

PROCEEDINGS OF THE PRE-BID CONFERENCE HELD ON 19TH JULY 2019 AT KTMD SEMINAR HALL, CSIR-NAL, TOWARDS DESIGN, DEVELOPMENT AND TESTING OF EMDU: -

The Pre-bid Conference was held and the following T&PC members attended the meeting: -

Sl. No.	Name & Designation		Role
1	Dr. CM Ananda	Chief Scientist / Head , ALD	Chairman
2	Mr. Vineet Kumar	Chief Scientist, C-CADD	Member
3	Dr. Soumendu Jana	Sr. Pr. Scientist, PR Division	Member
4	Mr. Abbani Rinku	Sr.Principal Scientist, ALD	Member - PL
5	Mr. V.V. Jagannadham	Principal Scientist, ALD	Member- Convenor -TSC
6	FAO or his representative		Member
7	Mr. Ramaprasad	AO	Member
8	Mr. M. J. Nandeesh	SPO	Member - Convenor (T&PC)

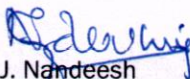
The list of Prospective bidders who attended the Pre-bid Conference is as per **Annexure-I**.

At the outset, the Chairman welcomed all the Members and the representatives of the Bidders and briefed in general the scope of the Project and thereafter requested **SPO** to brief the Bidders on the salient features of the commercial terms. The Indenting Officer to read out the clarification sought by the bidders and the replied thereto as detailed in **Annexure-II (Part A: Technical Clarification and Part B: Commercial Clarification, if any)**.


The representatives present were satisfied with the replies given and it was informed that the corrections / additions / clarifications given, as discussed during the Pre-Bid Conference would be hosted on the website of CSIR-NAL and all prospective bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before formulating and submitting their bids as stipulated in bidding Documents.


The meeting ended with a vote of thanks to the Chair.

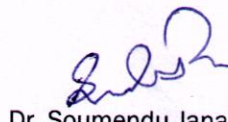
Encl: as above.


M. J. Nandeesh
SPO


23/7/19
FAO

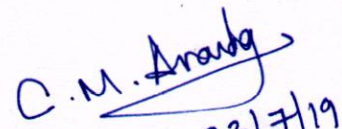

Ramaprasad
AO


Vineet Kumar
Member


Dr. Soumendu Jana
Member


Abbani Rinku
Member


23/07/19
V.V. Jagannadham
Member


23/7/19
Dr. CM Ananda
Chairman

CSIR-NATIONAL AEROSPACE LABORATORIES
BENGALURU - 560 017

TENDER NO.: NAL/PUR/ALD/037/19-Z

ANNEXURE - I

DATE & TIME : 19-07-2019 @ 2:00 PM

VENUE: KTMD Seminar Hall, CSIR-NAL, HAL Airport Road, Kodihalli, Bengaluru-560017

Pre-Bid Conference towards Design, Development and Testing of EMDU

ATTENDANCE SHEET - T&PC MEMBERS

Sr. No.	Name		Signature
1	Dr. CM Ananda, Chief Scientist / Head , ALD	Chairman	C.M. Ananda 19/7/19
2	Mr. Vineet Kumar, Chief Scientist, C-CADD	Member	Vineet 19/7/2019
3	Dr. Soumendu Jana, Sr. Pr. Scientist, PR Division	Member	Soumendu
4	Mr. Abbani Rinku, Sr.Principal Scientist, ALD C- CADD	Member	Rinku
5	Mr. V.V. Jagannadham, Principal Scientist, ALD	Member- Convenor -TSC	V.V. Jagannadham
6	FAO or his representative	Member	FAO
7	Mr. Ramaprasad, AO	Member	Ramaprasad
8	Mr. M. J, Nandeesh, SPO	Member- Convenor T&PC	M. J. Nandeesh

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Pre-Bid Conference towards Design, Development and Testing of EMDU

ATTENDANCE SHEET - PROSPECTIVE BIDDERS

Sr. No.	Name of the Firm	Name & Designation of Representative	Email ID	Signature
1	Accord Software	Rajashelkar Adiga Group Manager	adiga@accord-soft.com. 9945242995	
2	FL Dec Systems	E-Saikumar Embedded design Engineer	Saikumar.e@fldec.com 9698795828	
3	Mistral Solutions Pvt Ltd	SREETHI P PROJECT LEADER	PSREETHI@MISTRAL SOLUTIONS.COM	
4	Tactical systems' Pvt Ltd.	Mohan Kumar. Engineer.	mohan@taactsys.com	
5	Tata Advanced Systems Ltd.	S. Ramesh Hardware - Design head	rsubbabbhatta@tataadvancedsystems.com	
6	Centum electronics Datacol (B) Pvt Ltd	G.VEDAPRAKASH GM - B D	Vedaprakashg@centumelectronics.com	
7	Phani Raj K	Phani Raj K	Phani@datacol-india.com 9845168495	
8	Datacol (B) Pvt Ltd Phani Raj K	Jeevan C	Jeevan@datacol-india.com 7899707327	
9	MISTRAL SOLUTIONS Pvt Ltd.	TAXAL S. SHENAI	taxals@mistral solutions.com 9900182069	
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**CSIR-NATIONAL AEROSPACE LABORATORIES
BENGALURU**

TECHNICAL QUERIES & CLARIFICATION

Tender No. : NAL/PUR/ALD/037/19-Z
Item Description : Design, Development, Testing & Certification of Engine Monitoring Display Unit (EMDU) for HANSA NG towards Integration and Indigenization.

Sr. No.	Query / Clarification Sought	Clarification/Amendment
1	Is Isolation required for CAN bus interface	Yes it is required
2	What is the output PWM signal's pulse variation durations?	Will be shared with the selected bidder.
3	What are facilities available for DO160 Environmental qual tests? Which are all can be used for vendor?	NAL facilities can be used for the confidence building not for the certification credits. Request vendor to accommodate the costing in their estimates.
4	What is the hardware systems selection and OS selection criteria to be adopted?	Vendors needs to come out with their detail design proposal, the same will be reviewed by NAL before finalization of hardware systems. Since controller is a choice for this simple design to accommodate the design requirements. OS based solution may not be needed, simple kernel based solution is preferred. However, the kernel used for application development should be certifiable as per DO178B
5	What about the preferred hardware qualification level required for this design	DO 254 is not required if design does not use FPGA or any hardware programmable device. However the rest of the design process shall be followed for the complete electronics as per aviation industry standards.
6	Shall we go with environmental qualification (DO160) on the test/demo application to comply the hardware environmental DO160 tests?	Yes
7	What about the functional test rig development to test the system (EMDU)?	Vendor need not design and develop a integration test rig as this is available at NAL. Vendor can use this facility for integration tests at NAL.

Sr. No.	Query / Clarification Sought	Clarification/Amendment
		<p>However, vendor shall develop</p> <ol style="list-style-type: none"> 1. A simple bench test interface to be used during the environmental tests 2. Desk test rig to clear the hardware ATP with system software before the same is delivered to NAL for software development
8	<p>What is the support required towards DGCA certification of system?</p>	<p>Product development cycle closes only when the product gets certified by DGCA part of aircraft. Vendor shall support till the product is certified by DGCA with application software. Any requirements/support during the software development cycle shall be supported by Vendor.</p> <p>Note: Vendor shall possess DOA and POA from DGCA as applicable as per DGCA norms.</p>
9	<p>What is the hold-up time required for the system? What is the ADC minimum resolution required?</p>	<p>At least 50msec hold-up time & min 16bits ADC resolution required. However during detailed design, the same will be reviewed.</p>
10	<p>What about the milestone reviews and payment terms?</p>	<p>Kick off Meeting, PDR, CDR, TRR, ATP and Integration are the milestone reviews which will be conducted. Since it is the development project, milestone payment can be made against issue of bank guarantee.</p>
11	<p>What about the production quantity planned for this product?</p>	<p>This product is targeted for HANSA –NG two seater trainer aircraft. Requirements of EMDU are as follows anticipated are as follows</p> <ol style="list-style-type: none"> a. Around 100 numbers for aircraft b. Around 20 units for Test Rig, Spares and other applications

Signature of IO & PL

V.P. AFIL
23/07/19

[Signature]
24/7/19


C.M. Anand
25/7/19

**CSIR-NATIONAL AEROSPACE LABORATORIES
BENGALURU**

COMMERCIAL QUERIES & CLARIFICATION

Tender No. : NAL/PUR/ALD/037/19-Z
Item Description : Design, Development, Testing & Certification of Engine Monitoring Display Unit (EMDU) for HANSA NG towards Integration and Indigenization

Tender Clause No	Query / Clarification Sought	Clarification/Amendment
1.15.7	Applicability of MSE and Udyog Aadhar Memorandum for EMD exemption	Applicable
Sr.No.6 (NIT)	Extension to the submission of bids by 2 weeks	Date & Time of Submission of Bid: 26-Aug-2019 (10:00 Hrs) Date & Time of Opening of Bid (Part-I-Technical Bid only) 27-Aug-2019 (11:00 Hrs)


Stores & Purchase Officer