

TD-106-1 Rev No. 5	Form No.		PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION BHEL R.C PURAM, HYDERABAD –32		Doc.No: PY60059 Rev No.: 01 Page 01 of 05
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.		<u>TECHNICAL SPECIFICATION</u> <u>FOR SUPPLY OF</u> <u>MODULE MOUNTING STRUCTURE ITEMS (MMS)</u> <u>PROJECT</u> : <u>1X65 MWp SPV POWER PLANT, NLC, NEYVELI, Tamilnadu</u> <u>CUSTOMER</u> : <u>NEYVELI LIGNITE CORPORATION LIMITED</u>			
Ref. Doc	Prepared By: K.V NAGENDRA REDDY	Checked By : G.SESHU KIRAN	Approved By : J.K PATTANAIK	Date : 11.10.17	

TD-106-2 Rev No. 5 Form No.		PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION BHEL R.C PURAM, HYDERABAD –32		Doc.No: PY60059																							
				Rev No.: 01																							
				Page 2 of 5																							
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. A. INTRODUCTION Bharat Heavy Electricals Limited (BHEL), a premier Maharatna public sector undertaking in the field of Manufacturing entire range of power plant equipments and has proven turnkey abilities for executing power plants from concept to commissioning. BHEL PE&SD Hyderabad executing solar PV Projects. NLC is Setting up of 130MW grid interactive solar PV power project at Neyveli site, Cuddalore district, Tamilnadu state, India comprises of two nos. blocks of capacity 65 MWp each. The solar PV power project at Neyveli site is located within NLC's command area adjoining township at Neyveli. BHEL is setting up one of block of 65 MWp capacity. The 65MW block which is being executed by BHEL is again subdivided into two sub-blocks of 40MW & 25MW blocks which are located 7-8 km apart. <table border="1" style="width: 100%;"> <tr> <td>Plant Location</td> <td>:</td> <td>Neyveli site, Cuddalore district</td> </tr> <tr> <td>State</td> <td>:</td> <td>Tamilnadu</td> </tr> <tr> <td>Nearest Important Town</td> <td>:</td> <td>Neyveli</td> </tr> <tr> <td>Nearest Railway Station</td> <td>:</td> <td>Vridhachalam Jn</td> </tr> <tr> <td>Nearest Airport</td> <td>:</td> <td>Chennai</td> </tr> </table> The PV modules shall be mounted on metallic structures called Module Mounting Structures (MMS). This document describes the technical specification for MMS superstructure items. B. SCOPE This specification covers the supply of structural elements for MMS (refer annexure-1) as detailed below: <table border="1" style="width: 100%;"> <thead> <tr> <th>Variant No.</th> <th>Scope of Supply</th> <th>BHEL Material Code</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>BRACING BR1:MMS Super structure</td> <td>PY9760059045</td> <td>PY-DH-3-M088-1260-01, Rev-03 (Sheet 04 of 04)</td> </tr> </tbody> </table>					Plant Location	:	Neyveli site, Cuddalore district	State	:	Tamilnadu	Nearest Important Town	:	Neyveli	Nearest Railway Station	:	Vridhachalam Jn	Nearest Airport	:	Chennai	Variant No.	Scope of Supply	BHEL Material Code	Remarks	1.	BRACING BR1:MMS Super structure	PY9760059045	PY-DH-3-M088-1260-01, Rev-03 (Sheet 04 of 04)
Plant Location	:	Neyveli site, Cuddalore district																									
State	:	Tamilnadu																									
Nearest Important Town	:	Neyveli																									
Nearest Railway Station	:	Vridhachalam Jn																									
Nearest Airport	:	Chennai																									
Variant No.	Scope of Supply	BHEL Material Code	Remarks																								
1.	BRACING BR1:MMS Super structure	PY9760059045	PY-DH-3-M088-1260-01, Rev-03 (Sheet 04 of 04)																								
Ref.	Doc																										

TD-106-2 Rev No. 5		Form No.	बी एच ई एल BHEL PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION BHEL R.C PURAM, HYDERABAD –32		Doc.No: PY60059
				Rev No.: 01	
				Page 3 of 5	
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.			C. MATERIAL SPECIFICATION MMS frames, post, assembly of the structures, etc. shall conform to Indian standards as mentioned in the list of code. Refer Annexure-1 for details of structural members. All cold formed sections shall be minimum yield stress 350MPa and Hot rolled sections of minimum yield stress 250MPa. IS: 2062 - Hot Rolled Medium and High Tensile Structural Steel IS: 811 - Cold Formed Light Gauge Structural Steel Sections IS: 513 - Cold-rolled low carbon steel sheets and strips All materials shall be fabricated in shop such that welding in field shall not be required. Activities like Welding, Galvanisation, Punching of holes etc., are not allowed at site.		
			D. COATING FOR STRUCTURAL STEEL WORKS MMS frames, post, assembly of the structures, etc. shall be of MS hot dip galvanized. Hot dip galvanization shall be as per IS: 4759 /ASTM A123 and the coating minimum thickness shall be maintained by 80 micron. IS: 4759 - Hot-dip zinc coatings on structural steel and other allied products		
			E. SUB VENDOR FOR STRUCTURAL STEEL 1 Structural steel should conform to relevant Indian Standards. 2 Structural steel should be sourced from reputed make of supplier to similar construction /infrastructure projects. The Bidder should furnish documentary evidence to prove above (1) & (2)		
			F. INSPECTION BHEL shall provide dispatch clearance after inspection of material and verifying that the documents are in order		
			G. MANUFACTURING QUALITY PLAN (MQP) A typical sample of MQP for the MMS items is enclosed along with this tender. Vendor shall use this document as reference for preparation and submission of test reports. Refer Annexure-2.		
			H. MARKING INSTRUCTIONS All items shall have unique identification number (Numbering system shall be furnished by BHEL after placing PO. Bidder shall ensure the same before dispatch of material to site). The identification number of each item shall be stencilled with red paint in bold letters on every part on 100% basis.		
Ref.	Doc				

TD-106-2 Rev No. 5 Form No.		PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION BHEL R.C PURAM, HYDERABAD -32		Doc.No: PY60059																														
				Rev No.: 01																														
				Page 4 of 5																														
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. I. PACKING INSTRUCTIONS The MMS items shall be packed in bundles with steel straps. Necessary precautionary provisions (strips of plastic, fiber, rubber etc) shall be used to prevent the steel straps from damaging the galvanized surface. Adequate quantity of steel straps shall be provided depending upon the length of MMS items. Bundles shall be with appropriate lot quantity (50 Nos/100 Nos etc per bundle) to facilitate ease of handling and accounting. Bundles shall be provided with name tags giving part number, quantity and month of manufacturing. J. NOTES TO BIDDER - Bidders are advised to contact BHEL for essential technical queries in writing during pre-bid stage. In case no such clarifications are sought during pre-bid stage, it will be assumed that bidder has no comments or observations on BHEL's specification and no deviations from the specifications are taken by the bidder. - BHEL/NLC reserves the rights to carry out surveillance visits at the works of vendor/ galvanizer to check/ monitor the MMS structure manufacturing/ galvanizing processes as and when required. - Offers with incomplete information will not be considered for evaluation, and are likely to be rejected outright without any further interaction with the Bidder. - In the event of any conflict between these specifications, drawings, related standards, codes etc. the vendor shall refer the matter to the purchaser for clarifications during pre-bid stage. - PO/LOA date considered as manufacturing clearance date. K. DELIVERY SCHEDULE (INDICATIVE) The schedule for delivery of items at site shall be as per NIT. <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Schedule of Delivery</th> <th>Lots</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>30 days from PO/LOA</td> <td>Lot-1</td> <td>As per NIT</td> </tr> </tbody> </table> L. LIST OF ANNEXURES Following input documents and specifications are enclosed to facilitate the bidder to furnish the offer: <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Annexure No.</th> <th>Document/ Drawing Title</th> <th>Doc. No.</th> <th>Rev</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Fabrication drawings</td> <td>PY-DH-3-M088-1260-01</td> <td>03</td> </tr> <tr> <td>2.</td> <td>QAP Guidelines and Format</td> <td>ANNEXURE-2</td> <td>01</td> </tr> <tr> <td>3.</td> <td>Pre-Bid Queries format</td> <td>ANNEXURE-3</td> <td>00</td> </tr> <tr> <td>4.</td> <td>No deviation format</td> <td>ANNEXURE-4</td> <td>00</td> </tr> <tr> <td>5.</td> <td>Price bid format</td> <td>ANNEXURE-5</td> <td>00</td> </tr> </tbody> </table> Notes: Incase if bidder found any document/annexure no. listed in the technical specification and is missing from the attachment, it is bidder's responsibility to highlight the missing attachment.					Schedule of Delivery	Lots	Qty	30 days from PO/LOA	Lot-1	As per NIT	Annexure No.	Document/ Drawing Title	Doc. No.	Rev	1.	Fabrication drawings	PY-DH-3-M088-1260-01	03	2.	QAP Guidelines and Format	ANNEXURE-2	01	3.	Pre-Bid Queries format	ANNEXURE-3	00	4.	No deviation format	ANNEXURE-4	00	5.	Price bid format	ANNEXURE-5	00
Schedule of Delivery	Lots	Qty																																
30 days from PO/LOA	Lot-1	As per NIT																																
Annexure No.	Document/ Drawing Title	Doc. No.	Rev																															
1.	Fabrication drawings	PY-DH-3-M088-1260-01	03																															
2.	QAP Guidelines and Format	ANNEXURE-2	01																															
3.	Pre-Bid Queries format	ANNEXURE-3	00																															
4.	No deviation format	ANNEXURE-4	00																															
5.	Price bid format	ANNEXURE-5	00																															
Ref. Doc																																		

[illegible]