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## CLEARING THE FOG OVER IAF ACQUISITION OF PILATUS TRAINER AIRCRAFT

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Image: Pilatus PC-7 Mk2 in IAF colours

Source: Pilatus website <http://www.pilatusaircraft.com/#45>

With the recent attention in the media and political theatre on the AgustaWestland helicopter deal, some other defence deals have also come into focus. These include the Swiss Pilatus PC-7 Mk 2 Basic Trainer Aircraft (BTA) for the IAF<sup>1</sup>. Some of the articles in the press have made bizarre statements that the IAF “diluted” the specifications for trainer aircraft

perhaps to favour a particular vendor<sup>2</sup>. While these types of sensational statements make for excellent copy to attract readers, they reveal little understanding of the reality and how defence requirements are processed in India. All defence purchases go through the proper process as given in the “Defence Procurement Procedure” (DPP)<sup>3</sup>. This article attempts to remove the fog over the Pilatus PC-7 Mk2 basic trainer aircraft

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(BTA) acquisition by IAF and explains the reality of the issues involved in selection of this aircraft.

In 1984 the IAF procured HPT-32 basic trainer aircraft from HAL (Hindustan Aeronautics Limited) to replace its ageing HT-2 trainer. The indigenous HPT-32 was extensively used by the IAF for more than 20 years but it had a poor safety record mainly due to engine failures caused by problems in the fuel line<sup>4</sup>. From 1984 to 2009 the IAF suffered a total of 17 HPT-32 accidents and lost 19 pilots. In July 2009 there was a fatal HPT-32 accident in which the IAF lost two experienced pilots. The increasing number of HPT-32 accidents finally forced the IAF to ground the HPT-32 fleet.

As a replacement for the HPT-32, IAF had initiated a case, in 2008, for procurement of **181 BTA** from HAL which was named HTT-40 (Hindustan Turbo Trainer-40). After many discussions between IAF and HAL the preliminary staff qualitative requirements (PSQR) were finalised in March 2009. This was done mutually based on the capability projection by HAL. But, now the IAF had an urgent requirement for a basic trainer and HAL's HTT-40 was still in the drawing board phase. Therefore, IAF proposed procurement of 90 BTA from the global market. However, the Defence Acquisition Council (DAC) agreed to procure 75 aircraft from the global market and 106 to be indigenously designed and developed by HAL.

To progress the Buy case, Air Staff Qualitative Requirement (ASQR) was prepared as per the DPP. After finalisation of the ASQRs for the BTA (Buy), the PSQRs issued to HAL earlier in March 2009 were also revised to align them with the ASQR for BTA (Buy). Based on these amended PSQRs, HAL submitted their first project report in December 2010.

PSQRs are made taking into account provisional requirements to initiate the development process and these are formulated as per the Defence Procurement Procedure (DPP). The major difference between PSQR and ASQR is that PSQR includes both "Essential" and "Desirable" parameters whereas ASQR includes only "Essential" parameters. PSQR being a preliminary and provisional document are subject to change during the development process. The desirable parameters are based on futuristic and emerging technologies whereas essential parameters are to be of proven state of art technologies available in India or world market. The essential parameters are frozen later in the design stage.

In contrast, ASQR include only essential parameters and cannot be changed once the request for proposals (RFP) is issued. It is for this reason that DPP provides for an elaborate procedure for formulation of ASQR in "buy" cases. ASQRs are "broad based" so that maximum number of vendors can participate and a single vendor situation is avoided. In the BTA (Buy)

case there was no difference in the PSQR issued to HAL, and ASQR since 2009. Therefore, attempts to bring out differences between PSQR and ASQR are incorrect.

The RFP for BTA (Buy) was issued to 12 vendors, out of which five (German G 120TP, Polish PZL 130 Orlik, American Beechcraft T-6C Texan II, South Korean KT-1, and Swiss Pilatus PC-7 Mk2) cleared the Technical evaluation stage and three cleared the field evaluation trials (American Beechcraft T-6C Texan II, South Korean KT-1, and Swiss Pilatus PC-7 Mk2). This clearly validated the fact that the ASQRs were adequately broad based and not pointed towards any specific vendor or product. During the commercial negotiations by the Contract Negotiation Committee (CNC), Pilatus emerged as the winner (L1 vendor) based on their commercial offer.

Once the winner in any large deal is announced the losers are understandably miffed and all sorts of accusations of favouritism are leaked through the media in the hope that they may get another chance. In the case of Pilatus deal also various controversial issues came up regarding specifications for the ejection seat, cockpit pressurisation, cockpit visibility and glide ratio.

The controversy on the zero-zero ejection seat came up because when the initial PSQR was made Air HQ had not specified any requirement of a zero-zero ejection seat. However, HAL

proposed that they will provide a zero-zero ejection seat and hence it was included. But when the ASQR for BTA (Buy) case was made it came to light, from the RFI responses, that only two BTA were available in the world market with zero-zero ejection seat – KT-1 and T-6C Texan II. Therefore, specifying a requirement of zero-zero ejection seat would have left the field for only two competitors. Moreover, a zero-zero ejection seat is not a critical requirement for a basic trainer which has very low take-off and landing speeds. Accordingly, the requirement in the ASQR was just for an ejection seat, speed and height was not mentioned. This ensured maximum responses for the competition. The current PSQR, given to HAL, also specifies that aircraft should be fitted with an “ejection seat”.

Similarly, both the ASQR and current PSQR do not stipulate the requirement for cockpit pressurisation. Pressurisation for a BTA with a service ceiling of 20,000 feet was never an IAF requirement. HAL, in its initial project report on HTT-40, wanted to keep the option of pressurisation open and accordingly it was included in the earlier PSQR, but later in September 2010, HAL dropped it in its detailed project report. As regards the external visibility, both the ASQR and current PSQR have same criteria which stated that in a tandem cockpit, “the rear cockpit should be sufficiently raised to allow safe flight instructions by day and night.” The PC-7 Mk2 meets this requirement with the rear cockpit raised to give a minus 10 degree

visibility over the aircraft nose. Another point was on the glide ratio for which the specification given was that the aircraft should have a glide ratio of “better than 10:1.” Pilatus PC-7 Mk2 has a glide ratio of 12: 1<sup>5</sup>.

The fog over the Pilatus deal has been created due to incorrect understanding of the issues. The draft PSQRs were prepared by the IAF based on various options and inputs provided by HAL as the Original Equipment Manufacturer (OEM) of BTA (Make) project. The ASQR for BTA (Buy) case were ratified as per the procedures given in DPP. Thereafter, the PSQRs for BTA (Make) were amended to align them with the ASQR for BTA (Buy) and issued to HAL in December 2009. IAF and Ministry of Defence have followed the procedures as per the DPP and allegations of diluting the parameters to favour a particular vendor do not hold water.

***(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])***

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#### Notes

<sup>1</sup> “After AgustaWestland, Pilatus deal may come under scanner,” *The Times of India*, May 5, 2016, <http://timesofindia.indiatimes.com/india/After-AgustaWestland-chopper-deal-Pilatus-deal-may-come-under-scanner/articleshowprint/52136176.cms> , accessed on May 6, 2016.

<sup>2</sup> Ajai Shukla, “IAF diluted at least 12 benchmarks for trainer aircraft,” *Business Standard*, July 29, 2013, [http://www.business-standard.com/article/economy-policy/iaf-diluted-al-least-12-benchmarks-for-trainer-aircraft-113072901068\\_1.html](http://www.business-standard.com/article/economy-policy/iaf-diluted-al-least-12-benchmarks-for-trainer-aircraft-113072901068_1.html) , accessed on May 7, 2016.

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<sup>3</sup> The current DPP-2016 is the ninth edition and was released by the Defence Minister Manohar Parikkar on March 28, 2016.

<sup>4</sup> Bharat Rakshak website, “HAL HPT-32 Deepak”, <http://www.bharat-rakshak.com/IAF/aircraft/specs/569-hpt32-deepak.html>, August 19, 2015, accessed on May 7, 2016.

<sup>5</sup> Jatinder Kaur Tur, “IAF ab-initio flying training bounces back to normalcy as Pilatus restores faith,” *Times of India*, August 14, 2013, <http://timesofindia.indiatimes.com/city/hyderabad/IAF-ab-initio-flying-training-bounces-back-to-normalcy-as-Pilatus-restores-faith/articleshow/21828668.cms>, accessed on May 7, 2016.