

**PROCEEDINGS OF THE PRE-BID CONFERENCE HELD ON 26<sup>TH</sup> NOV 2019 AT MSD CONFERENCE HALL, CSIR-NAL, TOWARDS SUPPLY, INSTALLATION AND COMMISSIONING OF DOWN DRAFT DRY TYPE SPRAY PAINTING BOOTH CUM OVEN SYSTEM WITH ACCESSORIES.**

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

Sl. No.	Name & Designation		Role
1	Dr. M. Manjuprasad	Chief Scientist, STTD	Chairman
2	Mr. Dilip Kumar Sahu	Sr. Technical Officer-2, CAD	Member
3	Mr. A. Muthukumar	Sr. Scientist, CAD	Member
4	Dr. Abhay Pashilkar	Chief Scientist, FMCD	Member
5	Dr. J.N. Balaraju	Sr. Principal Scientist, SED	Member
6	Mr. PR Shashikanth,	Technical Assistant, APMF	Member - Convener (T&SC)
7	AO or his representative		Member
8	FAO or his representative		Member
9	COSP/SPO or his representative		Member - Convener (T&PC)

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

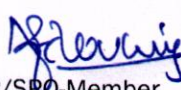
At the outset, the Chairman welcomed all the Members and the representatives of the Bidders and briefed in general the scope of the Project and thereafter requested **SPO** to brief the Bidders on the salient features of the commercial terms. The Indenting Officer to read out the clarification sought 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.


The due date for submission of the bid has been extended as mentioned below: -

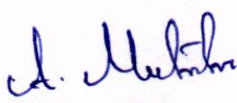
EXISTING				AMENDED TO			
Date & Time of Submission of Bid		Date and Time of Opening of Bid		Date & Time of Submission of Bid		Date and Time of Opening of Bid	
Date	Time (IST)	Date	Time (IST)	Date	Time (IST)	Date	Time (IST)
16-Dec-2019	10:00 Hrs	17-Dec-2019	11:00 Hrs	23-Dec-2019	10:00 Hrs	24-Dec-2019	11:00 Hrs

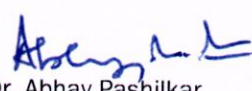
  
CoSP/SPO-Member  
Convener -T&PC

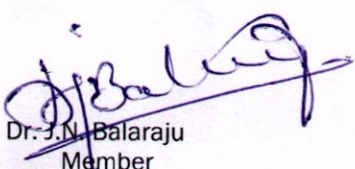
  
FAO-Member

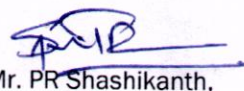
  
Admin-Member

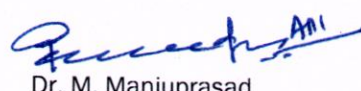
  
Dilip Kumar Sahu  
AO-Member

  
A. Muthukumar  
Member

  
Dr. Abhay Pashilkar  
Member

  
Dr. J.N. Balaraju  
Member

  
Mr. PR Shashikanth,  
Member

  
Dr. M. Manjuprasad  
Chairman



CSIR-NATIONAL AEROSPACE LABORATORIES  
BENGALURU - 560 017




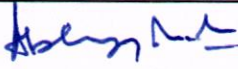
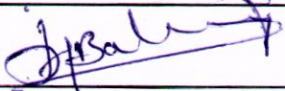

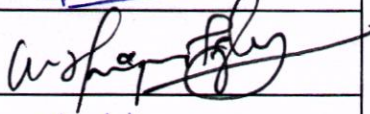


TENDER NO.: NAL/PUR/CAD/301/19-Z  
DATE & TIME : 26-11-2019 @ 10:30 AM

ANNEXURE - I

VENUE: MSD Conference Hall, CSIR-NAL, HAL Airport Road, Kodihalli, Bengaluru-560017

Pre-Bid Conference towards Supply, Installation and Commissioning of Down Draft Dry Type Spray Painting Booth cum Oven System with Accessories

ATTENDANCE SHEET - T&PC MEMBERS

Sr. No.	Name		Signature
1	Dr. M. Manjuprasad, Chief Scientist, STTD	Chairman	
2	Mr. Dilip Kumar Sahu, Sr. Technical Officer-2, CAD	Member	
3	Mr. A. Muthukumar, Sr. Scientist, CAD	Member	
4	Dr. Abhay Pashilkar, Chief Scientist, FMCD	Member	
5	Dr. J.N. Balaraju, Sr. Principal Scientist, SED	Member	
6	Mr. PR Shashikanth, Technical Assistant, APMF	Member- Convenor -TSC	
7	FAO or his representative	Member	
8	AO or his representative	Member	
9	COSP/SPO or his representative	Member- Convenor T&PC	

NATIONAL AEROSPACE LABORATORIES  
BENGALURU - 560 017

TENDER NO.: NAL/PUR/CAD/301/19-Z

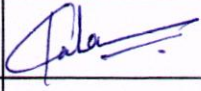
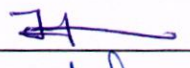

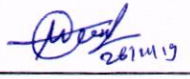
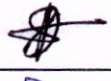

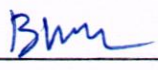
DATE & TIME : 26-11-2019 @ 10:30 AM

VENUE: MSD Conference Hall, CSIR-NAL, HAL Airport Road, Kodihalli, Bengaluru-560017

ANNEXURE - I

Pre-Bid Conference towards Supply, Installation and Commissioning of Down Draft Dry Type Spray Painting Booth cum Oven System with Accessories.

ATTENDANCE SHEET - PROSPECTIVE BIDDERS

Sr. No.	Name of the Firm	Name & Designation of Representative	E-tender Registration (Yes/No)	Email ID	Signature
1	RSK Engineers	R.KOTEESWARAN (Sr. Manager - Projects)	YES	info@rskindia.com	
2	CROCODILE INDUSTRIES	J.PRAWAN KUMAR REDDY	YES	service.crocodile@snail.com	
3	Global Engineers Ltd.	Kuldeep Singh (Project Manager)	YES	planning@globalengineers.co.in	
4	Trutec Systems combine Pvt Ltd.	Mayur Bagele (Assistant Manager/Sales)	YES	scdes@trutecsystems.co.in	
5	VINAY ASSOCIATES	D. SATHI H (Manager - Customs supply)	YES	projects@vinayassociates.co.in	
6	Bullows medias tools & trades	A. Parthasarath	Yes	Parthasarath@bullows.com	
7	SQUAREMAG SYSTEMS	B. Chandan Sekhar	Yes	info@squaremagsystems.com	
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**CSIR-NATIONAL AEROSPACE LABORATORIES  
BENGALURU**

**TECHNICAL QUERIES & CLARIFICATION**

**Tender No.** : NAL/PUR/CAD/301/19-Z

**Item Description** : **SUPPLY, INSTALLATION AND COMMISSIONING OF DOWN DRAFT  
DRY TYPE SPRAY PAINTING BOOTH CUM OVEN SYSTEM WITH ACCESSORIES**

Sr. No.	Query / Clarification Sought	Clarification/Amendment
1.7	Flooring of the booth should be made with suitable MS having phosphated + powder coating	Flooring of the booth should be made with suitable Hot Galvanized material.
3.0	Plenum Height: 400 mm	Plenum Height: Bidder to specify
5.3	The combined motor and blower assembly should be capable of maintaining a required air supply volume and pressure inside the paint booth, to push the paint fumes generated anywhere inside the booth towards the exhaust.	The combined motor and blower assembly should be capable of maintaining a required air supply volume and pressure inside the paint booth, to push the paint fumes generated anywhere inside the booth towards the exhaust. Air supply volume and pressure to be specified by the bidder.
5.6	The blower and motor supplied should be of ISI certified	Motors supplied should be ISI certified. Blowers supplied, bidder to provide details Bidder to provide details to meet requisite OSHA standards
5.12	Motor efficiency should not be less than 92.5%.	Total efficiency of the motor should not be less than 92.5%.
6.1	Exhaust air from the painting booth should be sucked with a suitable capacity centrifugal type, belt driven blowers run by a suitable capacity motor of reputed brand (Kirloskar / Siemens / ABB /Crompton Greaves/ Bharat Bijlee with IE-3 efficiency and IP-55protection)	Exhaust air from the painting booth should be sucked with a suitable capacity centrifugal type, belt driven blowers run by a suitable capacity motor of reputed brand (Kirloskar / Siemens / ABB /Crompton Greaves/ Bharat Bijlee with IE-3 efficiency and IP-55protection). Blowers to be designed by the Bidder.
6.12	Motor Capacity should be adequate to suck the fumes.	Motor Capacity should be adequate to suck the fumes. Bidder to specify the motor capacity.
6.13	The exhaust side duct should be up to a height of 3 meter above the building height and should have a roof cap. The ducting should be made with phosphated + powder coated GI sheets of suitable thickness and size, with stiffeners, vibration dampeners and isolators provided at appropriate locations as per IS655 standard. It should be fixed firmly to the building.	The exhaust side duct should be up to a height of 3 meter above the building height and should have a roof cap. The ducting should be made with Hot Galvanized sheets of suitable thickness and size, with stiffeners, vibration dampeners and isolators provided at appropriate locations as per IS655 standard. It should be fixed firmly to the building. Bidder to provide details.

*APB*



7.1	Inlet and outlet ducting should be done with phosphated + powder coated GI sheets of suitable thickness and size, with stiffeners at appropriate locations as per IS655.	Inlet and outlet ducting should be done with Hot Galvanized sheets of suitable thickness and size, with stiffeners at appropriate locations as per IS655. Bidder to provide details.
7.3	Noise absorbing pads for ducts should be provided to meet the required noise level of $78 \pm 2$ dB, if required.	Bidder to provide suitable acoustic enclosure to maintain the noise level less than 80 dB. Bidder to provide details.
9.3	The vendor should provide paint booth heating facility as a part of supply. The booth shall comprise of adequate Sodium Bulbs system to attain a maximum drying temperature of $40^{\circ}\text{C}$ . The vendor should also provide a thermostat for monitoring the temperature and a humidity control system which should be connected to the computer for recording purpose.	The vendor should provide paint booth heating facility as a part of supply. The booth shall comprise of adequate Electrical Heating system with branded heaters to attain a maximum drying temperature of $40^{\circ}\text{C}$ . The vendor should also provide a thermostat for monitoring the temperature and a humidity control system which should be connected to the computer for recording purpose.
9.4	$50 \pm 2$ mm thick Rock wool infilled panels, with phosphated + powder coated 1.2 mm thick GI face sheets should be used for AHU enclosure.	$50 \pm 2$ mm thick Rock wool infilled panels, with 1.2 mm thick Hot Galvanized face sheets should be used for AHU enclosure.
9.6	A maximum ambient air temperature of $45^{\circ}\text{C}$ should be considered for designing the AHU.	A minimum of $15^{\circ}\text{C}$ and maximum of $45^{\circ}\text{C}$ ambient air temperature should be considered for designing the AHU.
10.1	<b>LUX level:</b> More than 1000 Lux (white LED)	<b>LUX level:</b> More than 800 Lux (white LED) at operator level
10.2	Specification of Lighting	Specification of Lighting: Bidder to provide the details of Lighting brand, lighting type etc.,
10.4	Lighting Fixtures should be flame and chemical fume / rust proof and only reputed brands shall be used. All the lights should be concealed and fixed to the ceiling of the paint booth.	Lighting Fixtures should be flame and chemical fume / rust proof and only reputed brands shall be used. All the lights should be protected with glass and fixed to the ceiling of the paint booth.
10.5	Quantity	Quantity Bidder to provide the details of lighting arrangement.
11.4	Thickness	Thickness Bidder to specify the thickness of the filter
11.6	Make	Make Bidder to specify the brand
11.7	Paint Particle Holding Capacity of the filter	Deleted
11.8	Dust Holding Capacity of the filter	Dust Holding Capacity of the filter Bidder to specify
11.9	Rated Air Flow of the filter	Rated Air Flow of the filter Bidder to specify
11.11	Filter Casing Unit - 1	Filter Casing Unit - 1 Bidder to specify
12.3	Thickness	Thickness of the Filter Bidder to specify the thickness.
12.5	Make	Make Bidder to specify the brand
12.6	Paint Particle Holding Capacity	Deleted
12.7	Dust Holding Capacity	Dust Holding Capacity






		Bidder to specify
12.8	Rated Air Flow	Rated Air Flow Bidder to specify
12.10	Filter Casing Unit - 2	Filter Casing Unit - 2 Bidder to specify
13.3	Thickness	Thickness of the filter Bidder to specify the thickness.
13.4	Paint Particle Holding Capacity	Deleted
13.5	Dust Holding Capacity	Dust Holding Capacity Bidder to specify
13.6	Rated Air Flow	Rated Air Flow Bidder to specify
13.8	Filter Casing	Filter Casing Bidder to specify
14.0	<b>Floor - Filters:</b> The air supply unit to be positively pressurized, spray painting booth cum oven should resist entry of dust inside the booth and offer quality and operator comfort with air filtration, 95% down to 5 micron filtration level.	<b>Floor - Filters:</b> The air supply unit to be positively pressurized, spray painting booth cum oven should resist entry of dust inside the booth and offer quality and operator comfort with air filtration.
14.1	Filter Class: EU - 5	Filter Class: Paint arresting filters. Bidder to provide details.
14.2	<b>Material:</b> Synthetic Microfiber, Non-woven synthetic PE, backed by one layer of HDPE mesh on both down and up stream.	<b>Material:</b> Bidder to specify
14.3	Thickness	Thickness of the filter Bidder to specify the thickness.
14.4	Particle Holding Capacity	Particle Holding Capacity Bidder to specify the brand
14.5	Dust Holding Capacity	Dust Holding Capacity Bidder to specify
14.6	Rated Air Flow	Rated Air Flow Bidder to specify
14.8	Filter Casing	Filter Casing Bidder to specify
16.0	All Switch Gears, Electrical Panels, Control Panels, starters	All Switch Gears, Electrical Panels, Control Panels, starters - Bidder to provide details
16.1	A digital control panel of reputed make viz; ABB / Siemens / Schneider / L & T containing One Mains ON/OFF switch, ON/OFF Switches for Inlet and Outlet blowers and Lights, Star & Delta Contactors, Indication lamps for all the equipment's, Volt meter (0 - 500 V) and Ammeter (0 - 100 A), with all the safety features should be provided.	A digital control panel consisting of HMI and control unit required for painting booth of reputed make to be provided with One Mains ON/OFF switch, ON/OFF Switches for Inlet and Outlet blowers and Lights, Star & Delta Contactors, Indication lamps for all the equipment's, Volt meter (0 - 500 V) and Ammeter (0 - 100 A), with all the safety features should be provided. Bidder to provide details.
17.1	Make	Make Bidder to specify the brand
18.3	A minimum opening of 3.0 m (width) x 2 m (height) should be provided when the door is completely opened.	A minimum opening of 3.0 m (width) x 2.5 m (height) should be provided when the door is completely opened.

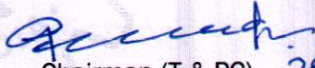


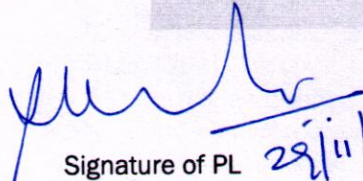
18.5	<u>Door Size:</u> 3 m or more (Width) x 2 m (Height)	<u>Door Size:</u> 3 m or more (Width) x 2.5 m (Height)
20.1	Floor space required	Floor space required Bidder to specify
II.	<b>SUPPLY OF ROTARY SCREW AIR COMPRESSOR</b>	
i.	<b>High efficient automatic drain air outlet:</b> Ball Valve with 112Inch female	<b>High efficient automatic drain air outlet:</b> Ball Valve with 1 ½ Inch, female thread
III.	<b>TURN-TABLE FOR PAINTING</b>	
i.	<u>Size in mm:</u>  1200 mm (Length) x 1000 mm (Width) x 1000 mm (Height)	<u>Size in mm:</u>  1200 mm (Dia) x 1000 mm (Height)
ii.	Motor: Should be ISI certified	Motor: Should be ISI certified and flame proof. Bidder to specify the brand
iii.	Capacity of motor	Capacity of motor Bidder to provide details.
IV.	<b>CEILING HANGERS</b>	
i.	Capacity: 1 kg	Capacity: 1 kg (each hanger)
4.6	<b>Delivery Schedule (including supply, installation, commissioning, training &amp; acceptance)</b>	
	Delivery of the Item - 12 weeks	14 weeks
	Installation & Commissioning - 10 days	4 weeks
	Acceptance of the item - 3 days	1 week

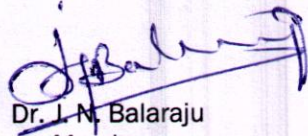
**OTHER CONDITIONS** (to be added):

8. All MS parts should be shot blasted and painted.

  
Signature of IO  
(SHASHIKANTH P.R)

  
Chairman (T & PC) 29/11/19.

  
Signature of PL 29/11/19  
(Dr. S. RAVISHANKAR)

  
Dr. J. N. Balaraju  
Member



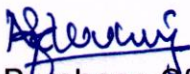
**CSIR-NATIONAL AEROSPACE LABORATORIES  
BENGALURU**

**COMMERCIAL QUERIES & CLARIFICATION**

Tender No. : NAL/PUR/CAD/301/19-Z

Item Description : Supply, Installation and Commissioning of own Draft Dry Type Spray Painting Booth cum Oven System with accessories

Sr. No.	Query / Clarification Sought	Clarification/Amendment
1	-----NIL-----	

  
Stores & Purchase Officer  
For and behalf of CSIR