing a long-term support contract through Ministry of Defence which should obviate this problem to a large extent.

(j) Flaws in pricing of indent and price anomalies

The method of pricing of indents by Air HQ was either based on assessed prices or the last purchase prices, which appeared to be flawed. In Kyiv, huge variation of 11 *per cent* to 265 *per cent* was noticed between the estimated prices of the indents raised by Air HQ and the actual contract prices. Similarly, price quoted by BAES for supply of certain items³⁴ for AJTs was 273 *per cent* and 563 *per cent* higher than the price assessed by the Air HQ. Further, there was no pricing policy in force to carry out purchase of spares for the AJTs in a fair and transparent manner. For instance, for supply of *PSP Lowering Line*, BAES quoted two different rates (GBP 676.42 and GBP 583.86 each) within the same calendar year 2009. Similarly, for *Cable Assy 24 P9* and *Cable Assy 24 P7*, BAES quoted two different rates of GBP 1,875 each in March 2009 and GBP 795.83 each in October 2009. The Air Wing London agreed (June 2010) the need for formulation of an authentic annual price list which would facilitate comparison of quotes with the approved price list.

The Ministry accepted that pricing of indents for spares of Ukrainian origin had always been a problematic area as the assessed price or the LPP do not give a realistic datum despite exercising due diligence. The problem is further compounded by demand-supply gap and the tendency of the former Soviet bloc countries to quote erratic prices. On pricing of AJT spares the Ministry stated that BAES frequently change their price list and confirm that their prices are as per the current approved rate list. Negotiations with BAES also did not yield desired results. It added that the Air HQ is in the process of

³³ Cable Assy 24 P9, Cable Assy 24 P7, Starter Contactor and Hose Assy

³⁴ Jack Assy Main Under Carriage Door and Twin Detonator Unit

drawing up a fair and transparent pricing policy with BAES through Ministry of Defence.

IV. Conclusion

To sum up, procurement of critical and urgent aviation stores through Indian Embassies abroad exemplified huge and unexplained delays at every stage. Delays were observed in inviting commercial offers from the prospective vendors. The contracts were not awarded immediately after obtaining expenditure and sanction from the Air HQ. The decision-making at the apex level was tardy and led to delay in conclusion of contracts in a number of cases. There were grave anomalies between the estimated prices of indents and the actual contract prices. The contract delivery schedules were longer thereby seriously undermining the urgency of procurement. The vendors failed to adhere to the delivery schedules for which no liquidated damages were levied. The spares support for AJT operations in India was poor as the Air HQ was yet to draw up a long-term product support program with the manufacturer of the aircraft. The Ministry's acceptance of the facts only underscores the need for revamping the whole procedure for procurement of critical and urgent aviation stores through Indian Embassies.