QUALITY ASSURANCE AND AIRWORTHINESS CERTIFICATION

1. **Introduction.** The ‘Design, Development and Production of Military Aircraft and Airborne Stores-2002 (DDPMAS-2002)’ is the governing document for all design, development and production activities related to military aviation. The objective of the procedures laid down in the document is to ensure that an acceptable system/store is provided to the User from point of view of airworthiness, safety and demonstrated performance. A copy of the document may be obtained from CEMILAC, Min of Defence (R&D), Marathahalli Post, Bengaluru-560037.

2. **Quality Assurance.** The approving authority for Quality Assurance during design and development of a prototype airborne Store/System will be Director General Aeronautical Quality Assurance (DGAQA). The vendor needs to interact with DGAQA from the ‘raw material’ stage till the ‘final delivery’ of the prototype to ensure quality assurance through relevant tests/procedures at all stages of design and development. DGAQA will ascertain that the equipment has been developed in conformance to the design drawings, technical specifications and the relevant Military/Defence Standards. On conformance of the same, DGAQA will issue the ‘Safety of Flight (SOF)’ certificate for the equipment/store. Further, on successful completion of flight trials, DGAQA will ensure QA during the series production of the system. For further details, please refer to DGAQA site at www.dgaeroaq.nic.in.

3. **Airworthiness Certification.** Airworthiness is the continued capability of the airborne equipment to perform satisfactorily and fulfill the mission requirements throughout its specified life in the prevailing environment with acceptable levels of safety and reliability. The certification authority for airworthiness of all airborne stores for military application is ‘Centre for Military Airworthiness and Certification (CEMILAC)’. CEMILAC will carry out design evaluation and finalise the QT Schedule (QTS) for the airborne store. QT will be carried out by the vendors at approved test facilities and will be witnessed by DGAQA/CEMILAC. This may include tests such as Safety and Hazard/Risk analysis, Failure Mode Effect and Criticality Analysis (FMECA), Reliability analysis, Simulation and Software Verification and Validation. Based on satisfactory results, CEMILAC will issue a ‘Flight Clearance Note (FCN)’ thereby authorising ASTE to undertake the flight tests to assess the system performance.

4. **Flight Tests.** ASTE is the flight testing agency. On issuance of Flight Clearance Note, the vendor will coordinate with ASTE along with the relevant documents and FCN for undertaking the flight tests. It needs to be understood that FCN is a mandatory certificate for ASTE to undertake flight tests of any airborne equipment developed for military application.

5. **Series Production.** On successful completion of flight trials, CEMILAC will convene Local Modification Committee (LMC) meeting to accord clearance for series production. DGAQA will be responsible to ensure QA during the series production.