





PRE-QUALIFICATION REQUIREMENTS (PQR)


1. The firm of Bidder should have in existence since past 3 years as on date of bid opening. Following documents proving the firm is active in past 3 years to be provided.
Last 3 years "Profit & Loss account/Balance Sheet/Any other acceptable document certified by CA".
2. Bidder should have supplied "Meteorological Monitoring System/Weather Monitoring System/ Ambient Air Monitoring System" in last 05 years as on date of bid opening. Proof of supply and end user details should be attached for the same.


हस्ताक्षर एवं दिनांक SIGN & DATE		उत्पाद क्रय विनिर्देश		पृष्ठ	8	का	1																																																						
		PRODUCT PURCHASE SPECIFICATION		Page	1	of	8																																																						
सामग्री सूची संख्या को अधिकृत करता है	<p align="center"><u>AMBIENT AIR MONITORING SYSTEM</u></p> <p>1.0 General: (AMBIENT AIR MONITORING SYSTEM)</p> <p>Ambient air monitoring system is required for monitoring of meteorological parameters. The system will include following broad components: Data Logger, Meteo Mast, Combined Wind Speed-Direction sensor, Barometer, Global Radiation sensor, Direct Radiation Sensor Sunshine Duration sensor, UVA Radiometer, Evaporimeter System, Evaporimeter Pan, Wooden Platform, Evaporation Level Sensor, Temperature- Relative Humidity-Dew Point Sensors, Electric Rain Gauges.</p> <p>2.0 Detail specification:</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Item Description</th> <th>Required Specification & Features</th> </tr> </thead> <tbody> <tr> <td>2.1</td> <td colspan="2">Universal Input Data Logger Unit</td> </tr> <tr> <td>a</td> <td>Type</td> <td>Micro-controller Bases</td> </tr> <tr> <td>b</td> <td>Universal Input channel</td> <td>At least eight analogues, two impulse & one serial input</td> </tr> <tr> <td>c</td> <td>Input range</td> <td>-300mV to +300mV, 0/4 to 20mV, 0-5V</td> </tr> <tr> <td>d</td> <td>Output channel</td> <td>Output channel " Solid - State (V Out = V In)</td> </tr> <tr> <td>e</td> <td>Display</td> <td>LCD 80 characters</td> </tr> <tr> <td>f</td> <td>Keyboard</td> <td>4 keys</td> </tr> <tr> <td>g</td> <td>Memory</td> <td>Memory is 8 GB or more</td> </tr> <tr> <td>h</td> <td>Internal Battery</td> <td>Build-in two Rechargeable Battery: 12VDC, Pb 2Ah & Pb 40 Ah</td> </tr> <tr> <td>i</td> <td>Power Supply</td> <td>220VAC/24V AC, 50W power supply. Operated voltage: 12V DC, 24V AC or solar panel</td> </tr> <tr> <td>j</td> <td>Power Consumption</td> <td>10 mA</td> </tr> <tr> <td>k</td> <td>Electric protection</td> <td>" transzorb" on inputs. Filters, gas discharges, zener diaodes, varistor for over voltage protection on power supply</td> </tr> <tr> <td>l</td> <td>Data transmission port</td> <td>RS-232 port</td> </tr> <tr> <td>m</td> <td>Printer port</td> <td>Using Gidas-Viewer program or 3DOM program + Excel</td> </tr> <tr> <td>n</td> <td>Data communication capability</td> <td>Optional: Telephone modem GSM cellular mobile and radio communicators</td> </tr> <tr> <td>o</td> <td>Operating Temperature</td> <td>At least -10 to +60 °C</td> </tr> <tr> <td>p</td> <td>Acquisition rate</td> <td>Programmable from 1 sec to 24 hours independently for each sensor</td> </tr> </tbody> </table>							S.No.	Item Description	Required Specification & Features	2.1	Universal Input Data Logger Unit		a	Type	Micro-controller Bases	b	Universal Input channel	At least eight analogues, two impulse & one serial input	c	Input range	-300mV to +300mV, 0/4 to 20mV, 0-5V	d	Output channel	Output channel " Solid - State (V Out = V In)	e	Display	LCD 80 characters	f	Keyboard	4 keys	g	Memory	Memory is 8 GB or more	h	Internal Battery	Build-in two Rechargeable Battery: 12VDC, Pb 2Ah & Pb 40 Ah	i	Power Supply	220VAC/24V AC, 50W power supply. Operated voltage: 12V DC, 24V AC or solar panel	j	Power Consumption	10 mA	k	Electric protection	" transzorb" on inputs. Filters, gas discharges, zener diaodes, varistor for over voltage protection on power supply	l	Data transmission port	RS-232 port	m	Printer port	Using Gidas-Viewer program or 3DOM program + Excel	n	Data communication capability	Optional: Telephone modem GSM cellular mobile and radio communicators	o	Operating Temperature	At least -10 to +60 °C	p	Acquisition rate	Programmable from 1 sec to 24 hours independently for each sensor
S.No.	Item Description	Required Specification & Features																																																											
2.1	Universal Input Data Logger Unit																																																												
a	Type	Micro-controller Bases																																																											
b	Universal Input channel	At least eight analogues, two impulse & one serial input																																																											
c	Input range	-300mV to +300mV, 0/4 to 20mV, 0-5V																																																											
d	Output channel	Output channel " Solid - State (V Out = V In)																																																											
e	Display	LCD 80 characters																																																											
f	Keyboard	4 keys																																																											
g	Memory	Memory is 8 GB or more																																																											
h	Internal Battery	Build-in two Rechargeable Battery: 12VDC, Pb 2Ah & Pb 40 Ah																																																											
i	Power Supply	220VAC/24V AC, 50W power supply. Operated voltage: 12V DC, 24V AC or solar panel																																																											
j	Power Consumption	10 mA																																																											
k	Electric protection	" transzorb" on inputs. Filters, gas discharges, zener diaodes, varistor for over voltage protection on power supply																																																											
l	Data transmission port	RS-232 port																																																											
m	Printer port	Using Gidas-Viewer program or 3DOM program + Excel																																																											
n	Data communication capability	Optional: Telephone modem GSM cellular mobile and radio communicators																																																											
o	Operating Temperature	At least -10 to +60 °C																																																											
p	Acquisition rate	Programmable from 1 sec to 24 hours independently for each sensor																																																											
<p align="center">COPYRIGHT AND CONFIDENTIAL</p> <p>The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company</p>																																																													
हस्ताक्षर एवं दिनांक SIGN & DATE	<p align="center">स्वतंत्रताधिकार एवं गोपनीय</p> <p>इस प्रलेख में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाये।</p>																																																												


Inukad .oa gl-rk(kj SIGN & DATE		<h1>उत्पाद क्रय विनिर्देश</h1> <h2>PRODUCT PURCHASE SPECIFICATION</h2>																																																																																
				पृष्ठ Page	8 2	का of	2 8																																																																											
SUPERSEDES INVENTORY NO.		<table border="1"> <tr> <td>q</td> <td>Data Display format</td> <td>1. Instantaneous, Average, Max, Min, Std. deviation & Different with last reading 2. Date & time for Max & Min value 3. 1 hour & 24 hour statistical elaboration</td> </tr> <tr> <td>r</td> <td>Statistical Calculation capability</td> <td>Each parameter programmable up to 5 statistical elaboration mode</td> </tr> <tr> <td>s</td> <td>Engineering unit modification</td> <td>By 3DOM program</td> </tr> <tr> <td>t</td> <td>Operating Code</td> <td>Supply with pre-program primary quantities & derivates quantities code</td> </tr> <tr> <td>u</td> <td>Event record</td> <td>able to record events and messages input by the operator</td> </tr> <tr> <td>v</td> <td>Actuation output</td> <td>Complete with actuators for alarm and external device commands. SPD external relay (2A, 250V)</td> </tr> <tr> <td>w</td> <td>Protective case</td> <td>Weatherproof case IP65</td> </tr> <tr> <td>x</td> <td>EMC</td> <td>EN61326-1 2013, EMC CEI EN 61010-1 2013</td> </tr> <tr> <td>2.2</td> <td>Meteo Mast</td> <td></td> </tr> <tr> <td>a</td> <td>Height</td> <td>2 meters</td> </tr> <tr> <td>b</td> <td>Diameter</td> <td>internal 47mm; external 50mm</td> </tr> <tr> <td>c</td> <td>Material</td> <td>AISI304</td> </tr> <tr> <td>d</td> <td>Number of Cable holes</td> <td>≥4</td> </tr> <tr> <td>e</td> <td>Cable holes diameter</td> <td>3/8"</td> </tr> <tr> <td>2.3</td> <td colspan="2">Combined Wind Speed-Direction Anemometer sensor</td> </tr> <tr> <td>a</td> <td>Speed</td> <td></td> </tr> <tr> <td>i</td> <td>Type</td> <td>3 cups and vane anemometer</td> </tr> <tr> <td>ii</td> <td>Transducer type</td> <td>Optoelectronic disk</td> </tr> <tr> <td>iii</td> <td>Mechanical mounting</td> <td>On 48-50mm</td> </tr> <tr> <td>iv</td> <td>Measurement range</td> <td>0-60 m/s</td> </tr> <tr> <td>v</td> <td>Threshold</td> <td>≤ 0.4 m/s</td> </tr> <tr> <td>vi</td> <td>Response time</td> <td>≤ 2.5 s (63% at 12 m/s)</td> </tr> <tr> <td>vii</td> <td>Delay distance</td> <td>Tests performed at 10 m/s and 5 m/s. Not at 1 m/s, because VDI and ASTM ask only 5 and 10 m/s. At 5 m/s result is 4,5 m/s. At 1,1 m/s the delay distance values should be less than 8 m.</td> </tr> <tr> <td>viii</td> <td>Resolution</td> <td>≤ 0.05 m/s</td> </tr> <tr> <td>ix</td> <td>Accuracy & linerarity</td> <td>Accuracy is ± 0.1 m/s or ±1% (using transfer formula)</td> </tr> </table>						q	Data Display format	1. Instantaneous, Average, Max, Min, Std. deviation & Different with last reading 2. Date & time for Max & Min value 3. 1 hour & 24 hour statistical elaboration	r	Statistical Calculation capability	Each parameter programmable up to 5 statistical elaboration mode	s	Engineering unit modification	By 3DOM program	t	Operating Code	Supply with pre-program primary quantities & derivates quantities code	u	Event record	able to record events and messages input by the operator	v	Actuation output	Complete with actuators for alarm and external device commands. SPD external relay (2A, 250V)	w	Protective case	Weatherproof case IP65	x	EMC	EN61326-1 2013, EMC CEI EN 61010-1 2013	2.2	Meteo Mast		a	Height	2 meters	b	Diameter	internal 47mm; external 50mm	c	Material	AISI304	d	Number of Cable holes	≥4	e	Cable holes diameter	3/8"	2.3	Combined Wind Speed-Direction Anemometer sensor		a	Speed		i	Type	3 cups and vane anemometer	ii	Transducer type	Optoelectronic disk	iii	Mechanical mounting	On 48-50mm	iv	Measurement range	0-60 m/s	v	Threshold	≤ 0.4 m/s	vi	Response time	≤ 2.5 s (63% at 12 m/s)	vii	Delay distance	Tests performed at 10 m/s and 5 m/s. Not at 1 m/s, because VDI and ASTM ask only 5 and 10 m/s. At 5 m/s result is 4,5 m/s. At 1,1 m/s the delay distance values should be less than 8 m.	viii	Resolution	≤ 0.05 m/s	ix	Accuracy & linerarity	Accuracy is ± 0.1 m/s or ±1% (using transfer formula)
q	Data Display format							1. Instantaneous, Average, Max, Min, Std. deviation & Different with last reading 2. Date & time for Max & Min value 3. 1 hour & 24 hour statistical elaboration																																																																										
r	Statistical Calculation capability							Each parameter programmable up to 5 statistical elaboration mode																																																																										
s	Engineering unit modification							By 3DOM program																																																																										
t	Operating Code							Supply with pre-program primary quantities & derivates quantities code																																																																										
u	Event record							able to record events and messages input by the operator																																																																										
v	Actuation output							Complete with actuators for alarm and external device commands. SPD external relay (2A, 250V)																																																																										
w	Protective case							Weatherproof case IP65																																																																										
x	EMC							EN61326-1 2013, EMC CEI EN 61010-1 2013																																																																										
2.2	Meteo Mast																																																																																	
a	Height							2 meters																																																																										
b	Diameter							internal 47mm; external 50mm																																																																										
c	Material							AISI304																																																																										
d	Number of Cable holes							≥4																																																																										
e	Cable holes diameter							3/8"																																																																										
2.3	Combined Wind Speed-Direction Anemometer sensor																																																																																	
a	Speed																																																																																	
i	Type							3 cups and vane anemometer																																																																										
ii	Transducer type							Optoelectronic disk																																																																										
iii	Mechanical mounting							On 48-50mm																																																																										
iv	Measurement range	0-60 m/s																																																																																
v	Threshold	≤ 0.4 m/s																																																																																
vi	Response time	≤ 2.5 s (63% at 12 m/s)																																																																																
vii	Delay distance	Tests performed at 10 m/s and 5 m/s. Not at 1 m/s, because VDI and ASTM ask only 5 and 10 m/s. At 5 m/s result is 4,5 m/s. At 1,1 m/s the delay distance values should be less than 8 m.																																																																																
viii	Resolution	≤ 0.05 m/s																																																																																
ix	Accuracy & linerarity	Accuracy is ± 0.1 m/s or ±1% (using transfer formula)																																																																																
I सामग्री सूची सखुया को अधिक्रमिन्त करता है																																																																																		
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bhuna Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company		स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गयी सूचना भारत में ही इलेक्ट्रिकल्स की सम्पत्ति है. इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाये।																																																																																
हस्ताक्षर एवं दिना SIGN & DATE																																																																																		


			उत्पाद क्रय विनिर्देश		पृष्ठ	8	का	3																																																																																													
			PRODUCT PURCHASE SPECIFICATION		Page	3	of	8																																																																																													
SUPERSEDES INVENTORY NO.																																																																																																					
I समग्री सूची संख्या को अधिकृतित करता है																																																																																																					
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.																																																																																																					
	स्वाधिकार एवं गोपनीय इस परलेख में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कार्पस की हित में हानिकारक हो न किया जाये।																																																																																																				
हस्ताक्षर एवं दिना SIGN & DATE																																																																																																					
		<table border="1"> <tr> <td>b</td> <td colspan="2">Direction</td> </tr> <tr> <td>i</td> <td>Type</td> <td>Rotor Flag</td> </tr> <tr> <td>ii</td> <td>Transducer type</td> <td>Hall effect</td> </tr> <tr> <td>iii</td> <td>Measurement range</td> <td>0-360°</td> </tr> <tr> <td>iv</td> <td>Threshold</td> <td>≤ 0.4 m/s</td> </tr> <tr> <td>v</td> <td>Response time</td> <td>≤ 0.75s (63% at 4 m/s)</td> </tr> <tr> <td>vi</td> <td>Delay distance</td> <td>≤ 3m (63% at 4 m/s)</td> </tr> <tr> <td>vii</td> <td>Logarithmic damping</td> <td>d = ln (a/b) = 1.9 (at 4m/s)</td> </tr> <tr> <td>viii</td> <td>Wavelength</td> <td>≤ 7.5 m (at 4m/s)</td> </tr> <tr> <td>ix</td> <td>Resolution</td> <td>≤ 0.3°</td> </tr> <tr> <td>x</td> <td>Accuracy</td> <td>≤ 1% Full scale</td> </tr> <tr> <td>xi</td> <td>Output</td> <td>2000Ω</td> </tr> <tr> <td>2.4</td> <td colspan="2">Barometer (Atmospheric Pressure Sensor)</td> </tr> <tr> <td>a</td> <td>Range</td> <td>800 to 1100 hPa (1hPa= 1m Bar)</td> </tr> <tr> <td>b</td> <td>Sea Level correction</td> <td>-300 to 2000m</td> </tr> <tr> <td>c</td> <td>Thermal drift</td> <td>0.1hPa/°C</td> </tr> <tr> <td>d</td> <td>Accuracy</td> <td>1hPa</td> </tr> <tr> <td>e</td> <td>Overload</td> <td>max 2Pa</td> </tr> <tr> <td>f</td> <td>Thermal stabilization time</td> <td>≤ 300 sec</td> </tr> <tr> <td>g</td> <td>Response time</td> <td>≤ 1ms</td> </tr> <tr> <td>h</td> <td>Environment Limit</td> <td>-40 to +85°C</td> </tr> <tr> <td>i</td> <td>Output</td> <td>0- 300mV</td> </tr> <tr> <td>2.5</td> <td colspan="2">Global Radiation sensor</td> </tr> <tr> <td>a</td> <td>Sensitive element</td> <td>Thermopile</td> </tr> <tr> <td>b</td> <td>Spectral range</td> <td>300 to 1100nm</td> </tr> <tr> <td>c</td> <td>Measurement range</td> <td>≤ 2000W m-2</td> </tr> <tr> <td>d</td> <td>Electric output</td> <td>10μV/ W m-2</td> </tr> <tr> <td>e</td> <td>Accuracy</td> <td>≤5% ± 5W m-2</td> </tr> <tr> <td>f</td> <td>Response time</td> <td>≤ 50ms</td> </tr> <tr> <td>g</td> <td>Operative Temperature</td> <td>-40 to +80°C</td> </tr> <tr> <td>h</td> <td>Output</td> <td>10 - 15 μV/W/m 2</td> </tr> </table>							b	Direction		i	Type	Rotor Flag	ii	Transducer type	Hall effect	iii	Measurement range	0-360°	iv	Threshold	≤ 0.4 m/s	v	Response time	≤ 0.75s (63% at 4 m/s)	vi	Delay distance	≤ 3m (63% at 4 m/s)	vii	Logarithmic damping	d = ln (a/b) = 1.9 (at 4m/s)	viii	Wavelength	≤ 7.5 m (at 4m/s)	ix	Resolution	≤ 0.3°	x	Accuracy	≤ 1% Full scale	xi	Output	2000Ω	2.4	Barometer (Atmospheric Pressure Sensor)		a	Range	800 to 1100 hPa (1hPa= 1m Bar)	b	Sea Level correction	-300 to 2000m	c	Thermal drift	0.1hPa/°C	d	Accuracy	1hPa	e	Overload	max 2Pa	f	Thermal stabilization time	≤ 300 sec	g	Response time	≤ 1ms	h	Environment Limit	-40 to +85°C	i	Output	0- 300mV	2.5	Global Radiation sensor		a	Sensitive element	Thermopile	b	Spectral range	300 to 1100nm	c	Measurement range	≤ 2000W m-2	d	Electric output	10μV/ W m-2	e	Accuracy	≤5% ± 5W m-2	f	Response time	≤ 50ms	g	Operative Temperature	-40 to +80°C	h	Output	10 - 15 μV/W/m 2
b	Direction																																																																																																				
i	Type	Rotor Flag																																																																																																			
ii	Transducer type	Hall effect																																																																																																			
iii	Measurement range	0-360°																																																																																																			
iv	Threshold	≤ 0.4 m/s																																																																																																			
v	Response time	≤ 0.75s (63% at 4 m/s)																																																																																																			
vi	Delay distance	≤ 3m (63% at 4 m/s)																																																																																																			
vii	Logarithmic damping	d = ln (a/b) = 1.9 (at 4m/s)																																																																																																			
viii	Wavelength	≤ 7.5 m (at 4m/s)																																																																																																			
ix	Resolution	≤ 0.3°																																																																																																			
x	Accuracy	≤ 1% Full scale																																																																																																			
xi	Output	2000Ω																																																																																																			
2.4	Barometer (Atmospheric Pressure Sensor)																																																																																																				
a	Range	800 to 1100 hPa (1hPa= 1m Bar)																																																																																																			
b	Sea Level correction	-300 to 2000m																																																																																																			
c	Thermal drift	0.1hPa/°C																																																																																																			
d	Accuracy	1hPa																																																																																																			
e	Overload	max 2Pa																																																																																																			
f	Thermal stabilization time	≤ 300 sec																																																																																																			
g	Response time	≤ 1ms																																																																																																			
h	Environment Limit	-40 to +85°C																																																																																																			
i	Output	0- 300mV																																																																																																			
2.5	Global Radiation sensor																																																																																																				
a	Sensitive element	Thermopile																																																																																																			
b	Spectral range	300 to 1100nm																																																																																																			
c	Measurement range	≤ 2000W m-2																																																																																																			
d	Electric output	10μV/ W m-2																																																																																																			
e	Accuracy	≤5% ± 5W m-2																																																																																																			
f	Response time	≤ 50ms																																																																																																			
g	Operative Temperature	-40 to +80°C																																																																																																			
h	Output	10 - 15 μV/W/m 2																																																																																																			

नुक़ादा ग़ुज़रक़ा SIGN & DATE		उत्पाद क्रय विनिर्देश																																																																																																																																
				पृष्ठ	8	का	4																																																																																																																											
PRODUCT PURCHASE SPECIFICATION		Page	4	of	8																																																																																																																													
SUPERSEDES INVENTORY NO.																																																																																																																																		
I सामग्री सूची सख़्खा को अधिक्रमि़त करता है																																																																																																																																		
COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company																																																																																																																																		
स्वतंत्राधिकार एवं गोपनीय इस दस्तख़त में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाये।																																																																																																																																		
हस्ताक्षर एवं दिना SIGN & DATE																																																																																																																																		
<table border="1"> <tr> <td>2.6</td> <td colspan="4">Direct Radiation & Sunshine Duration Sensors</td> </tr> <tr> <td>a</td> <td>Sensitive element</td> <td colspan="3">Photodiode</td> </tr> <tr> <td>b</td> <td>WMO pyrometric class</td> <td colspan="3">Second class</td> </tr> <tr> <td>c</td> <td>Sunshine Status Defined as per WMO standard, 1981</td> <td colspan="3">Yes, present when " direct radiation" is above 120Wm-2 (WMO standard, 1981)</td> </tr> <tr> <td>d</td> <td>Require seasonal positioning</td> <td colspan="3">No, unless required greater precision</td> </tr> <tr> <td>e</td> <td>Working Latitude</td> <td colspan="3">0 to 60°</td> </tr> <tr> <td>f</td> <td>Spectral range</td> <td colspan="3">300 to 1100nm</td> </tr> <tr> <td>g</td> <td>Direct Radiation range</td> <td colspan="3">1500Wm-2</td> </tr> <tr> <td>h</td> <td>Accuracy</td> <td colspan="3">For Direct Radiation, the total daily accuracy of 15% which includes all the errors due to cosine angles. In certain central hours of the day with clear sky accuracy can be much better than 5%. As reported in the Calibration certificate given with each sensor</td> </tr> <tr> <td>i</td> <td>Non-linearity</td> <td colspan="3">< 1.5%</td> </tr> <tr> <td>j</td> <td>Thermal drift</td> <td colspan="3"><2% (-10 to +40 °C</td> </tr> <tr> <td>k</td> <td>Operative Temp.</td> <td colspan="3">0 to +60°C</td> </tr> <tr> <td>l</td> <td>Occultation band rotation</td> <td colspan="3">1rps</td> </tr> <tr> <td>m</td> <td>Direct radiation output</td> <td colspan="3">4-20 mA</td> </tr> <tr> <td>n</td> <td>Sunshine Output</td> <td colspan="3">on/off TTL comp.</td> </tr> <tr> <td>2.7</td> <td colspan="4">UVA Radiometer</td> </tr> <tr> <td>a</td> <td>Sensitive element</td> <td colspan="3">Photodiode</td> </tr> <tr> <td>b</td> <td>Spectral range</td> <td colspan="3">320 to 400nm</td> </tr> <tr> <td>c</td> <td>Measurement range</td> <td colspan="3">0 to 70 Wm-2</td> </tr> <tr> <td>d</td> <td>Electric output</td> <td colspan="3">Normalization</td> </tr> <tr> <td>e</td> <td>Accuracy</td> <td colspan="3">The total daily accuracy which includes all the errors due to cosine angles and the UV-A diffuse radiation effect. In certain hours of the day accuracy can be better than 18%</td> </tr> <tr> <td>f</td> <td>Thermal Drift (-10 +40°)</td> <td colspan="3">< 0.05%/ °C</td> </tr> <tr> <td>g</td> <td>Response time</td> <td colspan="3"><50 ms</td> </tr> <tr> <td>h</td> <td>Operative Temperature</td> <td colspan="3">-40°C to +80°C</td> </tr> <tr> <td>i</td> <td>Output</td> <td colspan="3">4-20 mA</td> </tr> </table>						2.6	Direct Radiation & Sunshine Duration Sensors				a	Sensitive element	Photodiode			b	WMO pyrometric class	Second class			c	Sunshine Status Defined as per WMO standard, 1981	Yes, present when " direct radiation" is above 120Wm-2 (WMO standard, 1981)			d	Require seasonal positioning	No, unless required greater precision			e	Working Latitude	0 to 60°			f	Spectral range	300 to 1100nm			g	Direct Radiation range	1500Wm-2			h	Accuracy	For Direct Radiation, the total daily accuracy of 15% which includes all the errors due to cosine angles. In certain central hours of the day with clear sky accuracy can be much better than 5%. As reported in the Calibration certificate given with each sensor			i	Non-linearity	< 1.5%			j	Thermal drift	<2% (-10 to +40 °C			k	Operative Temp.	0 to +60°C			l	Occultation band rotation	1rps			m	Direct radiation output	4-20 mA			n	Sunshine Output	on/off TTL comp.			2.7	UVA Radiometer				a	Sensitive element	Photodiode			b	Spectral range	320 to 400nm			c	Measurement range	0 to 70 Wm-2			d	Electric output	Normalization			e	Accuracy	The total daily accuracy which includes all the errors due to cosine angles and the UV-A diffuse radiation effect. In certain hours of the day accuracy can be better than 18%			f	Thermal Drift (-10 +40°)	< 0.05%/ °C			g	Response time	<50 ms			h	Operative Temperature	-40°C to +80°C			i	Output	4-20 mA		
2.6	Direct Radiation & Sunshine Duration Sensors																																																																																																																																	
a	Sensitive element	Photodiode																																																																																																																																
b	WMO pyrometric class	Second class																																																																																																																																
c	Sunshine Status Defined as per WMO standard, 1981	Yes, present when " direct radiation" is above 120Wm-2 (WMO standard, 1981)																																																																																																																																
d	Require seasonal positioning	No, unless required greater precision																																																																																																																																
e	Working Latitude	0 to 60°																																																																																																																																
f	Spectral range	300 to 1100nm																																																																																																																																
g	Direct Radiation range	1500Wm-2																																																																																																																																
h	Accuracy	For Direct Radiation, the total daily accuracy of 15% which includes all the errors due to cosine angles. In certain central hours of the day with clear sky accuracy can be much better than 5%. As reported in the Calibration certificate given with each sensor																																																																																																																																
i	Non-linearity	< 1.5%																																																																																																																																
j	Thermal drift	<2% (-10 to +40 °C																																																																																																																																
k	Operative Temp.	0 to +60°C																																																																																																																																
l	Occultation band rotation	1rps																																																																																																																																
m	Direct radiation output	4-20 mA																																																																																																																																
n	Sunshine Output	on/off TTL comp.																																																																																																																																
2.7	UVA Radiometer																																																																																																																																	
a	Sensitive element	Photodiode																																																																																																																																
b	Spectral range	320 to 400nm																																																																																																																																
c	Measurement range	0 to 70 Wm-2																																																																																																																																
d	Electric output	Normalization																																																																																																																																
e	Accuracy	The total daily accuracy which includes all the errors due to cosine angles and the UV-A diffuse radiation effect. In certain hours of the day accuracy can be better than 18%																																																																																																																																
f	Thermal Drift (-10 +40°)	< 0.05%/ °C																																																																																																																																
g	Response time	<50 ms																																																																																																																																
h	Operative Temperature	-40°C to +80°C																																																																																																																																
i	Output	4-20 mA																																																																																																																																

नुक़ाद ,oa gLr[k]j SIGN & DATE		उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION					
				पृष्ठ Page	8 5	का of	5 8
SUPERSEDES INVENTORY NO.							
I सामग्री सूची सख़्खा को अधिक्रमिती करता है							
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	2.8		Evaporimeter System				
	a	WMO standard Class	A Class				
	b	Automatic refilling option	Solenoid electric valve				
	2.9		Evaporimeter pan				
	a	Evaporation surface area	1.143m ²				
	b	Pan Size	1270mm, H. 254mm				
	c	Still well size	120mm, H. 245mm				
	d	Material	AISI304				
	2.10		Wooden Platform				
	a	Size	1240X1240X150mm				
	b	Material	Larchwood coated with protective paint				
	2.11		Evaporation level sensor				
	a	Element	Piezometric				
	b	Range	0 to 200mm				
	c	Accuracy					
i	Linearity	<0.1% Full Scale					
ii	Hysteresis	< 0.03% Full Scale					
iii	Stability	<0.1% Full Scale					
d	Operative Temperature	0 to 50°C					
e	Temperature Coeff. Zero	Max. 0.02% Full Scale/K					
f	Temperature Coeff. Sensitive	Max. 0.02% Full Scale/K					
g	Material	Stainless Steel					
h	Output	4 to 20mA					
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्येक एवं अप्रत्येक रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाये।							
हस्ताक्षर एवं दिना SIGN & DATE							

nukad ,oa gLrk[k] SIGN & DATE		उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION					
				पृष्ठ	8	का	6
				Page	6	of	8
SUPERSEDES INVENTORY NO.							
I सामग्री सूची सख्खा को अधिक्रमिति करता है							
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	2.12 Temperature, Relative Humidity & Dew point Sensors						
	a	Sensitive element					
	i	Temp	Pt 100				
	ii	Humidity	Capacitive plate				
	b	Solar Radiation Shield	with double shield				
	c	Ventilation	Natural				
	d	Measurement range					
	i	Temp	-30 to +70 °C				
	ii	Relative Humidity	0 to 100%				
	iii	Dew point	-30 to +70 °C				
स्वाधिकार एवं गोपनीय इस प्रलेख में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाये।	e	Resolution					
	i	Temp	≤ 0.025°C				
	ii	Relative Humidity	≤ 0.2%				
	iii	Dew point	Dew Point resolution follows the temperature resolution: 0.025°C				
	f	Long Term Stability					
	i	Temp	- 0.04°C (after 5 years at 200°C)				
	ii	Relative Humidity	-2% /year (at 75% RH)				
	g	Response time (T63)					
	i	Temp	80 sec				
	ii	Relative Humidity	10 sec				
हस्ताक्षर एवं दिना SIGN & DATE	iii	Dew point	Derived by Data Logger				
	h	Output	Resistance output (Ohms) according to DIN-IEC 751 table				
	i	RH% Calibration	Standard				

nukad ,oa gLrk[k] SIGN & DATE		उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION																																																																																															
				पृष्ठ	8	का	7																																																																																										
				Page	7	of	8																																																																																										
SUPERSEDES INVENTORY NO.		<table border="1"> <tr> <td>2.13</td> <td colspan="5">Electric Rain Gauges</td> </tr> <tr> <td>a</td> <td>Collector surface area</td> <td colspan="4">323cmsq.</td> </tr> <tr> <td>b</td> <td>Collector area diameter</td> <td colspan="4">203cm</td> </tr> <tr> <td>c</td> <td>Measurement range</td> <td colspan="4">500 mm/hr</td> </tr> <tr> <td>d</td> <td>Resolution</td> <td colspan="4">0.2mm. Impulse</td> </tr> <tr> <td>e</td> <td>Accuracy</td> <td colspan="4">≤ 1 tip or 1% of rainfall (0-500mm/hr)</td> </tr> <tr> <td>f</td> <td>Contact</td> <td colspan="4">1 reed</td> </tr> <tr> <td>g</td> <td>Pulse Duration</td> <td colspan="4">100msec +/- 50</td> </tr> <tr> <td>h</td> <td>Collectot cone material</td> <td colspan="4">Aluminium housing with Teflonate plastic Tipping spoon and plastic base</td> </tr> <tr> <td>i</td> <td>External housing material</td> <td colspan="4">Aluminium</td> </tr> <tr> <td>j</td> <td>Tipping bucket material</td> <td colspan="4">Teflonate aluminium</td> </tr> <tr> <td>k</td> <td>Equipped with siphon on cone's nozzle</td> <td colspan="4">Yes</td> </tr> <tr> <td>l</td> <td>Operative limits Unheated models</td> <td colspan="4">0 + 50 °C</td> </tr> <tr> <td>m</td> <td>Heated models lower operative range</td> <td colspan="4">15°C</td> </tr> <tr> <td>n</td> <td>Output</td> <td colspan="4">Pulse</td> </tr> </table> <p>2.14 Mandatory Spares: 10% of electronic module / cards as applicable for the offered system would be provided. In case 10% quantity is less than 1, then It shall be treated as 1 only.</p>						2.13	Electric Rain Gauges					a	Collector surface area	323cmsq.				b	Collector area diameter	203cm				c	Measurement range	500 mm/hr				d	Resolution	0.2mm. Impulse				e	Accuracy	≤ 1 tip or 1% of rainfall (0-500mm/hr)				f	Contact	1 reed				g	Pulse Duration	100msec +/- 50				h	Collectot cone material	Aluminium housing with Teflonate plastic Tipping spoon and plastic base				i	External housing material	Aluminium				j	Tipping bucket material	Teflonate aluminium				k	Equipped with siphon on cone's nozzle	Yes				l	Operative limits Unheated models	0 + 50 °C				m	Heated models lower operative range	15°C				n	Output	Pulse			
2.13	Electric Rain Gauges																																																																																																
a	Collector surface area							323cmsq.																																																																																									
b	Collector area diameter							203cm																																																																																									
c	Measurement range							500 mm/hr																																																																																									
d	Resolution							0.2mm. Impulse																																																																																									
e	Accuracy							≤ 1 tip or 1% of rainfall (0-500mm/hr)																																																																																									
f	Contact							1 reed																																																																																									
g	Pulse Duration							100msec +/- 50																																																																																									
h	Collectot cone material							Aluminium housing with Teflonate plastic Tipping spoon and plastic base																																																																																									
i	External housing material							Aluminium																																																																																									
j	Tipping bucket material							Teflonate aluminium																																																																																									
k	Equipped with siphon on cone's nozzle							Yes																																																																																									
l	Operative limits Unheated models							0 + 50 °C																																																																																									
m	Heated models lower operative range							15°C																																																																																									
n	Output	Pulse																																																																																															
I सामग्री सूची सख्या को अधिक्रमिति करता है																																																																																																	
COPYRIGHT AND CONFIDENTIAL <small>The information on this documents is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company</small>																																																																																																	
स्वत्वाधिकार एवं गोपनीय <small>इस प्रलेख में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाये।</small>																																																																																																	
हस्ताक्षर एवं दिना SIGN & DATE																																																																																																	

nukad ,oa gLrk{k SIGN & DATE			उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION		पृष्ठ Page	8 8	का of	8 8
SUPERSEDES INVENTORY NO.			3.0 Detailed printed Catalogue/Brochure/Leaflet must be provided with the offer submitted.					
I समझी सूची सख्या को अधिकृत करता है			4.0 General Terms & Conditions:					
COPYRIGHT AND CONFIDENTIAL <small>The information on this documents is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company</small>			4.1. Document: One hard copy of O&M manual in English language giving complete technical information for operation and maintenance of the equipment shall be supplied with the equipment. 4.2. Installation and Commissioning: The supplier shall Install & Commission the equipment at required sites. Supplier should demonstrate the performance of the equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL / end user. 4.3 Guarantee / Warranty: The equipment shall be guaranteed / warranted for satisfactory performance for a period of 24 months from the date of installation & commissioning or 36 months from the date of dispatch, whichever is earlier.					
स्वत्वाधिकार एवं गोपनीय <small>इस दस्तावेज में दी गयी सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रयोग एवं अप्रयोग इस से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाये।</small>			4.4 Packing & Dispatch: The equipment / accessories shall be packed in a suitable water proof / vibration proof packing boxes capable of bearing air and road transit hazards. 4.5 "PCRI HWR" should be written in bold letters on all four sides of the box. Packing box shall be properly identified and marked with BHEL's (India) Purchase Order Number.					
हस्ताक्षर एवं दिना SIGN & DATE			4.6 Special Instructions: 4.6.1 Apart from customer specified vendor for each individual item, additional vendors offering items of "Reputed Make" are also acceptable subject to customer approval. The vendor should fulfill anyone of the following condition; a. "Vendor have supplied the item for at least one thermal power plant of 500 MW or above capacity". OR b. "Offered item has completed one year of commercial operation and the equipment supplied should have completed the contractual guarantee period". 4.6.2 Vendor to provide documentary evidence like PO copy, end user certificate / commissioning report etc. in support of fulfilling either of the above criteria for customer review.					

Buyer Specific ATC document for Ambient Air Meteorological System (AAMS) of Bhusawal

1.	<p>MDCC (Material dispatch clearance certificate) Clause:</p> <p>Please note that material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) by BHEL. For issue of MDCC, you are required to submit the set of documents (i.e. Packing list, Guarantee certificate, Complete test reports & Calibration certificate.</p> <p>BHEL will release MDCC within 07 days from the date of receipt of complete documents as detailed above.</p> <p>The delivery period of 120 days is inclusive of 07 days taken by BHEL to issue MDCC.</p>
2.	<p>Customer Approval Make / Brand:</p> <p>1. At present, customer approved Make / Brand are “LSI-ITALY / NEVCO / DWER”.</p> <p>2. Any additional "REPUTED MAKE" item is also acceptable subject to customer approval as mentioned in Clause 4.6 of Technical Specification. The bidder should fulfill anyone of the following condition:</p> <p>(a) Bidder should have supplied the item for at least one Thermal Power Plant of 500 MW or above capacity OR</p> <p>(b) Offered item has completed one year of commercial operation and the equipment supplied should have completed the contractual guarantee period.</p> <p>Bidder to provide documentary evidence like PO copy, end user certificate / commissioning report etc. in support of fulfilling either of the above criteria for customer review and approval.</p> <p>BHEL will open the Price Bids of only those bidders who are finally approved by the end customer.</p>
3.	<p>Pre-Qualification Requirement (PQR):</p> <p>The Pre-Qualification Requirements have been made part of bid. All the bidders should ensure submission of complete details and documents as called for in the same. The offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first.</p> <p>Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.</p>
4.	<p>Technical Specification Requirement:</p> <p>1. Please quote your valuable offer as per BHEL Specification enclosed with bid documents.</p> <p>2. Bidders are requested to upload point-wise compliance of BHEL Specification along with the offer as token of acceptance.</p>
5.	<p>Payment Terms:</p> <ul style="list-style-type: none">90% payment after receipt of material at site against submission of PBG @ 10% of Order value valid till entire Guarantee / Warranty period. The PBG will be in BHEL format and from one of the BHEL consortium banks. For name of BHEL consortium bank, please visit our website hwr.bhel.com.Balance 10% payment after installation and commissioning at site.Payment will be released by BHEL within:<ul style="list-style-type: none">- 45 days for Micro and Small enterprises- 60 days for Medium enterprises- 90 days for Non MSME enterprises

6.	<p>Delivery Period:</p> <p>The delivery shall be 120 days from the date of PO placement. This period is inclusive of 7 days for BHEL to arrange dispatch clearance (provided MDCC related documents are complete in all respect).</p>
7.	<p>Evaluation criteria:</p> <p>Evaluation will be done on the basis of Total Landed cost up to Bhusawal project site (Total value wise evaluation).</p> <p>Bidders are requested to quote for complete scope of supply including mandatory spares as per Clause 2.14 of Technical Specification.</p>
8.	<p>Document:</p> <p>One (01) Hard Copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment is required to be supplied along with the instrument(s).</p>
9.	<p>Price Basis:</p> <p>Please confirm that prices have been quoted on F.O.R. Bhusawal site basis.</p>
10.	<p>Installation and Commissioning:</p> <p>The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL / End User.</p> <p><i>Cost of Installation and Commissioning should be inclusive in the quoted prices.</i></p> <p>Installation and Commissioning will be done at following address:</p> <p>CHIEF ENGINEER/DY.CHIEF ENGINEER(PROJECT), 1X660MW BHUSAWAL THERMAL POWER STATION UNIT-6, MSPGCL, BHUSAWAL, DIST JALGAON (MAHARASHTRA), PIN-425307 STATE : Maharashtra-27</p> <p><i>Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.</i></p>
11.	<p>Guarantee / Warranty:</p> <p>The equipment shall be guaranteed / warranted for satisfactory performance for a period of 36 months from the date of dispatch or 24 months from the date of installation and commissioning, whichever is earlier.</p> <p>Failing to comply to the Guarantee / Warranty clause, the offer will be rejected straightaway.</p>
12.	<p>Packing & Dispatch:</p> <p>1. The equipment / accessories shall be packed in a suitable water proof / vibration proof packing boxes capable of bearing air and road transit hazards.</p> <p>2. Packing box shall be properly identified and marked with BHEL's (India) Purchase Order Number. Also, "PCRI HWR" and Name of the Item/Items should be written in bold letters on all four sides of Packing box.</p>

13. **EARNEST MONEY DEPOSIT (EMD)**

13.1 Interested vendors must submit their offer along with the following Earnest Money Deposit (EMD) in a separate sealed envelope:

Details	Amount In INR	Amount in Foreign Currency	Type
EMD	INR 40,000/- (INR Forty Thousand Only)	Equivalent Foreign currency	Refundable

13.2 EMD shall not carry any interest.

13.3 Modes of deposits will be as per General Terms and Conditions (GTC) GeM_GTC_4.0 v_1.9_31Mar23.

The demand draft shall be in favor of “BHEL Haridwar”. E-Payment is also acceptable. For e-payment, RTGS details are as mentioned below:

Bank Details	SWIFT Details of bank	Contact Details of Banker
STATE BANK OF INDIA RANIPUR BRANCH, OPP: BHEL MAIN GATE, SECTOR-5, RANIPUR, HARIDWAR, UTTRAKHAND, INDIA PIN CODE : 249403	SWIFT NO : SBININBB225 CC ACCOUNT NO : 10667995458 IFSC CODE : SBIN0000586	Chief Manager (IBD) Contact No. +91 1334 224201 +91 1334 226125 Fax: +91 1334 226512

13.4 MSE Suppliers, who are the manufacturer of offered item as per specification are exempted from submission of the EMD.

13.5 EMD exemption will be allowed as per criteria laid down in General Terms and Conditions (GTC) GeM_GTC_4.0 v_1.9_31Mar23.

13.6 Bids not accompanied with requisite EMD or bids accompanied with EMD of inadequate value shall be liable for rejection, wherever exemption is not allowed.

13.7 The bidder whose bid is technically not accepted will be informed & EMD wherever submitted shall be refunded after the finalization of the contract. EMD shall be forfeited in the event of bidder opting out after tender opening (PART-I).

14. **Arbitration Clause:**

In case of any dispute arising out of as in connection with this contract, the same shall be referred to arbitration under Arbitration & Conciliation Act 1996 of a sole arbitrator who shall be appointed by mutual consent of the parties. The seat & venue of arbitration shall be Haridwar.

The proceedings shall be conducted in English. The Governing law of contract shall be the substantive law of India.

15. **General Clause:**

All other commercial terms and conditions will be governed by General Terms and Conditions (GTC) GeM_GTC_4.0 v_1.9_31Mar23.

16. **Risk Purchase:**

In case of abnormal delays (beyond the maximum late delivery period as per LD clause) in supplies / defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere / alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract or under General Law.

Action against Bidders / vendor / supplier / contractor in case of default:

In order to protect the commercial interests of BHEL, BHEL shall take action against supplies / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/ money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc.

Suspension of Business Dealings could be in the form of “Hold” or “Banning” a supplier/ contractor or a bidder and shall be as per “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” available at BHEL’s website [“https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors”](https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors).

17. **Conflict of Interest among Bidders/ Agents:**

"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. **The bidder: found to have a conflict of interest shall be disqualified.** A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

a) they have controlling partner (s) in common; **or**

b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; **or**

c) they have the same legal representative/agent for purposes of this bid; **or**

d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder **or**

e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/Assemblies from. one bidding manufacturer in more than one bid; **or**

f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:

1. The principal manufacturer directly or through one Indian agent on his behalf; and

	<p>2. Indian/foreign agent on behalf of only one principal, or</p> <p>g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or</p> <p>h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "</p>
18.	<p>E-invoicing:</p> <p>E-invoicing under GST has been implemented w.e.f. 01.10.2022 for all the taxable persons having turnover more than Rs. 10 cr. it has been specified by the govt that it is mandatory to mention a valid unique invoice reference no. (IRN) and QR code as generated from govt. portal on a tax invoice. Based on such information, GST ITC as claimed by BHEL in GST returns shall be matched with the corresponding details uploaded by supplier in E-invoicing system.</p> <p>In case the vendor / contractor delays or fails to provide all the documents as per the purchase order / work order at the time of submitting tax invoice to BHEL, any subsequent financial loss to BHEL on account of vendor/contractor shall be to vendor's / contractor's account. BHEL has further right to take necessary steps to protect its interest at the time of release of payment. this further requires inclusion of IRN and QR code on tax invoice as announced by govt. of india w.e.f. 01.10.2022.</p>

Certificate

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated 28.05.2018, we hereby certify that we M/s _____(supplier name) are local supplier meeting the requirement of minimum local content (50%) as defined in above orders for the material against Enquiry No. _____

Details of location at which local value addition will be made is as follows:

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and Signature of Supplier