No. BAPL/AV/DN/004 Date: 20.06.2025

DEMAND NOTIFICATION
INVITATION FOR EXPRESSION OF INTEREST FOR AIRBORNE FIRE CONTROL SYSTEM

BrahMos Aerospace, a joint venture between India's Defence Research and Development Organization (DRDO) and Russia's NPO Mashinostroyeniya, is a leading aerospace and defense organization specializing in the design, development, and production of supersonic cruise missile systems.

BAPL invites Expressions of Interest (EOI) from prospective industries for development of Airborne Fire Control System (AFCS), an airborne embedded system to be developed, qualified and certified for serial production as per the standard guidelines of CEMILAC/MSQAA.

Name of Device: AIRBORNE FIRE CONTROL SYSTEM (AFCS)

Scope of work:
To develop, qualify and certify the intended Airborne Fire Control System (AFCS) as per the technical specifications document which will be shared to shortlisted Industry partner(s) on submission of Non-Disclosure Agreement (NDA). In addition, Airborne cable looms (ACL) to be fabricated and qualified towards the installation AFCS with airborne carriage system.

Description: Airborne Fire Control System is a Zynq Ultrascale+ MPSoC based mission critical real time system of BRAHMOS weapon complex used for carrying out preparation and launch of the missile from airborne platform.

It consists of various LRUs/sub-systems, operates on 3-phase, 115V, 400Hz AC power supply. The system generates time based 27V DC discrete output commands/supplies of approximately 1500 Watts based on 27V DC discrete input signals. It also exchanges digital data with other external systems over 4 independent 1553B buses. The commands issued by the System are used for controlling other sub-systems. The system also interfaces with ground-based test equipment over RS422 interface.

AFCS primarily consists of Zynq Ultrascale+ MPSoC, DDR4 SDRAM, nvSRAM/MRAM, Flash memory, hermetically sealed relays, AC-DC/DC-DC converters, ADC, opto couplers, transistors, diodes, connectors, interconnects etc.

The system has to be qualified as per MIL-STD-704, MIL-STD-810, MIL-STD-461 etc as per the standard guidelines of CEMILAC for airborne systems. Firmware and software applications of the systems should be developed and qualified in compliance with IEEE12207/DO-254/DO-178 etc. as per the guidelines of CEMILAC (IMTAR-21).

Mechanical processes involved:

i. Machining, surface treatment etc. as applicable for airborne embedded systems

Electrical/Electronic Process Involved: As per standard guidelines of CEMILAC as applicable for airborne embedded systems

i. Soldering – J STD 001 Class 3, MIL STD 2000 Class 3 or equivalent
ii. Wire harness for internal wiring - IPC 620 Class 3 or equivalent
iii. PCB Assembly - IPC 610 Class 3 or equivalent

Testing Requirement: As per standard guidelines of CEMILAC as applicable for airborne embedded systems

i. Qualification testing
ii. Standalone and Integrated testing in various test configuration
iii. Performance evaluation with Airborne platform and Weapon at ground and in air

The eligibility criteria and instruction for submission of EOI are available at our website **www.brahmos.com**. Only eligible vendors meeting the requirements specified in EOI document "BAPL/SCM-L/EOI/EEE/01" with experience in development & delivery of airborne embedded systems based on Zynq SoCs with MIL-1553B interfaces to DRDO/HAL/ADA, experienced in development, qualification and certification of airborne systems as per the guidelines of CEMILAC/MSQAA shall submit their interest.

Eligible Industry partner(s) may furnish their Expression of Interest in the prescribed format (Annexure-A of EOI document BAPL/SCM-L/EOI/EEE/01) in Sealed Envelope quoting our Reference No. BAPL/AV/DN/004 with all essential information and supporting documents, on or before **18/07/2025 [17:00 Hrs]** to the following address:

BrahMos Aerospace Private Limited
Adj. DRDL Rear Gate,
Kanchanbagh, Hyderabad – 500 058
Tel: 91-40-2408 7016 (7040)

Note: BAPL reserves the right to accept or reject any or all responses. Mere compliance to EOI terms, does not guarantee further consideration for qualification in the procurement process.