

**CUSTOMS, EXCISE & SERVICE TAX APPELLATE
TRIBUNAL
BANGALORE**

REGIONAL BENCH - COURT NO. 1

Central Excise Appeal No. 21060 of 2014
(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

**M/s. Tata Advanced Systems
Limited,**

No. 42-43, Electronic City,
Hosur Road,
Bangalore – 560 100.

Appellant(s)

VERSUS

**Commissioner of Central
Excise, Bangalore I
Commissionerate,**

C R Building, P.B.No.5400,
Queens Road,
Bangalore – 560 001.

Respondent(s)

With

**i). Central Excise Appeal No. 21061 of 2014 (Shri. P.K.
Varadaraju, Head-Finance, M/s. Tata Advanced
Systems Limited)**

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

**ii). Central Excise Appeal No. 21062 of 2014 (Shri. Ajay
Masand, CFO, M/s. Tata Advanced Systems Limited)**

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

**iii). Central Excise Appeal No. 21063 of 2014 (Shri.
Dayanand K, Deputy General Manager (Production),
M/s. Tata Advanced Systems Limited)**

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

**iv). Central Excise Appeal No. 21064 of 2014 (M/s. Bharat
Electronics Limited)**

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

**v). Central Excise Appeal No. 21065 of 2014 (Shri. Rahul
Chaudhary, Chief Executive Officer, M/s. Tata
Advanced Systems Limited)**

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013
passed by the Commissioner of Central Excise, Bangalore.)

vi). Central Excise Appeal No. 21083 of 2014 (Shri. Y.S. Krishne Gowda, A.G.M – Commercial, M/s. Tata Advanced Systems Limited)

(Arising out of Order-in-Original No. 68/2013 dated 31.12.2013 passed by the Commissioner of Central Excise, Bangalore.)

vii) Central Excise Appeal No. 23515 of 2014 (M/s. Tata Advanced Systems Limited)

(Arising out of Order-in-Original No. 31/2014 dated 31.07.2014 passed by the Commissioner of Central Excise, Bangalore.)

viii).Central Excise Appeal No. 21649 of 2015 (M/s. Larsen & Toubro Limited)

(Arising out of Order-in-Original No. 008/MAR/COMMR/B1/2015 dated 31.03.2015 passed by the Commissioner of Central Excise, Bangalore.)

ix). Central Excise Appeal No. 20016 of 2017 (M/s. Larsen & Toubro Limited)

(Arising out of Order-in-Original No. BLR-EXCUS-001-Pr COM-MVK-23-16-17 dated 04.10.2016 passed by the Commissioner of Central Excise, Bangalore.)

APPEARANCE:

Mr. G. Shivadass, Sr. Advocate, Mr. Riashab J, Ms. Shraddha Rajgiri, Advocates,

Mr. V. Sridharan, Sr. Advocate, Mr. Ravi Raghavan, Mr. Mohd Ibrahim, Tushar Sharma, Nischal K.M., Advocates for the Appellant

Mr.P.R.V. Ramanan, Special Counsel (AR) for the Respondent

**CORAM: HON'BLE DR. D.M. MISRA, MEMBER (JUDICIAL)
HON'BLE MRS. R. BHAGYA DEVI, MEMBER
(TECHNICAL)**

Final Order No. 20598 - 20607 /2024

DATE OF HEARING: 24.01.2024

DATE OF DECISION: 22.07.2024

PER : DR. D.M. MISRA

These appeals are filed against respective orders passed by the Commissioner of Central Excise, Bangalore, since involved identical issues are taken up together for hearing and disposal.

Appeal No.	Appellant name	Impugned Order No.	Period	Demand confirmed	Interest and penalty
E/21060/2014	M/s. Tata Advanced Systems Ltd.	OIO No.68/2013 dt. 31.12.2013	March 2012 to December 2012	Rs.8,22,17,894/-	Penalty - Rs.8,22,17,894/-
E/21061/2014	Mr. P.K. Varadaraju	-do-	--	--	Personal penalty - Rs.10,000/-
E/21062/2014	Mr. Ajay Masand	-do-	--	--	Personal penalty - Rs.10,000/-
E/21063/2014	Mr. Dayanand	-do-	---	--	Personal penalty - Rs.10,000/-
E/21064/2014	M/s. Bharat Electronics Ltd.	-do-	---	---	Penalty - Rs.25,000/-
E/21065/2014	Mr. Rahul Chaudhary	-do-	--	--	Personal penalty - Rs.10,000/-
E/21083/2014	Mr. Krishna Gowda	-do-	--	--	Personal penalty - Rs.10,000/-
E/23515/2014	M/s. Tata Advanced Systems Limited	OIO No.31/2014 dt. 31.07.2014	January 2013 to December 2013	Rs.5,60,61,180/-	Penalty - Rs.5,00,000/-
E/21649/2015	M/s. Larsen & Toubro Limited	OIO No.008/MAR/COMMR /B1/2015 dt. 31.03.2015	December 2013 to August 2014 September 2014 to April 2015	Rs.21,20,06,887/- Rs.2,78,95,645/-	Interest u/s 11AA Penalty - Rs.50,00,000/- u/R 25
E/20016/2017	-do-	OIO No.BLR-EXCUS-001-Pr.COM-MVK-23-16-17 dt. 03.10.2016	December 2014 to October 2015	Rs.9,01,50,774/- Rs.4,66,55,237/-	Interest u/s 11AA Penalty - Rs.46,65,524/-

Since the facts are marginally different in the appeals filed by M/s. Tata Advanced Systems Ltd. (TATA, for short) and M/s. Larsen & Toubro Ltd. (L&T, for short), the same are narrated separately.

2. **Appeal No.E/21060/2014 and E/23515/2014.**

2.1. Briefly stated the facts of the case are that the appellant TATA are engaged in the manufacture of Aakash Air Force Launcher (AAFL, for short) and cleared the same to M/s. Bharat Electronics Limited (BEL, for short) during the relevant period. On the basis of intelligence, the DGCEI, Bangalore Unit visited their factory premises, recovered records and initiated investigation against TATA. On completion of investigation, it has been alleged that the TATA are manufacturing 'Akash Air

Force Missile Launcher System' (AAFL, for short); which are supplied to M/s. Bharat Electronics Limited (BEL, for short) who manufactures "Akash Missile Systems" (AMS for short) for Indian Air Force (IAF for short). AMS was designed and developed by Defence Research Development Laboratory (DRDO for short) and the order for the entire development and supply of AMS was given by IAF to BEL. It is further alleged that AMS is an integrated missile system which broadly consists of many sub-systems such as Flight Level Radar (FLR for short), Squadron Control Centre (SCC for short), Flight Control Centre (FCC for short), C-D Central Acquisition Radar (3D CAR for short), Akash Air Force Launcher System (AAFL for short), missile etc. Out of the above sub-systems, FLR, 3D CAR and FCC are manufactured by BEL and other sub-systems are outsourced by BEL to others approved by DRDO. All the required sub-systems (except the missile) are procured and brought to the factory of BEL and the integration of the entire AMS was carried out by BEL in their factory. The AAFL is procured by BEL from TATA. They placed necessary orders on TATA for manufacture and supply of 16 numbers of AAFL on 18.03.2009 and later another order was placed on 11.05.2011 for further 16 AAFLs to be supplied. Consequently, TATA had manufactured and supplied the AAFLs to BEL between March 2011 to December 2012 declaring its classification under CETH 8543 2090 and paid Central Excise duty @ 10%; however, w.e.f. 31.03.2012, they revised its

classification and declared under CETH 9301 9000 of Central Excise Tariff Act, 1985 and discharged central excise duty @ 6%. During the course of investigation, various statements have been recorded and on completion of investigation, first show-cause notice was issued to the appellant on 26.03.2013 proposing to recover differential Central Excise duty amounting to Rs.7,70,86,064/- and Central Excise duty of Rs.51,31,830/- on free-issue material supplied by BEL to TATA with interest and penalty. On adjudication, the classification of AAFL has been held to under CETH 9305 9100 of CETA, 1985 and differential duty was confirmed with interest and penalty; also the central excise duty on free-issue material has been confirmed with interest and penalty; duty of Rs.36,23,536/- paid by TATA was appropriated; personal penalty of Rs.10,000/- was imposed on each of the noticee-employees of TATA.

2.2. Subsequently, another show-cause notice was issued on 27.01.2014 demanding duty for the period January 2013 to December 2013 proposing classification of the goods under CETH 9305 9100, amounting to Rs.5,60,61,180/- with interest and penalty. On adjudication, the same was confirmed with interest and penalty of Rs.5.00 lakhs under Rule 25 of the Central Excise Rules, 2002.

3. Appeal No.E/21649/2015 and E/0016/2017 filed by M/s. Larsen & Toubro Ltd. (L&T for short)

3.1. The L&T are engaged in the manufacture of communication equipments, transmission apparatus, Printed Circuit Boards (PCBs) and AAFLs classifiable under Chapter 82, 85 and 93 of Central Excise Tariff Act, 1985. On scrutiny of the agreement between BEL, L&T, TATA and DRDO, it revealed that AMS was developed by BEL as per the designs of DRDO. For the 3rd and 4th squadrons and subsequent alternate orders, purchase orders were placed on them by BEL for manufacture of AAFL. The AAFL manufactured by L&T were to be delivered from the factory of TATA (jobworker of L&T) to BEL as per the designs and specifications finalised by DRDO. Alleging that the AAFL is a sub-system of the AMS and incomplete; therefore the classification is proposed under Tariff Item 9305 9100 attracting duty @ 12%. Consequently, show-cause notice was issued for recovery of the duty for supplies made during the period December 2013 to August 2014 amounting to Rs.21,20,06,887/- and short payment of duty of Rs.2,78,95,645/- with interest and penalty. On adjudication, the said demand was confirmed and an amount of Rs.10,60,03,436/- paid has been appropriated and penalty of Rs.50.00 lakhs was imposed under Rule 25 of the Central Excise Rules, 2002. A statement of demand was later issued to them on 24.11.2015 demanding differential duty of Rs.9,01,50,774/- for the period from December 2014 to October 2015 with interest and penalty. On adjudication, the said demand was confirmed with interest and penalty of Rs.46,65,524/- under

Section 11AC(1)(a) of Central Excise Act, 1944; Central Excise duty of Rs.4,34,95,537/- paid has been appropriated.

4.1. Learned Senior advocate Mr. G. Shivadass appearing for TATA has submitted as below:

- TATA is engaged in the manufacture of various defence related electronic equipment; the present issue is regarding the classification of the AAFL manufactured and cleared by TATA to BEL. BEL is the lead integrator / manufacturer of AMS for the IAF. AMS is an all-weather weapon system for defending vulnerable areas against medium-ranged targets penetrating from low, medium and high altitudes.
- Each squadron of AMS consists of the following:
 - i. **3D CAR (3-D Central Acquisition Radar):** The 3D-CAR provides surveillance data for a range up to 120-150 kms and is configured with SCC or FCC;
 - ii. **SCC (Squadron Control Centre):** A room or shelter wherein the entire operation is monitored through computers and consisting of control panels capable of transmitting and operating other equipment like 3D-CAR, FCC, AAFL, FLR, etc.;
 - iii. **FCC (Flight Control Centre):** It is a communication equipment that receives signals from SCC / FLR and in turn directs or gives signals/ commands to AAFL;

- iv. **FLR (Flight Level Radar):** It is An unmanned multi-function phased array radar for tracking targets within a distance of 80 kms in a sector and for command guidance of missiles. The FLR is placed at the site with the help of jacks.
 - v. **AAFL (Akash Air Force Launcher):** Depending on the instructions, the launcher re-orientes itself in the desired direction and launches the missile at the target. The AAFL is positioned around and with reference to the FLR.
- Functions of AMS:
- a. The 3D-Car tracks the targets at a range of up to 120-150 kms and sends appropriate signals to the SCC, which in turn transmits them to FCC.
 - b. The FCC on receipt of information activates the relevant FLR.
 - c. When the target comes within the 45 km radius, the FLR sends appropriate signals to FCC.
 - d. Based on the signals received from FLR, the FCC generates the necessary position and firing commands for the missiles are issued based on target parameters.
 - e. The FCC gives signals to the AAFL for positioning the launcher and the AAFL launches the missile in the correct position.

- f. Once the missile is launched after following the prescribed procedures, its control is taken over by the FCC. The software in the FCC interacts on a real time basis with the on board processors in the missile and directs it to the target.
- g. The AAFL does not have any role in the functioning of the missiles after the missile is launched on receipt of the signals from the FCC.

The sub-systems manufactured by BEL are viz. 3D-CAR, FLR and FCC; the remaining systems are outsourced from suppliers approved by DRDO. The required sub-systems (except) missile) has to undergo squadron-level integration at the test bed before final dispatch in various consignments. Missiles are procured by BEL from M/s. Bharat Dynamic Ltd., Hyderabad and are moved to Air Force locations directly.

4.2. Explaining the details of AAFL, he has submitted that it is mobile launch equipment for the AMS, mounted on a wheeled vehicle and has the provision to carry three missiles for launch. It is powered by an on-board DG set; the launch platform is micro-processor driven and controlled through an electro-mechanical servo system. The AAFL is capable of checkout and auto-launch of the AKASH missiles. During Combat Operations based on signals received from the FCC, AAFL positions itself for enabling the launch of the missile and performs launch

operations. The launcher can accept position commands in local mode from an Operator's Console from a remotely located FCC. The said commands are communicated to the main controller that contains the embedded software, that will generate signals to be applied to the servo drive. In local mode, the local operator's console communicates directly with the main controller whereas in auto mode, the FCC communicates with the Launcher through radio and line modem.

4.3. The components/ parts/ materials required for manufacture of the AAFL are procured by the Appellants. AAFL consists of various electrical, electronic, and mechanical equipment/ sub-systems such as (i) Dedicated on-board Diesel Generator Set (DG Set), (ii) Interface for External Stand-by Power Supply, (iii) Integrated Radio Line Communication Units (IRLM), (iv) Missile Launch Processor (MLP) & other Electronic Modules (v) Ruggedized Control Panel (RCP), (vi) Advanced Land Navigation System (ALNS), (vii) Fire Fighting Units, (viii) CNR Radio, (ix) Launch beam Assembly, (x) Rotating Base Body, (xi) Container, (xii) Prime mover, (xiii) Trailer, (xiv) Azimuth & Elevation drive assembly and (xv) Outrigger Assemblies.

4.4. He has further submitted that BEL has placed a purchase order dated 18.03.2009 for 16 AAFLs under which BEL agreed to make available the following materials:

- a. ALNS (Advanced Land Navigation System) with accessories;
- b. CNR (Combat Network Radio) with accessories;
- c. Standalone Modem with VOIP (Voice Over IP Phone) along with cable and accessories;
- d. ALP/MLP (Missile Launch Processor) Software;
- e. RCP (Ruggedized Control Panel) Software; and
- f. BCCS Software.

4.5. The said purchase order stipulated delivery schedule and supply of technical literature which included system software with its installation procedure on CD. A further letter was issued on 21.04.2009 indicating that out of the Free Issu Material, the software viz. ALP/MLP software, RCP software, BCCS software would not be issued by BEL. Further through their letter dated 28.04.2009, BEL had indicated that certain items would be issued but to be returned after testing of the launcher, those items are:-

- (i) ALNS, along with all the required sub-systems and associated cable harnesses-1 set per AAFL.s
- (ii) CNR set with Antenna and associated cable harnesses including mating connector-1 set per AAFL.
- (iii) Standard Modem with VOIP telephone along with Cables and accessories- 1 set per AAFL.

4.6. Consequent to the said purchase order, all necessary acceptance test procedure was issued to TATA on 08.12.2010, which was vetted and released by Missile System Quality Assurance Agency (MSQAA). The AAFL manufactured by TATA were tested and inspected at the factory of TATA and necessary inspection certificate was issued by MSQAA to TATA on 31.03.2012. on the same line, another purchase order was issued on 11.05.2011 for supply of 16 AAFLs. In the said purchase order, supply of ALP software, RCP software and BCCS software were not indicated; all other conditions remained the same. TATA commenced clearance of AAFL to BEL from March 2011 on payment of appropriate Central Excise duty classifying the same under CETH 8543 2090 as Electrical machinery and products having individual function not specified elsewhere. Being objected by BEL about the said classification, subsequently it was revised to CETH 9301 9000 and excise duty was discharged @ 6%.

4.7. The appellant filed a refund claim on 30.03.2012 for excess duty paid on account of incorrect classification of goods cleared during the period March 2011 to February 2012. The said refund claim was rejected by the adjudicating authority on an appeal, the learned Commissioner (Appeals) remanded the same for de novo adjudication. Consequently, statement of various employees of TATA have been recorded and later a

show-cause notice was issued to them on 26.03.2013 alleging mis-classification of AAFL and proposing its classification under CETH 9305 9100 of Central Excise Tariff Act, 1985. Also it is alleged that the value of free-issue material is liable to excise duty since not included in the total value of the AAFL. TATA had paid the appropriate duty on the free-issue material vide Challan dated 17.12.2012. Consequently, after hearing TATA, the learned Commissioner has confirmed the classification proposed in the show-cause notice and the demand along with interest and penalty. On similar line, the subsequent show-cause notice dated 27.01.2014 issued for the period January 2013 to December 2013 also adjudicated and confirmed by order dated 31.07.2014.

4.8. The learned Senior advocate has submitted that the learned Commissioner has wrongly arrived at the conclusion that the AAFL is not complete as the software viz. ALP software, MLP software, RCP software and BCCS software were not loaded in the launcher before clearance to BEL. He has submitted that AAFL is complete in all respect and certified by the inspecting authority before its clearance from the factory of the TATA to BEL. In support, he has referred to the Purchase Order dated 18.03.2009 which mentions that the appellant should also supply FCC simulator, which helps in testing the launcher at the location by simulating various commands from FCC simulator which

indicates that items like MLP, MLP module assembly, RCP etc. would also be supplied. The said purchase order also specifies the training programmed to be conducted in respect of AAFL by TATA. He has further submitted that the Committee which prepared the Technical Specifications and Operational Requirement for AAFL approved by the DRDO clearly states that TATA shall manufacture, integrate, test and supply the launcher system as per the QAP and as per the Acceptance Test Plan. The learned advocate has further submitted that AAFL is an independent equipment having capabilities to function as a launcher and possesses features whereby it can combine with other systems to function as a part of AMS. He has submitted that heading 9301 includes all "military weapons" and includes separately presented weapons and firearms designed to form part of the armament of vessels, armoured trains, aircraft, tanks or armoured cars. He has further submitted that CTH 9301 10 covers artillery weapons which operate by projection of munitions beyond the range of personal weapons. Artillery weapons comprise of specialized devices covering shell-firing guns, howitzers, mortars, rockets etc. CTH 9301 20 covers rocket launchers, flame-throwers, grenade launchers, torpedo tubes and similar projectors. CTH 9301 90 00, covers 'other' goods, i.e., military weapons other than artillery weapons and rocket launchers. As per Explanatory Notes to Chapter Heading 9301, the said Heading covers '*other specialized military*

projectors, for example, military rocket projectors and launchers other than those of Heading 93.03'. Therefore, for the product to be classified under Chapter Heading 9301, the two conditions to be satisfied are: The product should be a specialized military projector; and it is not covered under Heading 9303. He has further submitted that a combined reading of the HSN explanatory notes and Tariff Heading 9301 90 00 makes it explicitly clear that AAFLs are classifiable under this Heading. It is submitted that AAFL manufactured and cleared by them is complete in all respects as is evident from (a) the documents mentioned earlier, (b) the inspection certificate issued by MSQAA at the time of clearance of individual launchers certify that the product is a Launcher meeting the requirements in accordance with the relevant specifications and drawing; (c) affidavits dated 06.11.2013 has confirmed that AAFL contains software which are in-built and sufficient to operate the launcher by undertaking operations such as rotation, alignment, ejection of missile etc. No further activity is undertaken on AAFL by BEL and the test undertaken at BEL is only to check the compatibility of the launcher with other equipment.

4.9. Rebutting the finding of the adjudicating authority that ALP / MLP software, RCP software and FCC simulator software / BCCS software are not present in the AAFL cleared by TATA, the learned advocate referred to the letter dated 21.04.2009 issued

by BEL submitted that this letter has been read out of context to hold that software is not loaded on AAFL. He has submitted that this letter was issued because the DRDO has changed the design of the AAFL, which did not require RCP/BCCS software to be supplied by BEL. The MLP software is used to test the health of the missiles and not of the AAFL and that is why the reason it was provided by the DRDO. RCP software is developed by the TATA and loaded in the AAFL. The inspection certificate issued by the MSQAA certifies that AAFL is full in compliance with all the requirements. The BCCS software modules was not issued by BEL as the same is no more required due to the change in design by the DRDL. Similarly explaining the letter dated 12.02.2013 relied upon by the adjudicating authority, he has submitted that the software that is required for the function of the AMS and AAFL are different. The software required for functioning of AMS is already loaded in the AAFL and no further loading of the software is not required at BEL. This fact has been verified in the affidavits, which is not disputed in the order. The integration of AAFL with other sub-systems to form AMS system takes place at the BEL factory and the AMS software is required for functioning of various sub-systems of AMS and not AAFL. There is a clear distinction between the functioning of the software required for functioning of AMS and software required for integration of various systems of AMS.

4.10. The learned senior advocate further submitted that no evidence has been led by the Department to establish their case that various sub-systems which are part of the AAFL do not have embedded software which enables testing of the launcher by receiving signals for FCC simulator or placed evidence in contravention to the evidence placed by TATA to show that the AAFL is not complete. The mere fact that the manufactured goods are subjected to further integration with other sub-systems at the factory of BEL does not indicate that the same are not complete prior to such integration. In support, they have referred to the judgments in the following cases:-

- a. **Pioneer Embroideries Ltd. Vs. CC** [2015(322) ELT 602 (SC)]
- b. **Voltas Ltd. Vs. CCE, Mumbai-I** [2005(179) ELT 578 (Tri. Bom.)]

4.11. He has further submitted that the goods cleared by the BEL viz. 3D CAR, FLR, FCC on the other hand are classified under CETH 8526 1000, 8526 1000 and 8525 as individual goods and complete in all respects and not as part of the AMS.

4.12. Further, they have submitted that AAFL is classifiable under CETH 9301 2000 as per Rule 2(a) of the General Rules of Interpretation, which applies to goods in an incomplete / finished condition and assemble / unassembled condition having the essential character of the complete or finished article. After

cettification of the AAFL manufactured at the premises of the TATA by MSQAA, the launcher is complete in all respects which establishes that the goods cleared by TATA have its essential character of a launcher.

4.13. They have submitted that the learned Commissioner has travelled beyond the scope of the show-cause notice and hence it is bad in law. The argument advanced by the special counsel for the Department during the coruse of hearing also completely different to the case set up in the show-cause notice and also in the Order-in-Original. It is the case of the Department that the AMS is a weapon; then the Department ought to have proceded to classify the entire AMS cleared from BEL's site under CETH 9301 and thereafter classify all other sub-systems cleared to BEL under CETH 9305. However, no such proceedings were initiated. Further it is submitted that such a proceeding to classify the AMS under Chapter heading 9301 cannot be initiated since AMS is not individual product but a collection of various sub-systems. The taxability of collection of various items as one commodity has been examined by the Supreme Court in the case of **Triveni Engineering and Indus Ltd. Vs. Commissioner** [2000(120) ELT 273 (SC)] and **Ibex Gallagher Pvt. Ltd. Vs. CCE, Bangalore-III** [2008(231) ELT 580 (Tri. Bang.)].

4.14. Further, it is submitted that Explanatory Notes to CETH 9301 covers all military weapons including separately presented

weapons and firearms designed to form part of armament vessels, aircraft, tanks etc. The explanatory notes specifically include other specialised military projectors such as rocket projectors and launchers. Therefore, as per the explanatory notes to Chapter 9301, all types of launchers will be classified under CETH 9301. It is also pointed out that Chapter 93 does not defines the expression system in contrast to Chapter Notes to Chapter 84. Therefore, only question required to be answered is whether each one of sub-systems are capable of performing what it is supposed to perform. There is no basis to state that launcher mentioned in Chapter 9301 refers only to rocket launchers and not launchers of missiles.

4.15. On the liability regarding non-inclusion of free-issue materials in the value of launchers, it is submitted that they have paid duty of Rs.37,32,248/- along with interest of Rs.7,45,456/- based on their own assessment. They have subsequently paid the balance amount of Rs13,99,592/- along with interest. Further, it is submitted that since no facts have been suppressed nor with any intention to evade payment of duty, penalty under Section 11AC of CEA, 1944 is not attracted. Also the employees have dishcarged their functions and Department has not established role of any of the employees in the alleged short payment of duty, hence personal penalty is imposable.

5. **Appeal No. E/21649/2015 and E/20016/2017**

5.1. Learned Senior Advocate Mr. V. Sridharan appearing for M/s. Larsen & Toubro Ltd. (L&T, for short) has submitted that AAFL is bought and sold as launcher and both technically and commercially, it is known as launcher only which is evident from the records viz. Agreement between BEL and DRDO; agreement between BEL with DRDO, TATA and the Purchase Order dated 12.05.2011 and Invoice raised by the L&T also refers the subject goods as launcher. Further, referring to the show-cause notice, the learned Senior Advocate has submitted that all along the goods has been considered as a launcher; it is alleged that AAFL cleared by the L&T is a sub-system of AMS and it does not dispute that the AAFL is a launcher. In the submission of the learned Special Counsel for the Revenue also, it is acknowledged as a launcher. He has submitted that launcher is specifically covered under Chapter heading 9301, which includes all "military weapons" and includes separately presented weapons and firearms designed to form part of the armament of vessels, armoured trains, aircraft, tanks or armoured cars; Tariff 9301 10 also covers artillery weapons which operate by projection of munitions beyond the range of personal weapons. Artillery weapons comprise of the specialised devices covering shell-firing guns, howitzers, mortars, rockets etc.; Tariff item 9310 20 covers rocket launchers, flame-throwers, grenade launchers, torpedo tubes and similar projectors and Tariff item 9301 9000

covers other goods i.e. military weapons other than artillery weapons. He has submitted that as per Clause 4 of HSN Explanatory Notes to Chapter Heading 9301, it covers "other specialised military projectors, for example, military rocket projectors and launchers other than those of Heading 93.03" apparatus for the discharge of depth-charges; torpedo tubes; flame-throwers (apparatus for projecting an ignited volatile liquid at an enemy). The equipment mentioned in Clause 4 i.e. rocket projectors and launchers etc. are all used by the army as military weapons and are in nature of projecting, throwing either missile, flame/volatile liquid at enemy. Further he has submitted the a combined reading of the HSN explanatory notes and Tariff Heading 9301 2000 makes it explicitly clear that AAFLs can be suitably classified by description and covered under 'Projectors' as the AAFL, being missile launcher, does the activity of throwing a missile in the required direction and fits into the class of equipment covered under 'military rocket projectors and launchers' and hence the AAFL is squarely classifiable under the Tariff Heading 9301 2000.

5.2. Rebutting the argument of the learned Special Counsel for the Revenue that the items enumerated in the said entry are separated by semicolons; hence the expression 'similar projectors' can be read only in conjunction with 'torpedo tubes' and not rocket launchers or flame throwers, the learned

advocate has submitted that mere presence of semi-colon in the sub-heading does not make a difference, since the very nature of goods contained therein are launchers which launches/throws/projectile. In support, they placed reliance on the HSN explanatory notes to Heading 93.01 wherein it clearly says that 'other specialised military projectors, for example, military rocket projectors and launchers other than those of Heading 93.03'. On a combined reading of the explanatory notes and scheme of Chapter 93, it can be understood that the goods to be classified under the Tariff Heading 9301 must be military projectors and such military projectors are not to be classifiable under Tariff Heading 9303 and since AAFL is a military projector which projects missiles, these are not covered under Tariff Heading 9303; thus the presence of semicolon in the sub-heading is immaterial and the submission i.e. the expression 'similar projectors' can be read only in conjunction with 'torpedo tubes' and not rocket launchers or flame throwers is totally incorrect and contrary to the explanatory notes. Further rebutting the argument of the learned Special Counsel that the rocket launcher is not guided launcher and cannot be equated with a rocket launcher as a rocket launcher is by itself a weapon or a weapon system. The learned Senior Advocate has submitted that rocket launcher covers both guided and unguided launcher and the HSN explanatory notes specifically covers 'other specialised military projectors' since the subject goods are

specialised military weapons which works on the basic principle of projectile motion, the same are exclusively includible in the Tariff Heading 9301. The test of independent function of a weapon cannot be a criteria for its classification as every weapon requires human or machine intervention for its performance. In the present case, the FCC and other radar systems analyse the target and the AAFL is given direction to fire the missile in the particular direction of such identified target inasmuch as mere receiving of target information and acting on such information will not render subject goods as anything other than a weapon. They have drawn analogy from other types of weapons/projectors like grenade launchers, which involves human intervention and lack of independent functioning on the part of such 'grenade launcher'; therefore the said argument of the learned Special Counsel cannot hold good. Further, they have submitted that there is no condition prescribed under Tariff Heading 9301 that anything which is projectile from a launcher should remain in projectile motion only and must not be guided afterwards. Further they have submitted that once a missile has been launched by the launcher, there remains no merit in considering functional operation or process of target capturing by the launched missile; the question is whether the launcher is guided missile launcher or field launcher is irrelevant for determining the classification of AAFL.

5.3. The learned Senior Advocate has further submitted that there is no entry called "system" to be classified under Chapter 93. The Department proceeded on the footing that entire AMS is a weapon; admittedly, the term 'system' has not been used in whole of Chapter 93 or even under Section XIX of the CETA, 1985. It is his contention that when AMS as a system is not classifiable under Chapter 93 or Heading 93.01, any sub-system thereof cannot be considered as a 'part of system' for the subject goods to be classified under Heading 9305. Referring to Note 5B of the Chapter 84, he has submitted that system is defined as 'automatic data processing machines may be in the form of systems consisting of variable number of separate units'. Referring to the judgment of Hon'ble Supreme Court in the case of **PSI Data Systems Ltd. Vs. CCE** [1997(89) ELT 3(SC)], it is submitted that in the said judgment a distinction has been drawn between a computer system and a computer; therefore when there is no tariff entry which covers AMS under Tariff Heading 9301, the AAFL cannot be considered as a part of AMS to be classified under Chapter Heading 9305.

5.4. It is further submitted that arms without ammunition is also a weapon which is clear on reading of Heading 9306 which separately covers 'bombs, grenades, torpedoes, mines, missiles and similar munitions of war and parts thereof; cartridges and other ammunition and projectiles and parts thereof, including

shot and cartridge wads. He has further submitted that the entire AMS, only launcher is a weapon and all other sub-systems are not weapons and not classifiable under Chapter Heading 9301; therefore BEL has cleared all sub-systems of AMS by classifying the same under respective Chapter Tariff Heading viz. 3D CAR under CTH 8526, FCC under CTH and FLR under CTH 8526. It is submitted that the Department has never disputed the classification of other sub-systems manufactured and cleared by BEL.

5.5. Rebutting the Department's allegation that AAFL is not complete, independent and functional launcher as software viz. MLP software, RCP software and FCC simulator software / BCCS software are not installed in the launcher before the clearance to BEL. He has submitted that AAFL manufactured and cleared by L&T from the premises of the jobworker contained ALP / MLP software, RCP software and FCC simulator software / BCCS software; hence it is complete in all respect which is evident from the inspection certificate issued by MSQAA at the time of clearance of individual launchers meeting their requirements in accordance with the relevant specifications and drawing. Also they have referred to the purchase order and copy of specimen tax invoices issued by TATA for software and the job work challan issued by the L&T for software, which clearly shows that the AAFL contains all these softwares; therefore the launchers

are complete in all respects and accordingly merits classification under Tariff item 9301 2000. He has submitted that the L&T has classified the subject goods under Tariff item 9301 2000 whereas TATA had classified under 9301 9000. In this connection, he has submitted that the classification of the subject goods whether under Tairrif item 9301 2000 or 9301 9000 does not make any difference as the AAFL can be classified by description and covered under 'other projectors' and rate of duty also remains the same for both Tariff headings.

6.1. *Per contra*, the learned Special Counsel Mr. P.R.V. Ramanan appearing for the Revenue has submitted that the basic issue for consideration is whether AAFLs merit classification under CETH 9301 2000 as claimed by L&T in their Appeal Memorandum or under CETH 9301 9000 as claimed by TATA in their Appeal Memorandum or under CETH 9305 9100 as claimed by the Department. The technical aspects relevant to the basic issue discussed in the impugned order has been reiterated. Also, extracts from books published by DRDO and articles relating to concepts and functions of the different parts of the missile system submitted in the booklet also relied in advancing the argument. He has submitted the gist of the findings in the impugned orders as below:-

- In Para 29.8 of the OIO, the AA has, after analysing the functioning of each unit within AAFL and the importance of

relevant software, concluded that AAFL can only be regarded as a sub-assembly without integration of relevant software e.g., ALP, RCP.

- In Paras 30.3.4 to 33.2 of the OIO, the AA has held that BEL had not provided all the FIMs (software) integral to and required for the operation of the AAFL. Hence, AAFL cannot be treated as a complete launcher. He has observed that only after the loading and integration of the requisite software the launcher becomes operational. There is a clear difference between the product cleared by BEL to the AF location and that cleared by TATA to the factory of BEL. The former alone can be regarded as a complete launcher. Further, AAFL is not a guided weapon; it is only an accessory or component of the guided weapon provided the launcher is made operational by the incorporation and integration of sub-systems of AMS, like FCC, SCC etc., through the control panels loaded with high-level software in the SCC. Without such integration, the equipment is a dumb equipment. This leads to the conclusion that AAFL is not a fully finished, complete, independent and functional launcher; without the embedded software it cannot function independently as a launcher.

6.2. In view of the foregoing, the AA has held that AAFL does not merit classification under heading 9301, and particularly, CETH 9301 9000.

6.3. Further, it has been held in the order that as presented for assessment by TATA, the impugned AAFL can only be regarded as a component or part of AMS, which alone, being a 'Guided weapon' system, would merit classification under heading 9301 9000. This would lead to the conclusion that the AAFL cleared by TATA to the factory of BEL would only be classifiable under heading 9305, as parts and accessories of articles of heading 9301. Following on, in Para 35.3, the AA has held that the right placement of AAFL, as cleared by TATA, would be under CETH 9305 9100.

6.4. On the classification of AAFL cleared by TATA as a job-worker of L&T, it is submitted by the learned Special Counsel as below:-

- As per the technical literature, AMS is the main weapon of which AAFL is only a sub-system.
- Firing command to AAFL can be given only by the FCC; hence, AAFL cannot be used independently as a weapon.
- The commands generated by the FCC are processed by the electronic sub-systems i.e., MLP, RCP and RRU and the Simulator, installed in the AAFL. BEL integrates the MLP, RCP and BCCS/FCC Simulator software in their premises.

When all the sub-systems are in place with the software embedded in them, BEL finally integrates and loads the most essential AMS software to enable all the sub-systems to function as one integrated unit i.e., AMS.

- As cleared from the factory of the job-worker i.e., TATA, the AAFL was not a complete, independent and functional weapon. Hence, the said AAFL does not merit classification under CETH 9301 9000 but would be more appropriately classifiable under CETH 9305 9100 as a part of a military weapon falling under heading 9301.

6.5. The learned Special Counsel on the three alternatives to classification of AAFLs cleared by TATA as a manufacturer or a job-worker, are viz. CETH 9301 2000 or CETH 9301 9000 or CETH 9305 9100 submitted as below:-

- Do AAFLs merit classification under CETH 9301 2000?

(i). As per the Appeal memorandum [Para C.7- page 23], L&T have argued that AAFL ought to be classified under CETH 9301 2000 because AAFLs, being missile launchers are functionally similar to rocket launchers, torpedo tubes. In support of this view reliance is placed on the Explanatory Notes [HS-EN] to Heading 9301 and other technical material.

(ii). On the contrary, TATA backed by BEL, have, in their Appeal memorandum [Para C.5- Page29], categorically stated that AAFLs cannot be classified under CETH 9301 2000 since they are not rocket launchers, which are devices that launch a

rocket-propelled projectile which is portable and capable of being operated by an individual.

(iii). While the persuasive value of HS-EN is acknowledged by the Department, it is submitted that L&T have mis-read the text of HS-EN without drawing a reference to the text of the tariff entry relating to 9301 2000, which reads as follows:

“930120 00 – Rocket launchers; flame throwers; grenade launchers; torpedo tubes and similar projectors”

(iv) It may be seen that the items enumerated above are separated by semi-colons. Hence, the expression ‘similar projectors’ can be read only in conjunction with ‘torpedo tubes’ and not rocket launchers or flame throwers. Secondly, in the case of the Akash missile, the launch motor in the AAFL merely starts the fuse connected to the missile. It does not give any thrust or force so as to project the missile forward. The missile is propelled by the solid fuel contained in it. Hence, AAFL cannot be regarded as a projector.

6.6. In sum, therefore, AAFLs do not merit classification under CETH 9301 2000.

➤ Do AAFLs merit classification under CETH 9301 9000?

(i) As per the Appeal memorandum, L&T has not made out a case for classification of AAFLs under CETH 9301 9000, while TATA backed by BEL, have urged the view in the Appeal memo that AAFLs are classifiable under CETH 9301 9000.

(ii). It has been argued that heading 9301 includes all military weapons and includes separately presented weapons and firearms designed to form part of the armament of vessels, armoured trains, aircraft, tanks or armoured cars. Citing 'Law Lexicon' it has been stated that the expression 'military weapon' would cover any military instrument used by army or any instrument used for wars can be referred to as 'military instrument'. All discharge apparatus appear to be covered by the entry and hence, the AAFL is squarely classifiable under CETH 9301 9000.

(iii) Even going by the definitions of the expressions, 'military' and 'weapon' as in the Law Lexicon, the AAFL, in the form in which it was cleared from the factory of TATA cannot be regarded as a 'military weapon' since functionality as a weapon is a necessary condition to regard any military instrument or equipment as a 'military weapon'. Going by this yardstick, only the AMS can be regarded as 'military weapon'.

(iv) The AMS comes into being only when all the sub-systems forming part of AMS are in place and all the required software are incorporated/embedded in the various equipment /components and the key AMS software is loaded and integrated to function as a weapon system. AAFL is undisputedly a component or a sub-system of AMS but that by itself does not make it a weapon.

6.7. It is further submitted that AAFL *per se* is not covered by the Heading 9301 for the following reasons:

- A missile launcher, like the AAFL cannot be equated with a rocket launcher as a rocket launcher is by itself a weapon or a weapon system.
- Similarly, flame throwers, grenade launchers, torpedo tubes are weapons by themselves.
- Aforesaid items specified in CETH 9301 2000 work on the principle of projectiles. A projectile is any object thrown into space upon which the primary acting force is gravity. In the case of a flame thrower, grenade launcher, torpedo tube, once the object is forced or projected into space, the same would fall as soon as the gravitational force is more than the acceleration of the projectile.
- Besides, in the case of a projectile, the object is pushed with a force or thrust usually operated by release of heavy spring mechanism or gas pressure.
- On the other hand, in the case of a guided missile like Akash, as soon as the power supply energises the fuse, the Akash missile moves forward from the launch beam in the AAFL propelled by the solid fuel present in it.
- The Akash missile has a self-propelling, on-board guidance unit. Even after launching or during the mid-course, the missile propels or accelerates based on the guidance given by Radar / FCC.

- The Akash missile, does not work on the principle of projectiles. Consequently, the Akash launcher is not a projector. The expression 'Similar projectors' occurring in the HS-EN does not cover Akash Launchers inasmuch as it does not project or throw missiles into space.
- In the present case, the weapon or weapon system is the AMS. Therefore, only the complete AMS can be classified under heading 9301 9100. AAFL being a component of AMS would be outside the purview of the said CETH.

➤ Do AAFLs merit classification under CETH 9305 9100?

(i). In this context, it has been argued by TATA that AAFL is independently functional and has passed the functionality test conducted by the MSQAA, BEL and the DRDO and hence, AAFL is functional as an independent launcher, meriting classification under CETH 9301 9100.

(ii). As per the Appeal memorandum, L&T have averred that once AAFL is integrated with FCC and the Akash missile the resultant product would be a military weapon, classifiable under Heading 9301. It has also been stated that, "At the time of clearance of goods from their factory, AAFLs are complete in all respects and have the essential characteristics of a weapon system i.e. missile launcher." Accordingly, it has been observed that the AAFL would qualify to be called as an independent launcher classifiable under CETH 9301 2000.

(iii). As per the stands taken by TATA and L&T, the AAFL is independent and functional as a launcher. Evidently, both regard AAFL only as a launcher and not as a military weapon. In fact, L&T recognises the need for integration with FCC and other sub-systems before a weapon or weapon system comes into being. Significantly enough, the objective of having a Surface-to-Air Missile with capabilities of identifying, tracking, and targeting the unfriendly object with the extensive use of Radars and provision of commands suited to changing positions of the target, cannot be achieved with an AAFL alone. AMS has to function as a single integrated unit to be regarded as a weapons system. AAFL alone cannot meet the aforesaid objective.

(iv). Further, BEL have issued invoices addressed to AOC / Station Commander/CO, No.42, Wing Mohanbari, Air Force Station, Jorhat, India (Consignee), Controller of Defence Accounts, No.107, Victoria Road, Agaram Post, Bangalore – 560 017 (Bill To) for clearance of Akash Air-Force launcher (AAFL).

(v). In the invoices, BEL while clearing the Akash Air Force launcher have categorically mentioned as “purchase parts”. This clearly indicates that BEL the lead integrator of Akash Weapon System has cleared AAFL declaring that AAFL is a ‘purchased parts’.

(vi). It may also be seen from the ‘General Exemption Certificates issued by BEL and BDL for availing of Customs duty exemption for components of AAFL and AAL (Army version of

AAFL), under Notification NO.39/96 dated 23/7/1996, vide Item no,10 (viii), that the components imported thereunder are components of AAFL/AAL, which ultimately get used in the Akash weapon system for supply to Indian Airforce / Army. Thus, BEL and BDL do not regard AAFL/AAL as a guided weapon. It is only the Akash weapon system that is regarded as a military weapon, which falls under Heading 9301.

(vii). Furthermore, it cannot be denied that if a complete missile system is imported in CKD or SKD condition and cleared from a factory as a fully-integrated missile system, the whole would be regarded as a 'military weapon' and classified under 9301 9000. It follows that if AAFL alone is imported or cleared it would be classifiable as a part of 'military weapon' since it would not be covered by the description against the entry 9301 2000 or 9301 9000.

6.8. In sum, therefore, the AAFL should be regarded only as a part of a Military Weapon system incorporating a Surface-to-Air Missile and get classified rightly under CETH 9305 9100.

6.9. On the issue of invoking of extended period of limitation and imposition of penalties, learned Special counsel for the Revenue has reiterated the findings of the learned Commissioner.

7. Heard both sides and perused the records.

8. The issues involved in these appeals for determination are whether:

- (i) AAFL manufactured and cleared by TATA and L&T to BEL attracts classification under Chapter sub-heading 9301 2000 or 9301 9000 as claimed by the L&T and TATA, respectively OR under 9305 9100 as held by the learned Commissioner in the impugned order;
- (ii) value of free-issue material be included in the value of AAFL and chargeable to duty (appeal No.E/21060/2014 filed by TATA); and
- (iii) penalty is imposable on TATA, L&T, BEL and other employees-appellants of TATA.

9. Undisputed facts are that Indian Air Force had placed order for the development and supply of Akash Missile System (AMS) on BEL. The said AMS comprises of 3-D Central Acquisition Radar (3D CAR), Squadron Control Centre (SCC), Flight Control Centre (FCC), Flight Level Radar (FLR) and Akash Air Force Launcher (AAFL). BEL placed purchase orders for supply of missiles on M/s. Bharat Dynamics Ltd. and for AAFL on TATA and L&T; the remaining sub-systems were outsourced from DRDO approved suppliers. BEL received in their factory all the sub-systems except the missiles which were sent by M/s. Bharat Dynamics Ltd. directly to Air Force locations. After receiving all sub-systems, BEL integrated and loaded the AMS software

designed jointly by DRDO and BEL to enable all the sub-systems to function as one integrated unit i.e. AMS. A total of 32 AAFLs were manufactured by TATA and 32 were manufactured by L&T during the disputed period and supplied to BEL. Initially for the period from 01.03.2011 to 30/03/2012, TATA manufactured AAFLs and discharged duty classifying the same under CETH 8543 2090; w.e.f. 31/03/2012, on the advice of BEL, classified the AAFL under CETH 9301 9000 and cleared the same on payment of Central Excise duty @ 6% *ad valorem*. L&T classified the AAFL system under CETH 9305 9000 for the period from December 2013 to August 2014 and paid duty under protest, but from September 2014, they classified it under CETH 9301 2000 and cleared the same on payment of duty @ 6%. There is no difference in rate of duty between CETH 9301 9000 and CETH 9301 2000. The Department on the other hand proposed classification of the said AAFL under CETH 9305 9100 attracting duty @ 10% *ad valorem*.

10. Before discussing and analysing the relevant Tariff entry in the backdrop of the facts of the present case, the competing entries and the relevant HSN notes are reproduced below:-

Tariff Item	Description of goods	Unit	Rate of duty [#]
(1)	(2)	(3)	(4)
9301	Military weapons, other than revolvers, pistols and the arms of heading 9307		
9301 10	- Artillery weapons (for example, guns, howitzers and mortars) :		
9301 10 10	-- Self propelled	u	6%
9301 10 90	-- Other	u	6%
9301 20 00	- Rocket launchers; flame-throwers; grenade launchers; torpedo tubes and similar projectors	u	6%
9301 90 00	- Other	u	6%

9305	Parts and accessories of articles of headings 9301 to 9304		
9305 10 00	- Of revolvers or pistols	kg.	12%
9305 20	- Of shotguns or rifles of heading 9303 :		
9305 20 10	-- Shotgun barrels	kg.	12%
9305 20 90	-- Other	kg.	12%
	- Other :		
9305 91 00	-- Of military weapons of heading 9301	kg.	12%
9305 99 00	-- Other	kg.	12%

11. The HSN notes of Chapter 93.01 and 93.05 read as follows:-

93.01- Military weapons, other than revolvers, pistols and the arms of heading 93.07.

- 9301.10 - Artillery weapons (for example, guns, howitzers and mortars)
- 9301.20- Rocket launchers, flame-throwers, grenade launchers; torpedo tubes and similar projectors
- 9301.90- Other

This heading covers all military weapons **other than** the revolvers and pistols of **heading 93.02** and the arms of **heading 93.07**. The heading includes separately presented weapons and firearms designed to form part of the armament of vessels, armoured trains, aircraft, tanks or armoured cars

The heading includes:

- (1). **Artillery weapons and infantry support weapons**, i.e, all types of cannon and ordnance (fixed or on wheels, tracks, etc.), such as field, medium, heavy and super-heavy artillery, long-range guns, anti-aircraft guns, anti-tank guns, howitzers and mortars.

Long-range guns mounted on railway wagons also fall in this heading (and not in Chapter 86) Mobile and self-propelled guns, which should be distinguished from tanks and other armoured fighting vehicles of **heading 87.10**, are also classified here.

- (2) **Arms** capable of continuous and very rapid fire; some are suitable for handling by one man.

This group includes machine-guns, sub-machine-guns (machine-pistols) and other continuous-fire weapons.

- (3) **Military firearms such as rifles and carbines.**
- (4) **Other specialised military projectors**, for example, military rocket projectors and launchers, **other than** those of **heading 93.03**; apparatus for the discharge of depth-charges; torpedo tubes; flame-throwers (apparatus for projecting an ignited volatile liquid at an enemy) **other than** flame guns specialised for destroying weeds

(heading 84.24).

12. To examine the appropriate classification of AAFL, which has not been disputed as sub-system of AMS, it is necessary to undertake a brief study and understand what is an AMS, of which AAFL is a sub-system.

12.1. In the booklet 'Integrated Guided Missile Development Programme' issued by DRDO submitted by the Revenue, at page 141, an overview of AMS was narrated, which reads as follows:-

Overview of Akash Weapon System

The Akash is a medium range, surface-to-air missile system which provides area air defence against multifarious air threats to mobile, semi-mobile and static vulnerable forces and areas. The Akash air defence group sanitises a large volume of air space over the combat zone. The Akash weapon system has a multi-directional, multi-target capability. It can simultaneously engage several air targets in a fully autonomous mode of operation.

The Akash is modular based on plug-and-fight architecture, which can address the immediate and future requirements of both the Army and the Air Force. The system is indigenously developed and produced. The system is fully customized to requirements of the Indian Armed Forces and is capable of operating on Indian terrains and environmental conditions. State-of-the-art technologies in propulsion, guidance and control, radars, warheads and C4I provide Akash unique all weather, 24x7 operations, with high kill capabilities that modern forces require. Any weapon system, especially a surface-to-air missile system, faces intense jamming by ground and airborne platforms covering all radar and communication frequency bands to render them ineffective.

The hardware and software integration of various weapon system elements permits autonomous management of air defence functions such as programmable surveillance, target detection, target acquisition, tracking, identification, threat evaluation,

prioritisation, assignment and engagement Command and control nodes, communication links, self-propelled launchers and sensors are integrated to achieve these functionalities. The system is designed to enable integration with other air defence command and control networks through secure communication links. It is also provided with advanced ECCM features at various levels. It has cross-country mobility and has air, road and rail deployability.

12.2. The various sub-systems of the AMS listed at page 144 of the same booklet are as follows:-

- i. Group Control Centre (GCC) – a CI centre*
- ii. Central Acquisition Radar (CAR) – a three-dimensional sensor*
- iii. Battery Control Centre (BCC) – a CI centre*
- iv. Battery Level Radar (BLR) – a phased array tracking-cum guidance 3-D sensor.*
- v. Battery Surveillance Radar (BSR) – a two-deminsional sensor*
- vi. Launchers – four in each battery*
- vii. Akash missile – 30 km range three missiles on each launcher*
- viii. Support vehicles – power supply, missile transport and engineering support.*

12.3. Akash Air Defence system described at page 359 of Vol. 47 of Defence Science Journal reads as follow:-

AKASH AIR DEFENCE SYSTEM

Akash weapon system is an air defence system intended for the defence of high value vulnerable points of areas against low level, high speed and high density air, raids. Akash weapon system consists of one group control centre (GCC) and several fire control Batteries. Each fire control battery consists of a battery level radar (BLR), battery control centre (BCC) and four Akash self-propelled launchers (ASPLs). Each launcher carries three Akash medium range surface-to-air missiles (SAM).

Modes of Operation of Akash Weapon System

There are two modes of operation of the Akash system: group mode and autonomous mode. In group mode, all fire control batteries are connected to a GCC through real-time, communication channels, and GCC controls the functioning of each fire control battery. In the autonomous mode, each fire control centre works in a

stand-alone mode. All the defence functions would then be carried out by the battery itself

SIMULATION/MODELLING PHILOSOPHY

Anukulpana, 2.0 is a simulation package designed and, developed to evaluate the performance of Akash missile system, against a given aerial threat. The basic model of the system is based on Anukulpana-0 developed by the Indian Institute of Science, Bangalore. Discrete simulation approach was adopted to enhance the efficiency in terms of execution time. The original model, written using GASP-IV, was using a continuous simulation approach. This model had several disadvantages in terms of long execution time and non-portability to different hardware platforms. Since Akash air defence has many probabilistic events, Monte Carlo method of simulation is used for the analysis of performance of both threat and defence.

Simulation of Akash fire control' batteries includes simulation of functions and characteristics of BLR, BCC, ASPL, Akash missile and GCC in case of Defence and Aircraft and attack formation and different weapons (such as bombs, air-to-surface missile (ASM), anti-radiation missile (ARM), jammers etc., targeted against vulnerable points (VP), vulnerable areas (VA) and radars) in case of threat.

12.4. The function of each sub-system narrated in the said

Journal reads as below:-

Defence

Functions & Characteristics of BLR

Akash BLR is a multifunction ground-based radar. The main functions are to detect and track multiple tracks for assignment and engagement against ground clutter, weather clutter and electronic counter-measures (ECM). The radar can also guide multiple missiles towards the targets simultaneously for:

- Identifying hostile/friendly targets,*
- Tracking the fired missile, and*
- Transmitting command guidance to missiles.*

Functions & Characteristics of BCC

The BCC, Interfaced with the BLR, performs the following command control function:

- Initialising launchers and missiles*
- Controlling four launchers,*

- *Determining the firing zone for each launcher and time to launch and mode of engagement,*
- *Launching missiles against the target (in single shot and salvo firing mode),*
- *Generating guidance commands and transmitting these to missiles via BLR,*
- *Assessing kill of the target, and*
- *Communicating with GCC*

Characteristics of Akash Launcher

Each Akash launcher carries three Akash missiles. Each launcher is assigned to a particular hostile target for firing of missiles. The control functions include:

- *Slewing launchers to assigned targets,*
- *Carrying out automatic checkout of missiles, and 1*
- *Launching missiles one after the other Start automatically, depending on the firing mode.*

Characteristics of Akash Missile

Akash is a medium range surface-to-air missile. It has three phases in trajectory: unguided boost phase, command guidance, which starts immediately after the boost phase, and terminal guidance.

Functions & Characteristics of GCC

These include:

- *Multiradar data fusion and generation of GCC track data,*
- *Threat evaluation, identification, and prioritisation, and*
- *Assignment of threatening targets to fire control batteries for engagement.*

12.5. What is a Guided Weapons System Design has been explained in booklet published by DRDO, extracted as under:-

The essential requirements of a guided weapon system are as follows:

- *The weapon system should have the means to detect changes in the trajectory of the target.*
- *Based on such detection, the weapon system should have the ability to assess the correction needed to the*

trajectory of the weapon to effect an interception with the target.

- *The weapon system should have means to implement the assessed course corrections to its trajectory of the weapon.*

The corrections to the course of the weapon should be repeated throughout its flight, either continuously or at a periodicity (as in digital control systems) that would be necessary to effect an interception with the target. Highly specialised subsystems are available in modern tactical guided weapon systems to fulfil the above requirements. The characteristics of these subsystems are discussed below.

12.6. The Akash Air Defence System is network centric.

Network Centric

The weapon system consists of a network of radars and control centers which enables it to work in a network centric manner. It also enables robust and reliable operations, as data from multiple sensors are fused into a coherent single integrated air picture for the commander. The system can also integrate legacy and futuristic radars. Computers process information from several radars and also help in automatically classifying the targets as friendly or otherwise. The system also provides for cued acquisition of multiple targets by weapon control radar based on data from surveillance radars.

Advanced Battlefield Management Features

The system has advanced battlefield management software, which carries out relative threat computation and pairing of targets and missiles. It also enables fire control decisions such as direction of missile launch, numb of missiles to be launched and instant of missile launch. The system also helps to assign specific launchers and missiles and monitors the health of the various combat elements and reports them to the war fighter. The control center provides fire request cue to the commander at the earliest instant ensuring high kill probability. The system has inbuilt simulation facility as well as self-testing before clearing the missile for lunch.

The communication between various elements of the weapon system is provided by frequency hopping secure RF links. The system can operate in a totally automated handsfree operation mode from target detection to kill.

12.7. Launcher has been explained as follows:-

The launcher is not usually considered to be a subsystem of the missile system, but nevertheless is an important

part of the entire system. The launcher is essentially a beam, which guides the missile from rest till it has attained sufficient velocity for sustained flight. The launchers for strategic missiles, are quite different from those for tactical missiles. Strategic missiles are almost invariably launched vertically and tip over to the correct azimuth direction after climbing to a very high altitude. Battlefield tactical missiles, which are SSMS, also are invariably launched vertically, though soon after launch, the missile may pitch down to the correct azimuth direction. Stabilising the attitude of the vertical launch missile, especially, if its velocity build up is very slow, as happens in large missiles, presents a problem. Tactical missiles against moving targets, generally have launchers whose elevation angles and azimuth angles are changed depending upon the target direction. Many missile systems, which employ radar tracking of the target, have the launcher as a slave to the tracking radar. Either electrical or hydraulic servo systems control the launcher so that it continuously follows the tracking radar in elevation and azimuth with some necessary corrections to these angles (for example due to the different locations of the radar and the target), being applied. Some naval systems carry a large number of missiles in the magazine and have mechanisms, which bring up and load the missile automatically on the launcher. A launch from a slant launcher, will produce a tip down moment on the missile (in addition to that due to the aerodynamic forces), when its front portion is out of the launcher, while the rear portion is still on it and it can be avoided, where the entire missile floats free of the launcher simultaneously. Vertical launch is free from this problem. It also does away with the necessity for mechanisms to load the missile on the launcher as well as the elevation and azimuth servos for the launcher. Hence, many recent systems have adopted vertical launch, though this can also involve complexities, especially in the missile, which needs to know the direction in which it should execute the pitch down manoeuvre. Many tactical missiles are launched from containers, and these have special problems that need to be solved. Tube-launched missiles fired from the shoulder also have their own unique problems.

12.8. The pictures of AMS and AAFL are as below:



AKASH AIR FORCE LAUNCHER

12.9. The principal equipments/parts of AAFL are:-

- Transportation system assembly.
- Launching systems
- Electrical/electronic sub-systems
- System software-embedded.

13.1. In the impugned order, the learned Commissioner after analysing in detail the technical specifications and functions of

the each sub-system of AMS and also that of the AAFL, observed that AMS is consisting of various sub-systems like SCC, 3D-CAR, FLR, FCC, AAFL etc; thus it is an integrated system of sub-systems and all the systems are highly sophisticated and are designed to perform specialised functions and are controlled and monitored by the control panels loaded with high level software installed in SCC. He has further held that during combat operations, the 3D-CAR tracks the targets at the range upto 200 kms and sends signals to SCC/FCC; the FCC receives information and activates the relevant FLR when the target reaches within 45 kms radius from the location; when the target comes within the 4 kms radius, the FLR gets activated and the FLR sends appropriate signals to the FCC; based on the signals received from FLR, the FCC generates necessary positioning and firing commands for the missiles based on target parameters; the FCC gives signals to the AAFL for positioning the launcher for enabling the launch of missile in the correct position. Depending on the mode i.e. autonomous or group, the FCC identifies and assigns the particular AAFL and gives commands having regard to threat evaluation, target selection and weapon assignment through weapon system software. He has recorded that the entire AMS is an integrated system and from the functioning of each equipment of AMS, it is evident that each equipment of the system has unique functions and functioning of each equipment is dependent on the functioning of the other systems

and all the sub-systems are integrated through high level software loaded in the control panels in SCC. Effective functionality of the AMS i.e. 'finding the target and hitting the target' is possible when integration of each sub-system and communication between all the sub-systems is accurate, precise and perfect. Based on the said facts, he has concluded that the AAFL in the AMS does not function independently, though three numbers of Akash missiles are carried by AAFL, the AAFL on its own cannot find the targets, aim the targets and launch the missile and hit the targets. For finding , aiming and hitting the targets, AAFL has to depend on the commands from FCC and the FCC in turn functions based on the integrated data provided by the radars and SCC. The AAFL cannot launch the missiles and hit the targets on self command. Therefore, AAFL cannot be called as an independent and self contained weapon system but can only be termed as a sub-system of a weapon system i.e. AMS.

13.2. Further, he has observed that in terms of BEL's letter dated. 21.04.2009, the free-issue material viz. ALP/MLP software, RCP software and BCCS software mentioned in the purchase order are not supplied and were not integrated and used by the appellant in the AAFLs manufactured and cleared by them. The ALP software is the software for Missile Launch Processor, RCP software is the software to be embedded in

Ruggedized Control Panel and BCCS software is an integral part of the AAFL's electronic and electrical systems. Thereafter recording the functions which cannot be carried out in absence of these softwares, the learned Commissioner came to the conclusion that the AAFL supplied by the appellants to BEL is not complete as all the parts of the launcher sub-assemblies fail to connect and interact with each other for generating the required output control signals for launching of missiles. Further he has held that the appellants had cleared the sub-assembly to BEL and BEL had integrated the ALP software, RCP software and BCCS software on AAFL. Further, the learned Commissioner has held that the test conducted by appellant at the factory are limited and the proper testing of entire system was carried out at a later stage in BEL's premises after loading the softwares. Also he has held that the appellant cleared AAFL mentioning as "Akash Air Force Launcher Assy", which indicated what they have cleared are 'parts' and incomplete assemblies of launcher. Therefore, he has observed that the AAFL is rightly classifiable under Chapter sub-heading 9305 9100 as part 'of military weapons of heading 9301' since it is an incomplete equipment and can function as launcher only after being embedded with ALP software, RCP software and BCCS software. Since, it is not embedded with requisite softwares in the absence of which, it will be a dumb equipment and cannot function as an

independent launcher. The Ld. Special counsel reiterated the said finding of the Adjudicating authority.

14.1. The learned advocate for TATA, on the other hand has argued that the learned Commissioner has travelled beyond the allegations levelled in the show-cause notice inasmuch as in the show-cause notice it is accepted that the AAFL is a weapon falling under CETA 9301 but since it is incomplete, the classification of the launcher proposed to be under CETA 9305. It is their contention that in the show-cause notice issued to TATA, it has never been alleged that being part of the AMS as a sub-system, its classification should be as parts under Chapter sub-heading 9305 of CETA, 1985.

14.2. Further, the learned advocate, rebutting the findings of the learned Commissioner that after the amendment to the purchase order, the softwares viz. ALP, RCP and BCCS being not supplied free to the Appellant but were loaded/embedded to the AAFL at the premises of BEL, referred to the list of deliverables enclosed with the appeal paper-book which included all the softwares supplied with AAFL. Further referring to the User Handbook for AAFL prepared and published by the appellant under the authority of Ministry of Defence, he has submitted that AAFL is described as an electromechanical system comprising of various mechanical structures, electronic sub-systems and embedded softwares. Therefore, it is incorrect on the part of the

adjudicating authority to say that the softwares were not loaded at the premises of TATA and the AAFLs were incomplete.

14.3. It is submitted that AAFL is an independent equipment which has the capabilities to function as a launcher and possesses features to combine with other systems so as to function as part of AMS. Claiming classification of AAFL under CETH 9301 9000, it is submitted that 9301 1000 covers Artillery weapons which operate by projection of munitions beyond the range of personal weapons. Artillery weapons comprise specialized devices viz. shell-firing guns, howitzers, mortars, rockets etc. CETH 9301 2000 covers rocket launchers, flame-throwers, grenade launchers, torpedo tubes and similar projectors; CETH 9301 9000 covers other goods i.e. military weapons other than artillery weapons and rocket launchers. The HSN Explanatory Notes to Chapter 93 covers military rocket projectors and launchers, therefore, the product ought to be classified under the said category as it is a 'specialised military projectors' and does not fall under heading 9303.

15. The learned Senior Advocate for L&T on the other hand though submitted that the AAFL be covered under the broad heading of 9301 which includes all military weapons but argued that the Tariff sub-heading 9301 2000 covers rocket launchers, flame-throwers, grenade launchers, torpedo tubes and similar projectors and a combined reading of HSN explanatory notes

and Tariff sub-heading 9301 2000, makes it clear that it is covered under projectors as AAFL being a missile launcher; it is the activity of throwing a missile in the required direction and fits into the class of equipment covered under military rocket projectors and launchers.

16. The Special counsel for the Revenue however objected to the said classification argued on behalf of the TATA and L&T. He has submitted that AAFL is only a launcher and cannot be considered as a military weapon independently; the objective of having a surface-to-air missile with capabilities of identifying, tracking and targeting the unfriendly object with the extensive use of radars and provision of commands suited to changing positions of the target, cannot be achieved with an AAFL alone without integrating with other sub-systems; therefore it should be considered as part of the Military weapon of 9301 i.e. AMS and correctly classifiable under Chapter sub-heading 9305 9100.

17. We find that the show-cause notice dated 26.03.2013 issued to TATA after quoting Chapter sub-heading 9301, at para 12.2 it is alleged that a missile launcher can be classified under Chapter sub-heading 9301 9000 of CETA, 1985; however, the AAFL manufactured in the factory of TATA is not complete, independent and functional launcher; it is functional only after integrating with other sub-systems of AMS at the factory of BEL. Further it is alleged that the AMS software is loaded to the AMS

at the factory of BEL enabling the different sub-systems, including the AAFL, to get into operational mode. Further, it is alleged that the process of launching the missile happens only with continuous signal communication with the FCC of the AMS. Thus, AAFL system manufactured and supplied by TATA cannot be classified as Missile Launcher under 9301 9000 of CETA, 1985 but rightly classifiable as a 'part' under 9305 9100.

18. Revenue's attempt to classify the AAFL as a part of military weapon of heading 9301 rests mainly on a two-fold argument: (a) the AAFL cleared by TATA is incomplete since necessary softwares were not loaded at the time of its clearance from its factory to BEL; and (b) it cannot function on its own unless integrated with other sub-systems of AMS. Therefore, it should be considered as a part of AMS classifiable under Chapter sub-heading 9305 9100.

19. The learned advocate for the appellant rebutting the finding that AAFL is incomplete at the time it was cleared from the premises of TATA, referred to purchase orders placed by BEL, the condition therein for mandatory inspection, technical literatures laying down the testing parameters & specifications of the AAFL, inspection certificates issued, affidavit of the engineers etc., to establish that the AAFL when left the factory of TATA was complete in all respects so as to discharge its role as a launcher in the AMS. On behalf of TATA and L&T it is argued that

the AAFL when cleared from the premises of TATA are complete in all respects and the necessary softwares have been loaded to the AAFL which are embedded to it; hence cannot be called as incomplete sub-systems. In support, they have referred to various documentary evidences like inspection certificates, procedures for testing etc. Therefore, it is relevant to refer to the said documents in understanding the argument vis-à-vis the finding, whether the AAFL as a sub-system, is complete and ready for integration into the AMS, when cleared from the factory of TATA. In the purchase Order, the user manual/hand book mention the details of scope of work, technical specifications, steps for testing, loading of software etc. are reproduced below:

SCOPE OF WORK

*The Lead Vendor shall be responsible for Manufacturing, Integration Testing, and Supply of AAFL. (Akash Air Force Launcher) as per the Technical Specifications enclosed at **Section 3.0***

The task Involves responsibility of:

- 1. Manufacturing, Assembly, Integration and Testing of AAFL*
- 2. The drawings given in this document are engineering design drawings and should be considered as reference drawings only. The Lead Vendor is responsible for preparing detailed engineering drawings / Bill of Material (BOM) and getting the approval from DRDO.*

3. The Lead Vendor shall Manufacture, Integrate, Test and Supply the Launcher System as per Quality Assurance Plan (QAP) and Acceptance Test Plan (ATP) document, approved by nominated QA agency.

- 4. List of Deliverables is given in section 7.0 of this document*
- 5. Out of given lot of productionisation, at least one fully integrated launcher of the production should undergo following tests-*

- a. EMI/EMC*
- b. Track Trials*

- 6. One of each type of Electronic Modules used on launcher per supply order will be subjected to Limited Qualification*

Tests. These modules will be used for Assembly. The Limited Qualification tests will be carried out on Electronic Modules of any of the first four launchers. The list of modules to be tested is given in TSQD document.

7. Environmental Acceptance Level Test as per the specifications given in TSQD document will be conducted on all Electrical / Electronic Modules of all the Launchers. The list of modules to be tested is given in TSQD document

8. Any design changes/modifications/deviations are to be carried out only after obtaining clearance from **Standing Design Review Committee (SDRC)**.

9. Following **Free Issue Material (FIM)** will be provided by Nodal production agency (BEL) to Lead Vendor.

a. ALNS with accessories: - 01 Set per Launcher.

b. CNR with accessories:-01 Set per Launcher.

c. Telephone set with accessories:-01 Set per Launcher.

d. Software for MLP, RCP & FCC Simulator: - 01 Set per Launcher.

10. Stowage arrangements for carried spares, accessories and tools and tarpaulin covers are to be provided on Trailer Platform.

11. All the Manufacturing Drawings, Flow Charts, Process Sheets, Software and Related Documents to be given to the design agency for vetting.

12. After the successful delivery of first lot, the lead Vendor should hand over one set of all the launcher related Drawings and Documents to the AHSP in sealed form.

ROLE & FUNCTIONAL REQUIREMENTS OF AAFL

The Technical Specifications along with Operational and Functional Requirements of the AAFL are given in the following paragraphs.

2.1 Role

The Role of AAFL is to carry, support, orient and launch three AKASH articles from an inclined firing position. AAFL should be capable of executing tracking commands in slave mode (auto mode). The AAFL should also be capable of orientation of the articles in elevation and azimuth plane simultaneously to commanded positions accurately within specified time duration.

2.2 Operational and Functional Requirements

The AAFL,

1. Shall be mounted on a Trailer chassis hauled by a Prime Mover (TATA LPS 3516 TC EX E11 with ABS WB-3200 4x2 or TATA LPS 4018 TC EX BS II).

2. Shall enable Carrying, Supporting, Orientation, Tracking and Launching of three AKASH articles from a stationary launch position.

3. *Shall enable the launching of article in single as well as salvo modes with a time interval of 3-5 seconds between successive launchings of the articles.*
4. *Shall enable the articles to be properly guided in the guide rails during launching and take off from the launcher.*
5. *Shall enable the articles to be supported at its two lugs (support points) locations on the launcher*
6. *Should enable orientation of the Articles through 08° to 75° in Elevation plane and +/- 180° in Azimuth plane simultaneously.*
7. *Should provide freedom of movement of +/- 360° enabling continuous rotation of articles in Azimuth and 0° to 75° in Elevation.*
8. *Shall configure and house the launcher platform on shelter which in turn shall be mounted on the trailer using standard ISO corner blocks with twist locks.*
9. *Shall employ State of the Art All Electric Servo Drive Technology for performing the various Launcher slew/levelling operations.*
10. *Should be capable of receiving the commands in a suitable digital form from a remotely located Flight Control Centre (FCC) in a Slave (Auto) Mode to perform various launcher operations, such as slewing and for tracking based on the above commands from the Flight Control Centre (FCC).*
11. *Should provide a two-way communications link between Flight Control Centre (FCC) and the AAFL. The Main communication link shall be a RF Link with a redundant Line Link. The information on the status of Article on launcher and the launcher servo positions etc. is to be communicated to FCC and signals and commands from FCC to be communicated to launcher.*
12. *Shall provide for an automatic health check of launcher equipment and articles through features such as Built in Test Equipment (BITE), Self Diagnostics, Self Test etc.*
13. *Should hold the articles firmly during transportation, article orientation and launchings.*
14. *Should hold the Azimuth and Elevation axis stationary in a firm manner during launching of Articles.*

15. Should provide facility for Automatic/Semi-automatic/Manual levelling of launcher platform using a set of four Electro-Mechanical Outriggers as per specifications.
16. Should provide the following Mechanisms on the launcher
 - i. Front shoe and Rear Shoe Locking Mechanism.
 - ii. Umbilical Retraction Mechanism
 - iii. Azimuth Stow Lock Mechanism
 - iv. Transport Lock Mechanism
 - v. Manual Hand Cranking Mechanism
 - vi. Power Assisted Hand Cranking Mechanism
 - vii. Transportation Support Mechanism
 - viii. Torsion Bar Mechanism
17. Should provide the following on board equipment on the launcher.
 - i. Dedicated onboard Diesel Generator Set (DG Set)
 - ii. Interface for External Stand-by Power Supply
 - iii. Integrated Radio Line Communication units (IRLM)
 - iv. Missile Launch Processor (MLP)
 - v. Ruggedized Relay unit (RRU)
 - vi. Ruggedised Control Panel (RCP)
 - vii. Advanced Land Navigation System (ALNS)
 - viii. Fire Fighting units
 - ix. CNR Radio
18. Should enable the launcher to transport up to a distance of 500 kilometer without refuelling.
19. Should be provided with a Tarpaulin Covers to protect the Launcher, launch beams and missiles from direct exposure to sun, rain, and dust in parked / transport condition.
20. Should provide means for manually fixing the Umbilical Connectors of the Article.
21. Shall enable Silent Mode of Launcher for duration of minimum half-an hour using a Battery Back Up.
22. Shall enable the launcher operations to be automatically switched over to Battery Bank In an uninterrupted manner in case of failure of the Onboard DG power supply or External AC 415 V, 50 Hz, 3ø supply.
23. Shall enable the Launcher to operate only on either Onboard DG power supply or External AC 415 V, 50 Hz, 3ø supply. (without Battery Bank)
24. Shall enable the launcher to be ready for Slewing and Launching of articles within 15 minutes after the deployment and positioning of the Launcher vehicle and Article Transport cum Loader Vehicle (TLV).

25. Shall have provision of programming the debarring zone and after selection, the missile firing through this selected debar zone is strictly prohibited.

26. Should have a provision of selecting a switch mounted on Launcher in maintenance mode for indicating the man on launcher. Once the switch is selected, the azimuth / elevation movements are disabled.

27. MLP/MC booting time preferred to be less than 30 seconds

28. Shall be capable of continuous operation of 24 hours with break of half an hour after 8 hours of continuous operation with a specified servo duty.

29. Should have provision for display of number of launcher start as well as indicating launcher on time (totalizer).

At para 4.2 under the heading Electrical / Electronic Over View, the required software have been mentioned, which are:

ELECTRICAL/ELECTRONICS OVERVIEW

The Akash Air Force Launcher is fully Configured with Electrical/Electronic Subsystems, used for Man Machine Interface (MMI), Displaying, Controlling and Driving Electromagnetic/Optical components such as Servo Motors. Electromagnetic Clutches, Electromagnetic Brakes, Linear Actuators, Displays and Indicators.

The overall configuration of the launcher electronic/electrical subsystems is shown in the Electronics/Electrical System Block Schematic of AAFL (Fig. E1 Section 8.4)

Main Controller (MC):-

The Main Controller (MC) is the master controller in the servo system and is based on the VME Bus architecture. The control Servo Logic, Communication Protocols, Digital I/O Devices, Analog I/O Devices, Syncro Interfaces and Sequencing/Protective Logics are Developed around the main Controller Hardware with the help of Embedded Software Developed under Real Time VxWorks Operating System Environment using C and C++ as programming language.

Main Controller along with the Embedded Software performs the following main functions:

- Processes commands received from MMI and Missile Launch Processor (MLP) received on RS-422 Serial Link.*
- Implement the 2-axis position Servo loop controller for the azimuth and elevation servo drives.*

- *Sends the data of Launcher/Missile Status to MMI and MLP.*
- *Data acquisition from various Launcher Subsystems, Data processing and taking necessary control actions against it in Real time domain.*
- *Providing/Driving required output control signals to the required Launcher Subsystems as commanded.*

Operator Console (OC):-

Operator Console (OC) is the primary user interface between the operator and the launcher system. It is GUI based and is linked to the Main Controller (MC) by means of a RS422 serial link. It contains a LCD display, keyboard including various function keys through which the operator can control various launcher operations. There are two such OC in the AAFL launcher system. One OC referred to as main OC and is meant for the active control of launcher. The other OC is for stand-by purpose in case failure of main console the standby will be used. Both these units are mounted in the operating area of the shelter.

The MMI software receives the level data from MC and processes it for levelling operation of the launcher platform. The software is developed under the VxWorks real time operating system environment using C/C++ as programming languages. The main functionalities of the MMI software includes receiving and displaying the dynamic status of the launcher such as launcher beam position and Jacks status on the MMI screen and performing levelling operation, positioning the beam, displaying status of various interlocks, Performing BITE and self-test, Switching the Launcher to AUTO mode of operation.

Missile Launch Processor (MLP):-

Missile Launch Processor (MLP) is the master controller of the missile subsystems. It is based on VME Bus architecture. It accepts commands from Flight Control Centre (FCC) and sends the status of launcher and missiles to FCC via IRLM and RCP. Also receives the launcher vehicle bearing (vehicle axes w.r.t. True-north) from Advanced land Navigation System (ALNS). The MLP in turn sends the launch beam position commands to the MC while fire commands to launch the missiles are sent to the missiles (via RRU). The MLP communicates with the On-Board Processors OBP1, OBP2 and OBP3 corresponding to missiles M1, M2 and M3 respectively for status and command signals and implements pre-launch checks, mission parameters loading, surveillance of critical parameters, auto-launch sequence to fire missiles, etc.

Further in the User Handbook, AAFL has been described as follows:-

The Akash Air Force Launcher (AAFL), hereafter referred to as Launcher, is an electro mechanical system comprising mechanical structures, mechanisms, electronic/electrical subsystems and the embedded software. It operates as a part of a Akash Firing Unit Comprising Flight Control Centre (FCC), Flight Level Radar (FLR), four Akash Air Force Launchers (AAFL), and other support vehicles such as Transporter-cum-Loader Vehicle (TLV) and Flight Equipment Maintenance vehicle (FEM). The Launcher is rugged and withstands cross-country travel and the operating environmental conditions.

In the said compilation also, equipment level acceptance test procedure, part of the purchase order has been enclosed indicating the procedures laid down for testing of the AAFL in the premises of the TATA

TATA POWER

STRATEGIC ELECTRONICS DIVISION

Code No. : 103020000129ATP / ISSUE-01

Title : Akash Air Force Launcher (AAFL)

Equipment Level Acceptance Test Procedure

(EL-ATP)

SECTION 1

FACTORY ACCEPTANCE TEST PROCEDURES

1.1 Introduction :

- Factory Acceptance Test (EL-ATP) shall be carried out on fully assembled & integrated AAFL System in Tata Power SED , Bangalore
- The results & observations for the conducted test/ check have to be entered in the observation column. Any Prints of CRO screens and Computer log printouts are to be attached as ANNEXURES to the Test Report Document.
- EL- ATP will be carried out by the EL- ATP Committee.
- The EL- ATP Committee will assemble at Tata Power SED, Bangalore premises and EL- ATP will be conducted as per this document.
- The Inspection Certificate will be issued by MSQAA.
- The terms and conditions for any deviation or non conformity will be as per MQAP AMS / recommendation given in PDI meeting.

1.2 Instruments / Equipments Required :

- The instruments / equipments required to carry out EL-ATP are mentioned in the Table 1:1.

Table 1:1

Instruments / Equipments Required

Sr. No.	Instrument / Equipment Description	Quantity	Serial No. (If applicable)
1.	Mains Supply 3 ϕ , 415V, 50 Hz $\pm$ 5%	1	
2.	Digital Multimeter	1	
3.	Theodolite measuring system	1	
4.	Measuring Tape	1	
5.	Vernier Caliper	1	
6.	Noise Level Indicator	1	
7.	Dummy Missiles	3	
8.	Laptop based FCC Simulator.	1	

Page 59 of 75

365

TATA POWER

STRATEGIC ELECTRONICS DIVISION

Code No. : 103020000129ATP / ISSUE-01

Equipment Level Acceptance Test Procedure

Title : Akash Air Force Launcher (AAFL)

(EL-ATP)

Sr. No.	Instrument / Equipment Description	Quantity	Serial No (If applicable)
9.	Dial Gauges	4	—
10.	Lap top with Power Amplifier Monitoring GUI and communication cable	1	—
11.	Guide Rail Jig	1	—
12.	Laser Torch	1	—
13.	USB Key Board	1	—
14.	Precision Clinometers	1	—
15.	Slip Gauge Set	1	—
16.	Mains Operated Overhead Crane / Mobile Crane	1	—
17.	Digital Thermometer	1	FLUKE Z-500 1548
18.	Additional instruments / Jigs/ Fixtures used during ATP	A/R	—
19.	Load Cell (1000 kg)	1	002
20.	* Electronic Missile with Trolley / stand	1	SL1003
21.	Squibs for Firing Checks	A/R	firing box
22.	Spring Balance (0 to 50 Kg)	1	BE 3386

Note : * Sr. No 20 to be provided by BEL prior to EL-ATP else this related tests will be conducted during SL-ATP at BEL. This will not be a mandatory test during EL-ATP level.

	Tata Power SED	BEL	MSQAA
Sign.			
Date	28/12	RUPRESH (BEL)	

TATA POWER
STRATEGIC ELECTRONICS DIVISION
Code No. : 103020000129ATP / ISSUE-01
Title : Akash Air Force Launcher (AAFL)

TATA
Equipment Level Acceptance Test Procedure
(EL-ATP)

1.3 Test-set up for conducting ELATP :

- Test set up details are shown in Figure 1:1.

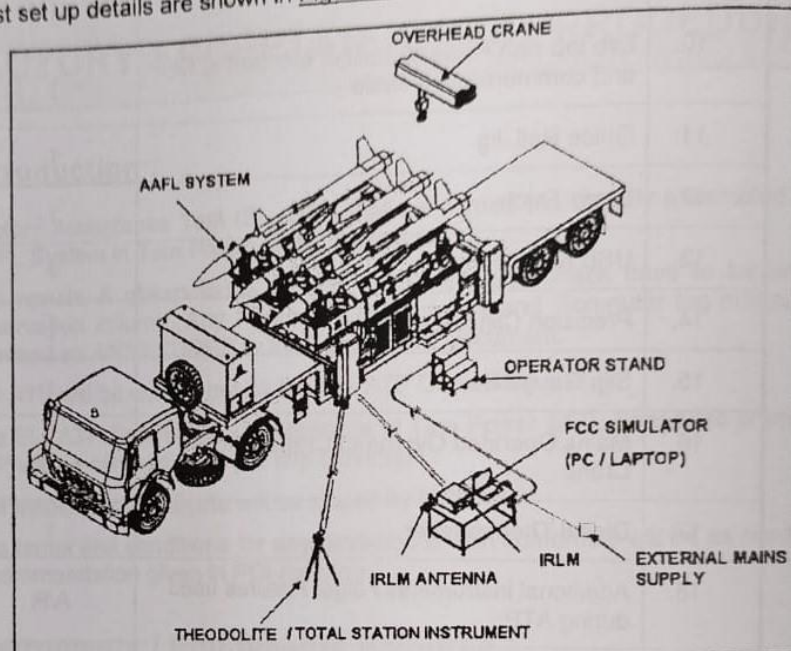


Figure 1:1
Test Set Up Details

The following tests/check/verifications will be done as per the procedures.

SECTION 1 FACTORY ACCEPTANCE TEST PROCEDURES

- 1.4 Verification and Auditing
- 1.5 Physical Dimensional Checks
- 1.6 Weighment Checks
- 1.7 Visual Inspections and other checks
- 1.8 Front Shoe checks
- 1.9 Rear Shoe checks
- 1.10 Guide Rail Parallelism Checks
- 1.11 Umbilical Retraction Mechanism Checks
- 1.12 Transportation Support Checks
- 1.13 Missile Loading and Unloading Checks
- 1.14 Missile Interchange ability checks
- 1.15 Disengaging and engaging the container with Trailer / Trailer moving out/ in
- 1.16 Engaging operation of the of Trailer
- 1.17 Creep Test

367



TATA POWER
STRATEGIC ELECTRONICS DIVISION

Code No : 103020000129ATP / ISSUE-01 Equipment Level Acceptance Test Procedure
Title : Akash Air Force Launcher (AAFL) (EL-ATP)

- 1.18 Manual operation of Electromechanical Outtrigger Jacks
- 1.19 Laying of Launcher in Non Servo Operation through Hand Cranking Mode
- 1.20 Accuracy Tests
- 1.21 Verification of Cable Assemblies

SECTION 2 ELECTRO-MECHANICAL FUNCTIONAL TESTS

- 2.1 Launcher Initialization Panel
- 2.2 Modified Operator Console
- 2.3 Velocity Control & PAHM Pendant (VCP) 2.4 Ruggedized Control Panel (RCP)
- 2.5 Diagnostics Sequence
- 2.6 Software Version and checksum verifications
- 2.7 Operational (Functional) Tests
 - 2.7.1 DG Starting and Stopping
 - 2.7.2 Powering the Launcher
 - 2.7.3 Levelling and Stabilization
 - 2.7.4 Laying of Launcher in Local Mode-Servo Operation
 - 2.7.5 Laying of Launcher in Velocity Control Mode
 - 2.7.6 Laying of Launcher in Non Servo Operation through PAH Mode
 - 2.7.7 Sequencing Interlocks & Protective Trip Checks
- 2.8 Cross Coupling Checks
- 2.9 Battery Health Test
- 2.10 Standby Battery and Functional Endurance Test
 - 2.10.1 Laying of Launcher in Auto Mode (Using FCC Simulator)
- 2.11 Performance Tests
- 2.12 Integrated test with RCP,RRU,MLP,MSU,MPS,MC,MOC,MSLA,PYROBOX&FCC simulator
- 2.13 Electronic Missile Checks
- 2.14 Battery Less Operation
- 2.15 Endurance Test

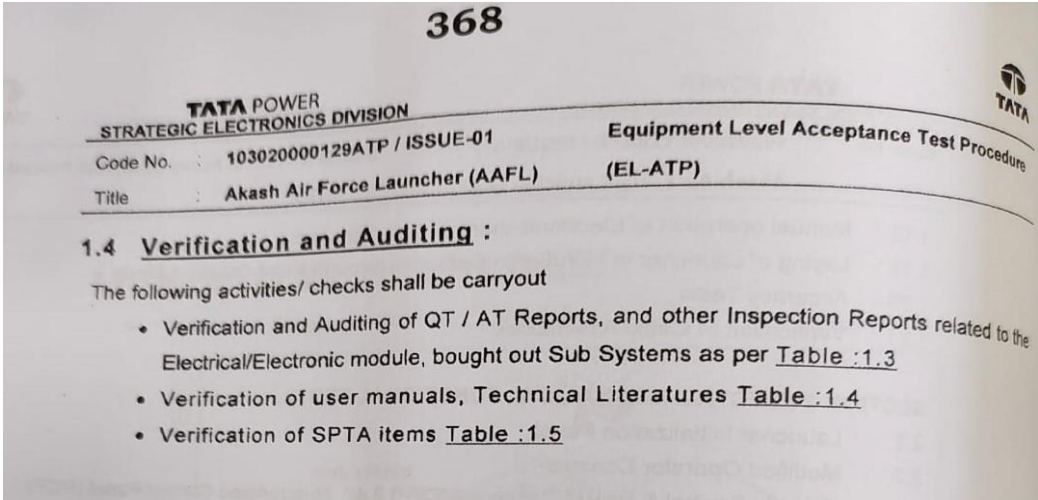
SECTION 3 EMI / EMC TESTS FOR QUALIFICATION LEVEL

SECTION 4 ROADABILITY TEST FOR QUALIFICATION LEVEL

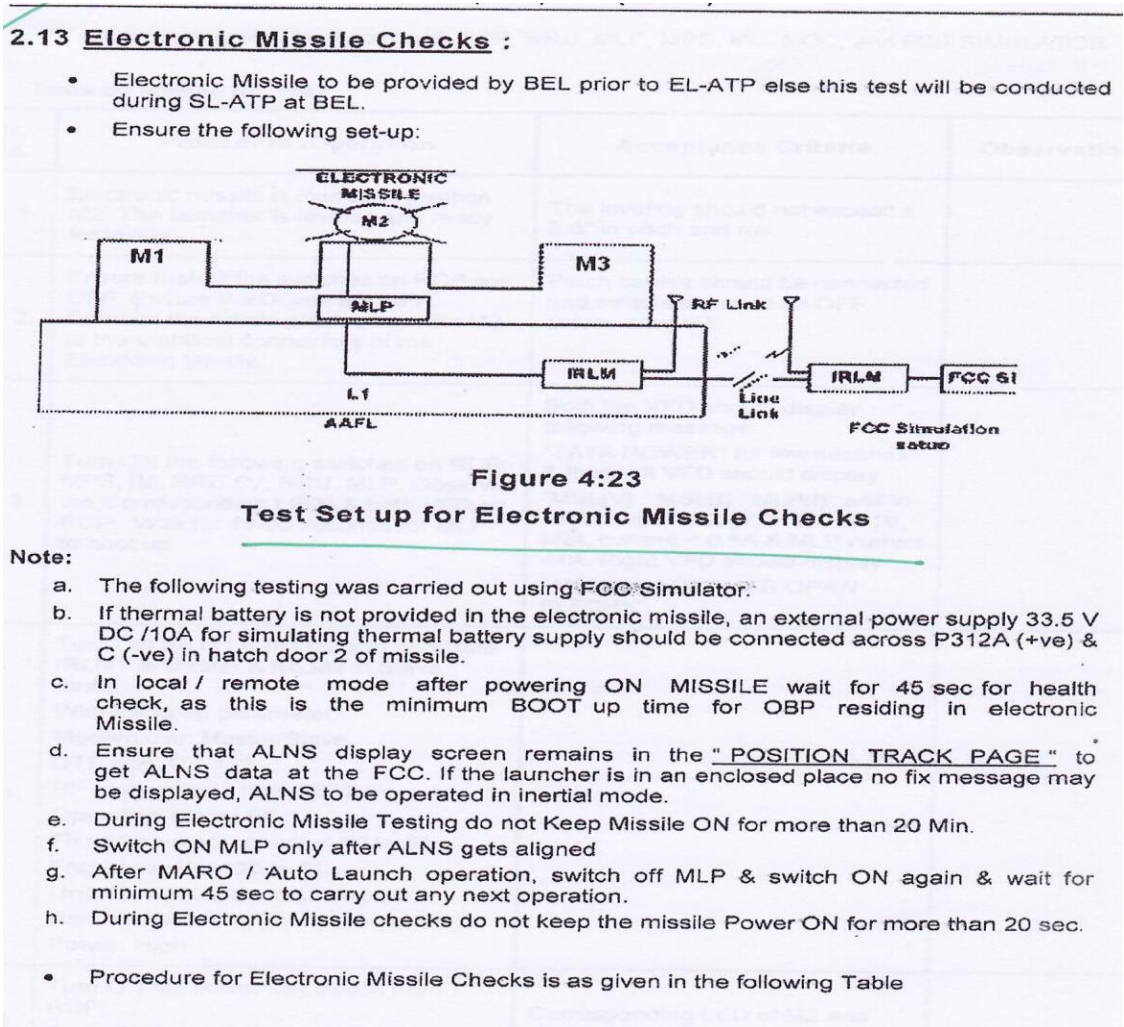
SECTION 5 ROADABILITY TEST FOR ACCEPTANCE LEVEL

SECTION 6 DRIVING RAIN TEST FOR QUALIFICATION LEVEL

SECTION 7 DRIVING RAIN TEST FOR ACCEPTANCE LEVEL



Electronic Missile Checks requirement at the premises of TATA are:



20. Further, the purchase order dated 18.03.2009 mentions order for supply of 16 Akash Air Force Launchers (AAFLs) under the heading Acceptance, it is mentioned as follows: -

“11. ACCEPTANCE

QAP DOCUMENT DULY APPROVED BY MSQAA SHOULD BE MADE AVAILABLE TO BEL WITHIN 2 MONTHS FROM DATE OF RELEASE OF P.O. PRODUCTS WILL BE ACCEPTED AS PER QAP. TATA POWER SED SHALL OFFER THE PRODUCTS TO MSQAA OR MSQAA DESSIGNATED INSPECTION AGENCY AT M/S. TATA POWER SED PREMISES AND OBTAIN CLEARANCE BEFORE DESPATCH.”

21. We find in response to a questionnaire issued by the Department during investigation on 12.02.2013, responding to a question, “Whether the AAFL systems tested in the factory of M/s. Tata Power Company Limited without the aforesaid Akash Missile System Software? How?. The answer given by TATA was:

“Yes, The AAFL systems were tested in the factory of M/s. Tata Power Company Limited without the Akash Missile System Software. As the function of Akash Missile System Software is to make the different sub-systems in the entire missile system like AAFLs, FLR (Flight Level Radar), 3D CAR (3D Central Acquisition Radar), SCC (Squadron Control Centre) to interact with FCC (Flight Control Centre) through various signals. The AAFL has to get the signal for all the operations including firing from FCC. Therefore, for the functioning of AAFLs installation of the aforesaid Akash Missile System Software is essential. As this Akash Missile System Software is not available in the AAFL system at the factory of M/s. Tata Power, we are conducting the tests/inspection of the AAFL system in the factory of M/s. Tata Power by simulating various commands by using FCC simulator.”

22. The inspection certificates issued by the MSQAA after using FCC simulator software supplied by BEL, testing has been done on the AAFL in the factory premises of the TATA. The affidavits filed by the employees of TATA also reveals that the Launcher has been tested in the premises of TATA before its clearance to BEL. Further, it is seen from the records that in response to factual finding of the learned Commissioner that the MLP software was loaded only at the premises of the BEL, the Appellant TATA has enclosed a communication dated 08.08.2011 received from BEL by TATA which states that officers from DRDL would visit the premises of TATA to load the final version MLP software and testing of the same with launcher and FCC.

23. Thus, a cumulative reading of purchase order, technical specification requirements and certificates issued by the MSQAA, and affidavits filed by the engineers of TATA, it is clear that the AAFL is one of the sub-systems of AMS and has been duly tested in the premises of the TATA with the aid of FCC simulator about its completeness and to function as a launcher and it is in fully finished condition and ready to be integrated with other sub-systems at the premises of BEL before being finally dispatched to the Defence sites.

24. Therefore, the allegation as well as the findings of the learned Commissioner that the AAFL is incomplete, when it left the premises of TATA is unacceptable. The learned

Commissioner's finding that the Inspection certificate signed by MSQAA nowhere states that the AAFL is complete, hence not acceptable, is also improper appreciation of the facts, hence devoid of merit. The said certificate jointly signed by representative of Appellant and representative of Defence Ministry clearly indicates that the equipment has been tested as per the specification, which itself indicates that after satisfying all the parameters laid down in the Equipment Level Acceptance Test Procedure (EI-ATP) the certificate has been issued.

25. The second argument of the Department is that AAFL is a part of the AMS because the same is complete only after its integration with other various sub-systems at the Defence site; it cannot locate, track and hit the target independently without receiving commands from SCC and signal from other sub-systems. Therefore, its classification is proposed to be under 9305 9100 being part of the Weapon System (Aakash Missile System).

26. The appellants have argued that along with AAFL, other sub-systems have been cleared by BEL which are classified under the appropriate Chapter sub-heading instead of a part of the AMS under Chapter heading 9305. Also, it is argued that the term 'system' has not been defined like the definition in Chapter 84 of the CETA, 1985. Therefore, the sub-system AAFL, having

independent role as launcher cannot be considered as incomplete.

27. We find merit in the contention of the appellants inasmuch as the Department never made any attempt to classify AMS as a weapon or weapon system under Chapter heading 9301 nor the individual sub-systems, other than AAFL, proposed to be classified as parts of AMS under 9305 9100. As argued by the appellant, we find that word system appearing in Note 5(B) to chapter 84 is explained under the subheading notes of the said for the purpose of classification of goods under the said Chapter Heading 8471.49. The said notes are as below: -

Note 5(B)

“Automatic Data processing machines may be in the form of systems consisting of variable number of separate units”.

Subheading Notes:-

“For the purposes of subheading 8471.49, the term “systems” means automatic data processing machines whose units satisfy the conditions laid down in Note 5(C) to Chapter 84 and which comprise at least a central processing unit, one input unit (for example, a keyboard or a scanner), and one output unit (for examples, a visual display unit or a printer).”

There is no parallel meaning of ‘system’ in Chapter 93 of CETA 1985. Therefore, without any such definition of system and establishing the classification of AMS under Chapter Heading 9301, AAFL being sub-system cannot be classified under Chapter Heading 9305 as parts of Military Weapons falling under Chapter Heading 9301.

28. Further, analysing the literature, technical specification etc. on AMS referred above, it is clear that AMS is a sophisticated, network centric, automated 'Weapon system' different from regular 'Weapons' mentioned under Chapter 93; it comprises of various sub-systems which individually plays a role in the making of the missile system complete to meet its objectives of locating, tracking and destroying enemy weapons; each of the sub-systems are complete in its own way and part of the whole Akash Missile System. The AAFL also being a launcher plays its own role in the entire process of finding the target, tracking and destroying it by working in tandem with other sub-systems. Therefore, to call it not a weapon, and only part of the weapon system (AMS), in our view, cannot be sustained. Further, the reasoning that the AAFL comes into existence only after integration at the Defence site is also an incorrect interpretation of the documents and the test certificates furnished by the appellant. It comes into existence at the premises of TATA and becomes operational at the Defence site.

29. The learned advocate for TATA argued that assuming that the AAFL would only be a complete weapon at the Defence site on integration with other sub-systems loaded with missiles, then also AAFL would be classifiable under sub-heading 9301 9000 in view of provisions of Rule 2(a) of the Rules of Interpretation inasmuch as the AAFL has all the essential character of finished

launcher duly tested before despatch from the premises of TATA and functional after integration with other sub-systems. The said sub-rule (2) reads as follows:-

2. (a) Any reference in a heading to an article shall be taken to include a reference to that article incomplete or unfinished, provided that, as presented, the incomplete or unfinished article has the essential character of the complete or finished article. It shall also be taken to include a reference to that article complete or finished (or falling to be classified as complete or finished by virtue of this Rule), presented unassembled or disassembled.

30. We find that the learned Commissioner has rejected the said argument referring to Rule (1) of the said General Rules of Interpretation and observed that if any goods can be classified under a particular Chapter sub heading then there is no need for going to the next Rules of Interpretation; he has held that AAFL being a part of weapon 'Akash Missile System', as per the terms of Chapter sub-heading 9305 9100 - Parts of military weapons of heading 9301, it is rightly classifiable under the said Heading. We find that the said reasoning of the learned Commissioner is incorrect and misreading of the said Rules, inasmuch as, in the present case, the argument of the appellant is that in the event the AAFL become operational only after integration with other sub-systems, collectively called as Akash Missile System but since attained the essential characteristics of a launcher/weapon, before being integrated with other sub-systems at the Defence site and later operational made merits its classification as a complete system, ready to be used as a weapon. We find that if

Rule (1) is of general in nature prescribes that the titles, sections, chapters, sub-chapters are provided for ease of reference and for legal purposes classification shall be determined according to the terms of reference and any relative section or chapter notes. Whereas, Rule 2(a) refers to and prescribes the method of classification for incomplete or unfinished article which has attained the essential character of complete or finished article. Thus, in the present circumstances for determination of classification of AAFL if considered incomplete, unfinished before integration at Defence site, the appropriate rule would be Rule 2(a) of General Rules for Interpretation of Schedule. Hence, applying the said Rule, it is clear that after loading all the softwares and testing its parameters, certified to be complete and operational after integration with other sub-systems of AMS at the site of the Defence, the AAFL is rightly classifiable as a 'weapon' under Chapter sub-heading 9301 9000.

31. The appellant L&T claimed classification of the AAFL under CETH 9301 2000 under the category of 'similar projectors', whereas TATA claimed its classification as 'other launchers' under Chapter sub-heading 9301 9000. The learned Special Counsel for the Department in his contention laid emphasis that AAFL cannot be considered as a rocket launcher nor projectors since the technology of working of AAFL is quite different from that of 'rocket launchers' and 'projectors' as the latter are

functional independently, but AAFL cannot function independently to meet the objective of locating the target, tracking and destroying the same. We find force in the contention of the learned Special Counsel as the AAFL cannot be function like rocket launchers; flame throwers; grenade launchers, torpedo tubes and similar projectors and needs to be integrated with other sub-systems to discharge its role as launcher. But simultaneously, it cannot be denied that 'launcher' finds a place under Clause (4) of the Chapter 93.01 of HSN Explanatory Notes other than the items falling under Heading 93.03. Therefore, the appropriate entry for classification of the AAFL, which itself is a sub-system and capable of carrying out its function when integrated with the AMS as a weapon, is rightly classifiable under Chapter sub-heading 9301 9000.

32. The above inference on classification of launcher under Chapter sub-heading 9301 9000 vis-à-vis the 'parts' is further strengthened when the explanation in HSN relating to Tariff item 9305 is referred which is reproduced as below:

93.05 - Parts and accessories of articles of headings 93.01 to 93.04.

9305.10 - Of revolvers or pistols

9305.20 - Of shotguns or rifles of heading 93.03

- Other :

9305.91 - - Of military weapons of heading 93.01

9305.99 - - Other

The parts and accessories of this heading include:

(1) **Parts for military weapons**, e.g., liners (tubes for barrels), recoil mechanisms and breeches for guns of all kinds; turrets, carriages, tripods and other special mountings for guns, machine-guns, sub-machine-guns, etc., whether or not with aiming and loading mechanisms.

(2) **Metal castings, stampings and forgings, for military small arms, sporting and target shooting guns, etc., revolvers and pistols**, e.g., barrels, breeches, locks, trigger guards, stumblers, levers, percussion hammers, cocking pieces, triggers, sears, extractors, ejectors, frames (of pistols), plates, butt plates, safety catches, cylinders (for revolvers), front and back sights, magazines.

(3) **Protective covers and protective cases**, for butts, sights, barrels or breeches.

(4) **Morris tubes, etc.** (small bore tubes for insertion in heavier calibre guns and rifles for practice on miniature ranges).

(5) **Butt stocks and other wooden parts** for guns, rifles or carbines and **butts and plates** (of wood, metal, ebonite, etc.) for revolvers and pistols.

(6) **Slings, band, piling or stacking and butt swivels and swivel bands** for guns, rifles or carbines.

(7) **Silencers** (sound moderators).

(8) **Removable recoil absorbers** for sporting or target shooting guns.

The heading excludes:

(a) Parts of general use as defined in Note 2 to Section XV (e.g., screws, rivets and springs), of base metal (**Section XV**), and similar goods of plastics (**Chapter 39**).

(b) Gun cases (**heading 42.02**).

(c) Gun cameras for aircraft (**heading 90.07**).

(d) Telescopic sights and similar sights for arms (**heading 90.13**).

(e) Accessories more specifically covered by other headings of the Nomenclature, such as pull-throughs, cleaning rods and other cleaning tools for arms (**headings 82.05, 96.03, etc.**).

Analysing the list of parts mentioned at Sl.No.1 to 8 in the said HSN Explanatory Notes and comparing the same with AAFL, it is difficult to appreciate that AAFL being a sub-system comprising of various parts and components and ready to be integrated with other sub-systems of AMS, in finding, tracking and destroying the targets be considered as a part of a weapon and not a weapon itself.

33. We are conscious of the fact that in the case of L&T, the classification of AAFL claimed by the appellant is under Chapter sub-heading 9301 2000 whereas the proposed classification by the Revenue is under Chapter sub-heading 9305 9100. However, our conclusion is that it is classifiable under Chapter sub-heading 9301 9000. During the course of hearing and also in their written submissions, the learned Senior Advocate for the L&T has said that since the rate of duty in both the Tariff Headings are same, they have no objection if the classification of AAFL is ultimately held to be under Chapter sub-heading 9301 9000. Since purchase orders of AAFL have been placed by BEL on both TATA and L&T and the AAFL were manufactured in the premises of TATA on job-work basis; therefore, instead of remanding the matter to decide the classification of AAFLs cleared by L&T from the factory of TATA to BEL, the same has been decided applying the reasonings for classification of the AAFLs manufactured and cleared by TATA.

34. The appellant M/s. TATA has not pursued the levy of duty on the value of free-issue materials (Appeal No.E/21060/2014 filed by TATA) and the duty has been paid by them. There is no whisper of doubt that the value of free-issue material ought to be included in the value of the AAFL in view of Rule 6 of Central Excise Valuation Rules, 2000 read with Section 4(1) of the Central Excise Act, 1944. Thus, confirmation and appropriation of the duty amount by the learned Commissioner in the impugned order does not warrant any interference. However, since the issue relates to interpretation of law and no facts has been concealed or suppressed, therefore, penalty on this issue is unwarranted.

35. Since the issue of classification of AAFL decided in favour of appellants, the demands confirmed with interest and penalty imposed on the appellants, M/s. Tata Advanced Systems Ltd. and M/s. Larsen & Toubro Limited and penalty imposed on M/s. Bharat Electronics Ltd. and employees of M/s. Tata Advanced Systems Ltd. are consequently set aside.

36. Our findings are summarized as below:-

- (i) The impugned goods viz. Akash Air Force Launcher (AAFL) is classifiable under Chapter sub-heading 9301 9000.

(ii) The demands confirmed with interest and penalty under the Chapter sub-heading 9305 9100 in all these appeals are set aside.

(iii) Demand confirmed on free-issue materials with interest in appeal No.E/21060/2014 is upheld. However, penalty on this count is set aside.

(iv) Penalty imposed on M/s. Bharat Electronics Ltd. and employees of M/s. Tata Advanced Systems Limited are set aside.

36. Appeals are disposed of as above.

(Order pronounced on 22.07.2024)

(D.M. MISRA)
MEMBER (JUDICIAL)

(R. BHAGYA DEVI)
MEMBER (TECHNICAL)

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