

**MANDATORY PRE-QUALIFICATION REQUIREMENTS (TECHNICAL) FOR BRUSH
HOLDER (MAT CODE W90414500040)**

Brush Holders are used to hold Carbon Brushes and exert a constant pressure on Brush throughout its use of full length ($\approx 25\text{mm}$). These Brushes slide on Slip Rings (Dia.410mm approx.) rotating at 3000 rpm of Generators in power plant application

1. EXPERIENCE:

The vendor shall be a regular manufacturer of Brush Holders suitable for Carbon brushes of minimum cross-section 1.5 cm^2 for Electrical machines with following Technical requirements:

- a) Holder Body Material: Brass as per IS:4170 or equivalent
 - b) Spring Material: Steel Wire as per IS: 4454, Part 1, Grade -3
- i) In support of above, Vendor shall furnish their standard product catalogue and their experience list (Not older than 10 years on the date of enquiry) in following format to BHEL:

Sl. No	Name and Address of Customer	PO No.	PO date	Brush cross sectional area(cm^2)	Quantity

- ii) Vendor must furnish at least two unpriced Purchase Orders and corresponding test certificates from the above list. The test certificates must be accepted by Customer or certified by third party inspection agency. The above certificates should contain information like Spring materials, housing materials, chemical analysis, Mechanical properties, Dimensional report, Brush pressure, Insulation Resistance, etc.

2. MANUFACTURING FACILITIES:

The vendor should have manufacturing facilities like Casting, Machining, etc. for Brush Holders used in Electrical Machines. Details of facilities to be furnished. If the vendor plans to outsource any activity, particulars of the same along with details of the sub-vendor/laboratory are to be furnished to BHEL.

3. TESTING FACILITIES:

The vendor should have facilities for carrying out the tests as mentioned in the respective drawing of Brush holder and provide details (including make and model) of test equipment available at their works. The testing facilities should be duly calibrated against national or international measurement standards. If the vendor plans to outsource any activity, particulars of the same along with details of the sub-vendor/laboratory are to be furnished to BHEL.

4. Vendor shall confirm to meet all the technical and dimensional requirements of ordering drawing and specifications. Vendor shall also furnish the detailed manufacturing drawing of item for review and approval along with offer.

Notes:

- 1) BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false / incorrect, the offer shall be rejected.
- 2) All correspondence shall be in English/Hindi Language.
- 3) If any document provided by vendor is in any language other than English/Hindi, it must be supported with its English translation.

Mandatory Pre-Qualification Requirements (Technical) for Double Brush Holder

1. EXPERIENCE:

- 1.0 The vendor should have experience of manufacturing & supplying at least 20 Nos Brush-holders. The body of the Double Carbon Brush Holder shall be Brass Casting as per IS: 292 Gr. LCB2 or equivalent national/international standard and the spring shall be suitable to exert a force of minimum 300 grams.

- a) In support of above, Vendor shall furnish their standard product catalogue and their experience list (Not older than 5 years on the date of enquiry) in following format to BHEL:

Sl. No	Name and Address of Customer	PO No.	PO date	Brush Assembly cross-section mm ²	Quantity

- b) Vendor must furnish at least one unpriced Purchase Order and corresponding test certificates from the above list. The above certificates should contain information like spring materials, housing materials, chemical analysis, Mechanical properties, Dimensional report, Brush pressure, Insulation Resistance, Current rating etc.
- c) Vendor should provide Acceptance certificate from the vendor's customer of Double Carbon Brush Holder should / third party inspection report of the above PO. Acceptance certificate should contain information like item details and its application.

2. MANUFACTURING FACILITIES:

The vendor to confirm that they have manufacturing facilities like Casting, Machining, etc. suitable for manufacturing of enquired items used in Electrical Machines. If the vendor plans to outsource any activity particulars of the same along with details of the sub-vendor are to be furnished to BHEL.

3. TESTING FACILITIES:

The vendor to confirm that they have facilities for carrying out the tests as mentioned in the respective drawing of Brush holders and provide details (including make and model) of test equipment available at their works. The testing facilities should be duly calibrated against national or international measurement standards. If the vendor plans to outsource any activity, particulars of the same along with details of the sub-vendor/NABL accredited laboratory are to be furnished to BHEL.

4. Vendor shall confirm to meet all the technical and dimensional requirements of ordering drawings and specifications.

Notes:

- A. BHEL reserves the right to verify the information submitted by the vendor. In case the information is found to be false or incorrect, the offer shall be rejected.
- B. Vendor may be asked to furnish all information as per PQR. The information should be submitted in one go in an unambiguous manner in English Language or duly certified English translation.

Mandatory Pre-Qualification Requirements-Technical for Plug in Brush Holder (W96414300713) and Plug in Brush Holder Housing(W96414301035)

1. EXPERIENCE:

The vendor shall be a regular manufacturer of Plug in Brush Holders and plug-in-brush holder housings suitable for Carbon brushes of minimum cross-section 10cm² to transfer electric current from static to rotating part and vice versa.

- a) In support of above, Vendor shall furnish their standard product catalogue and their experience list (Not older than 10 years on the date of enquiry) in following format to BHEL:

Sl. No	Name and Address of Customer	PO No.	PO date	Brush assy housing cross section cm ²	Quantity

- b) Vendor must furnish at least two unpriced Purchase Orders and corresponding test certificates from the above list. The test certificates must be accepted by Customer or certified by third party inspection agency. The above certificates should contain information like Spring materials, housing materials, chemical analysis, Mechanical properties, Dimensional report, Brush pressure, Insulation Resistance, Current rating etc.

2. MANUFACTURING FACILITIES:

The vendor should have manufacturing facilities like Casting, Machining, etc. for Plug in Brush Holders and Plug in Brush Holder Housing used in Electrical Machines. Details of facilities to be furnished. If the vendor plans to outsource any activity particulars of the same along with details of the sub-vendor/laboratory are to be furnished to BHEL.

3. TESTING FACILITIES:

The vendor should have facilities for carrying out the tests as mentioned in the respective drawing of Brush holders and provide details (including make and model) of test equipment available at their works. The testing facilities should be duly calibrated against national or international measurement standards. If the vendor plans to outsource any activity, particulars of the same along with details of the sub-vendor/laboratory are to be furnished to BHEL.

4. Vendor shall confirm to meet all the technical and dimensional requirements of Drg.31430501015 and 31430501084. Vendor also confirm that both the items (Plug-in Brush Holder and Plug-in Brush holder Housing) are compatible to each other regarding assy, current rating.
5. Vendor shall confirm to meet the current transfer requirement of 125 Amperes and 125*5=625 Amperes@ 600V DC for continuous operation for brush holder and plug-in brush holder housing respectively.

Notes:

- 1) BHEL reserves the right to verify the information submitted by the vendor. In case the information is found to be false or incorrect, the offer shall be rejected.
- 2) Vendor may be asked to furnish all information as per PQR. The information should be submitted in one go in an unambiguous manner in English/Hindi Language or duly certified English translation.

Annexure- B

Framework Confidentiality Agreement (FCA)

Framework Confidentiality Agreement cum Undertaking

This Agreement made on this the _____ day of (month) _____ 20____
("Effective Date") by and between

M/s BHARAT HEAVY ELECTRICALS LIMITED, having registered office at "BHEL House", Siri Fort, New Delhi – 110049 (India), acting through its _____ Unit (hereinafter may be referred to as "BHEL" or "the Company").

And

M/s _____ (address) _____
represented by authorized representative Sri _____ (herein after referred to as the "Supplier").

The Supplier and the Company may, unless the context otherwise requires, hereinafter be collectively referred to as "Parties" or singly as the "Party".

RECITALS

Whereas, BHEL is engaged in the design, engineering, manufacturing, construction, testing, commissioning and servicing of a wide range of products, systems and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable energy, Oil & Gas and Defence and providing associated services to varied customers in relation to which BHEL/its affiliates own valuable information of a secret and confidential nature.

Whereas the Company may, in connection with Contract(s) (as defined hereunder) placed or to be placed upon the Supplier, or otherwise, from time to time, make available, Technical Information as is defined hereunder.

And Whereas BHEL is willing to provide such Technical Information to the Supplier from time to time and the Supplier understands and acknowledges that such Technical Information is valuable for the Company and as such is willing to protect confidentiality of such information, subject to the terms and conditions set out hereunder.

Now therefore, in view of the foregoing premises and in consideration of the mutual covenants and agreements hereinafter set forth, the Parties agree as under:

1. Definitions:

Unless the context so requires, in this Agreement, the following terms will bear the meaning ascribed to the said term in this clause.

- A. **"Contract"** means the Contract entered into with a Supplier and includes a Purchase Order, or a Work Order for procurement of any goods or for provision of any services.
- B. **"Effective Date"** means the date of this Agreement as mentioned in the preamble of this Agreement.

- C. **“Supplier”** includes a Contractor or a Vendor of the Company whether for supplying of goods or for providing any services under a Contract or both.
 - D. **“Technical Information”** includes Drawings, and/or Product Standards and/or Specifications and/or Corporate / Plant Specifications and/or Technological Process Sheets and/or Technical Data Sheets and/or Jigs & Fixtures and/or Pattern & Dies and/or Special Gauges and/or Tools etc. belonging to or wherein the Company has acquired from a third party a right of user and includes any improvement thereto from time to time whether carried out by the Company or by the Supplier.
 - E. **“Intended Purpose”** means the purpose for which the Technical Information is provided to the Supplier under or in connection with a Contract.
 - F. **“Improvement”** includes any modification made to, or adaptation of, the Technical Information which enhances or is calculated to enhance the performance (whether in terms of effectiveness or in terms of efficiency or both) of the product and/or the service to be provided by the Supplier under a Contract.
2. This Agreement shall come into force/deemed to have come into force, as the case may be, on the Effective Date; or, on the first date when the Technical Information or any part thereof is provided by BHEL to the Supplier; whichever is earlier.
3. **Agreement deemed to be incorporated in each Contract:** Unless and to the extent otherwise stipulated in the Contract, the conditions of this Agreement are deemed to be incorporated in all Contracts which may be entered into between the Company and the Supplier. Further, unless otherwise stipulated, the obligations under this Agreement are and will be independent of the obligations under the Contracts and such obligations of the Supplier hereunder will remain of full effect and validity notwithstanding that the period of validity of the Contracts has expired by efflux of time stipulated therein; or, the contract has been discharged by performance or breach; or, the termination of the Contracts for any reason whatsoever.
4. **Ownership:**
- 4.1 The Company may, from time to time, make available to the Supplier, Technical Information on a non-exclusive basis by way of loan.
- 4.2 The Supplier acknowledges and agrees that all Technical Information and copies thereof that are or may be provided by the Company to the Supplier, are and shall remain the property of BHEL or that of the concerned entity from whom BHEL has obtained the Technical Information and such Technical Information are and shall constitute trade secrets of the BHEL. Nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the Supplier any patent, copyright or design or any other intellectual property rights of whatsoever description that subsists or may hereinafter exist in the Technical Information. Furthermore, nothing in this Agreement or in any disclosures made hereunder by or on behalf of the Company shall be construed as granting upon the Supplier any license or rights of use of such patent, copyright or design or any other

intellectual property rights of whatsoever description which may now or hereafter exist in the Technical Information except for use of the Technical Information strictly in accordance with this Agreement and the Contract and/or as directed in writing by the Company, solely for the Intended Purpose under the Contract.

4.3 Neither Party is obligated by or under this Agreement to purchase from or provide to the other Party any service or product and that any such purchase/sale of any product and/or service by one Party to the other Party will be governed by the Contract if any, that may be entered into by and between the Company and the Supplier.

4.4 The Supplier is/has been made well aware and acknowledges that the Technical Information being/which may be shared with it by the Company has been either generated by the Company by incurring huge investment and cost or obtained from foreign collaborators under Technical Collaboration Agreement (TCA) with stringent confidentiality conditions.

4.5 The Supplier agrees and undertakes to adhere to confidentiality requirements as applicable to BHEL under a TCA and also ensure that the confidentiality requirements are adhered to by all its concerned employees or sub-contractors/suppliers (where permitted to be engaged by BHEL). Any damages, losses, expenses of any description whatsoever, arising out of or in connection with a breach of the confidentiality requirements under a TCA owing to any act or omission on the part of the Supplier or its employees or sub-contractors/suppliers that is claimed by a foreign collaborator from the Company shall be wholly borne by the Supplier and it shall keep BHEL fully indemnified in this behalf. The demand by the Company shall be conclusive upon the Supplier who shall thereupon forthwith pay to the Company without demur, dispute or delay the amount as demanded without demanding any further proof thereof.

4.6 The Supplier agrees and undertakes that unless so decided and advised by the Company in writing all rights/title to any Improvement to the Technical Information shall vest in the Company. The Supplier undertakes and agrees to inform forthwith to the Company of any such Improvement made to the Technical Information and transfer all drawings/documents or other materials connected with such Improvement to the Company and also agrees to fully cooperate with the Company for protecting the Company's interests in such Improvement in the Technical Information including but not limited to obtaining necessary protection for the intellectual property rights in such improvement, if so desired by the Company. If a question arises whether a modification amounts to Improvement to the Technical Information, the same shall be decided by the Company and such decision shall be final and binding upon the Supplier.

5. Use and Non-Disclosure:

5.1 Unless otherwise stipulated by the Company, all Technical Information made available to the Supplier, by the Company shall be treated as Confidential irrespective of whether the same is marked or otherwise denoted to be Confidential or not.

- 5.2 The Supplier undertakes and agrees that the Technical Information in its possession shall be held in strict confidence and will be used strictly in accordance with this Agreement and solely for the Intended Purpose under the Contract. Use of the Technical Information for any other purpose other than Intended Purpose is prohibited.
- 5.3 In particular, the Supplier shall not use Technical Information or any Improvement in its possession for the manufacture or procurement of the Product(s) or components or parts thereof or use the Technical Information or any portion thereof or any modification or adaptation thereof in any form to provide any product and/or service to any third party, without the prior written consent of the Company.
- 5.4 The Supplier shall not disclose any of such Technical Information to any third party without the prior written consent of the Company. The Supplier agrees that without prior written consent of the Company, the Supplier shall not disclose to a third party about the existence of this Agreement, or of the fact that it is/was in possession of or has experience in the use of any Technical Information nor shall the Supplier share in any manner whatsoever, with a third party, the name or details of any Contract(s) awarded by the Company to it or performed by the Supplier or the scope of work thereof or share any document or correspondence by and between the Company and the Supplier in or in connection with this Agreement or such Contract(s). Notwithstanding what is stated elsewhere, the overall responsibility of any breach of the confidentiality provisions under this Agreement shall rest with the Supplier.
- 5.5 The Supplier undertakes and agrees not to make copies or extracts of and not to disclose to others any or all of the Technical Information in its possession, except as follows:
- (a) The Supplier may disclose the Technical Information to such of its officers and employees strictly to the extent as is necessary for such officer or employee for the Intended Purpose, provided that the Confidential Information (or copies thereof) disclosed shall be marked clearly as the confidential and proprietary information of Company and that such officers and employees shall similarly be bound by undertakings of confidence, restricted use and non-disclosure in respect of the Technical Information. The Supplier shall be responsible for any breach of such confidentiality provisions by such officers and employees.
 - (b) With the prior written consent of Company, the Supplier may disclose for the Intended Purpose such Technical Information as is provided for in such consent to such of its professional advisers: consultants, insurers and subcontractors who shall be similarly bound by undertakings of confidence, restricted use and non-disclosure in respect of such Technical Information.
 - (c) The Supplier shall not be prevented to make any disclosure required by (i) order of a court of competent jurisdiction or (ii) any competent regulatory authority or agency where such disclosure is required by law, provided that where the Supplier

intends to make such disclosure, it shall first consult Company and take all reasonable steps requested by it to minimize the extent of the Technical Information disclosed and to make such disclosure in confidence and also shall cooperate with the Company in seeking any protective order or any other remedy from proper authority in this matter.

6. Exceptions:

The obligations of the Supplier pursuant to the provisions of this agreement shall not apply to any Confidential Information that:

- a) was/is known to, or in the possession of the Supplier prior to disclosure thereof by the Company;
- b) is or becomes publicly known, otherwise than as a result of a breach of this agreement by the Supplier.
- c) is developed independently of the Disclosing Party by the Supplier in circumstances that do not amount to a breach of the provisions of this Agreement or the Contract;
- d) is received from a third party in circumstances that do not result in a breach of the provisions of this Agreement.

7. The obligation of maintaining confidentiality of the Technical Information on each occasion, shall subsist for the entire duration during which the Technical Information / equipment is in possession of the Supplier and shall thereafter subsist for a further period of --- years from the date when the complete Technical Information has been returned to the Company and if Technical Information has been returned in portions on different dates then, the period of ---- years will be reckoned from the date when the last portion of the Technical Information has been returned. Notwithstanding the expiry of the confidentiality obligation, the obligation of the Supplier under clause 5.4 shall continue to subsist for a further period of ----- years.

8. Warranties & Undertakings:

- a) The Supplier undertakes to ensure the due observance of the undertakings of confidence, restricted use and non-disclosure by its persons to whom it discloses or releases copies or extracts of the Technical Information.
- b) The Supplier shall keep the Technical Information or improvement made therein properly segregated and not mix up the same with any other material/documents belonging to him/it or to any other third party.
- c) The Supplier further undertakes that he/it shall not hypothecate or give on lease or otherwise alienate or do away with any of the Technical Information and/or equipment of the Company, made available to him/it, and undertakes that he/it shall hold the same as a trustee, in capacity of custodian thereof and use/utilise the same solely for the purpose of executing the Contract awarded by the Company.
- d) The Supplier further undertakes that he/it shall return all the equipment and/or Technical Information as far as practicable in the same condition in which the same was made available to him/it by the Company together with any Improvement thereon and the documents connected with such Improvement, to the Company forthwith upon completion of the scope

of work or Contract for which such Technical Information was provided by the Company to it or as directed by the Company together with a confirmation by way of an affidavit or in such manner as directed by the Company that it has not retained any equipment and/or Technical Information/Improvement thereof. In case any such equipment and/or Technical Information or Improvement thereof shall remain in his possession or is not capable of being returned, the retention and use of such Technical Information or Improvement thereto shall continue to be governed by this Agreement.

e) The Supplier undertakes to indemnify the Company for all the direct, indirect and/or consequential losses, damages, expenses whatsoever including any consequential loss of business, profits suffered by the Company owing to breach by the Supplier of its obligations under this Agreement and/or the confidentiality requirements, if any, contained in the Contract and that the Supplier hereby agrees that the decision of the Company in all such or any such matter/s shall be final and binding on the Supplier. On mere written demand of the Company, the Supplier shall forthwith and without demur or delay pay to the Company any such sum as determined by the Company as the amount of loss or damage or expense which has been suffered by the Company. The Supplier agrees that the Company shall be entitled to withhold and appropriate any amount payable to the Supplier under any Contract then existing between the Company and the Supplier, in case the Supplier fails to make payment, in terms of the written demand, within 7 days thereof. Without prejudice to the foregoing actions, in respect to any breach of this Agreement, the Company shall be entitled to take any other action against the Supplier as per applicable laws, the Contract, Company's applicable policies, guidelines rules, procedures, etc.

9. Without prejudice to any other mode of recovery as may be available to the Company for recovery of the amount determined as due as per Clause 8(e) hereinabove, the Company shall have a right to withhold, recover and appropriate the amount due towards such losses, damages, expenses, from any amount due to the Supplier in respect of any other Contract (s) placed on him/it by any department/office/Unit/Division of the said Company.

10. Arbitration & Conciliation:

a) In case amicable settlement is not reached between the Parties, in respect of any dispute
or

difference or claim or controversy arising out of the formation, breach, termination, validity or execution of the Contract(or Agreement) or the respective rights and liabilities of the parties or in relation to interpretation of any provision of the Contract or in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference or controversy or claim, (except as to any matters, the decision of which is specifically provided for therein) to the sole arbitration by the arbitrator appointed by Head/In-Charge of the Unit/Division/Region.

b) The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the parties to the dispute.

c) Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India), or other statutory modifications or re enactments thereof and the rules made thereunder and for

the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be at ----- **(Insert the name of the city/town of the concerned BHEL Unit/Division).**

d) In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred to by either party to the arbitration of one of the arbitrators in the department of public enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the parties hereto finally and conclusively.

e) Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Supplier shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner.

11. Governing Law & Jurisdiction:

This Agreement shall be governed by and be construed as per applicable Indian Laws in force at the relevant time.

Subject to clauses 10(a) and 10(d) hereinabove, all matters in connection with the subject agreement shall be subject to exclusive jurisdiction of Courts situated at -----**(insert the name of the place where the BHEL Unit/Division is located)**

SIGNATURE

WITNESSES

1.

Name

Address:

2.

Name:

Address:

NON-DISCLOSURE AGREEMENT

All Drawing and Technical Documents relating to the product or it's manufacture submitted by one party to the other, prior or subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others. BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder.

Signature with stamp

Quality Requirement will be as follows: -

VENDOR HAS TO CONFIRM INSPECTION BY BHEL/BHEL NOMINATED INSPECTION AGENCY (M/S QUEST) AS PER BHEL APPROVED SQP. VENDOR HAS TO SUBMIT THE ENDORSED COPY OF SQP FOR BHEL APPROVAL.

Item details are as follows –

1. MATERIAL CODE- W90414500040

BRUSH HOLDER

DRG 11450401004 REV: 07

QTY- 96 Nos.

2. MATERIAL CODE W96413902671

DOUBLE BRUSH HOLDER

DRG: 31391601009 REV: 01

QTY- 28 Nos.

3. MATERIAL CODE W96414300713

PLUG IN BRUSH HOLDER

DRG: : 31430501015 REV: 04

QTY- 214 Nos.

4. MATERIAL CODE W96414301035

PLUG IN BRUSH HOLDER HOUSING

DRG: : 31430501084 REV: 01

QTY- 14 Nos.

5. MATERIAL CODE W90413900118

DOUBLE BRUSH HOLDER

DRG: 31391601000 REV: 05

SPEC: AA19912 REV: 01

QTY- 10 Nos.

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) dt. 28.05.2018 and P-45021/2/2017-PP (BE-II) dt. 16.09.2020, 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

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN				TO BE FILLED BY BHEL			TO BE FILLED BY BHEL		
 BHEL	VENDOR'S NAME		ITEM BRUSH HOLDER		QP NO.		QA/BE/QP/brush holder					
					REV.		00 Date: 12.12.2023					
					DRG. NO.		11450401004 Rev. 07					
					SPEC.		AA22414, AA7121130					
		REV		As per PO		Page 1 of 1						
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEP TANCE NORMS	FORMAT OF RECORDS	AGENCY M B N			REMARKS
1	2	3	4	5	6	7	8	9	D	10	11	

1.0 RAW MATERIALS & BOI

1.1	Brass material like locking cover, mandrel & knob	Chemical & Mechanical TC	Major	Visual	100%	BHEL drg./ IS:4170-CUZN40	BHEL drg./ IS:4170-CUZN40	MTC	√	P	V	-	
1.2	Brush Handle, end cap (Fibre materials)	Physical properties TC	Major	Visual	100%	BHEL drg./AA22414	BHEL drg./AA22414	MTC	√	P	V	-	
1.3	Spring material	Chemical & Mechanical TC	Major	Visual	100%	BHEL drg./Gr-3, IS 4454 part 1	BHEL drg./Gr-3, IS 4454 part 1	MTC	√	P	V	-	
1.4	Other steel parts of brush holder	Chemical TC	Major	Visual	100%	BHEL drg.	BHEL drg.	MTC	√	P	V	-	


2.0 IN PROCESS INSPECTION


2.1	Assembly of brush holder	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V	-	
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3.0 FINAL INSPECTION

3.1	Visual & Dimension report including plating thickness	--	Major	Measure ment	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.2	I.R. before & after HV test	6 KV	Major	Electrical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.3	High Voltage Test	--	Major	Electrical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.4	Spring pressing force	9±1 N	Major	Physical	1 sample/ Lot	BHEL drg.	BHEL drg.	I.R.	√	P	V	-	
3.5	Surface finish of brush holder	--	Major	Physical	100%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.6	Identification & packing	--	Major	Visual	100%	BHEL drg.	BHEL drg.	I.R.	√	P	V	-	

Note: 1. Witness by inspection agency to be random 10% of each material code (minimum 1 piece per material code) from each lot. However, vendor to carry out 100% tests internally and tests report shall be reviewed by inspection engineer during inspection at Vendor's works. 2. Vendor has to provide TC/IR mentioning above Q.P. clauses and also index/summary sheet for co-relation of TC/IR with QP clauses. TPIA to check the same.

MANUFACTURER/ SUBCONTRACTOR	LEGEND: DRG: BHEL APPROVED DRAWING, APPD.: BHEL APPROVED, SPEC: SPECIFICATION, BOM: BILL OF MATERIAL, MTC: MATERIAL TEST CERTIFICATE, T.C.: TEST CERTIFICATE, I.R.: INSPECTION REPORTS, COC: CERTIFICATE OF CONFORMANCE, M: MANUFACTURER / SUBCONTRACTOR, B: BHEL /BHEL NOMINATED INSPECTION AGENCY, N: END CUSTOMER, 'P': PERFORM, 'W': WITNESS, 'V': VERIFICATION, "√" RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	 Digitally signed by Sachin Jain Date: 2023.12.14 09:47:19 +05'30'

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN						TO BE FILLED BY BHEL			TO BE FILLED BY BHEL	
	VENDOR'S NAME		ITEM		DOUBLE BRUSH HOLDER		QP NO.	QA/BE/QP/Double brush holder					
					REV.		00	Date: 12.12.2023					
			DRG. NO.		31391601000 Rev. 05, 31391601009 Rev. 01								
			SPEC.		AA19912								
		REV		As per PO						Page 1 of 1			
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS		CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS
										M	B	N	
1	2	3		4	5	6	7	8	9	D	10		11

1.0 RAW MATERIALS & BOI

1.1	Brass material components	Chemical & Mechanical TC	Major	Visual	100%	BHEL drg.	BHEL drg.	MTC	√	P	V	-	
1.2	Spring material	Chemical & Mechanical TC	Major	Visual	100%	BHEL drg.	BHEL drg.	MTC	√	P	V	-	
1.3	Other steel parts of double brush holder	Chemical TC	Major	Visual	100%	BHEL drg.	BHEL drg.	MTC	√	P	V	-	

2.0 IN PROCESS INSPECTION


2.1	Lever, spring, pin insulation	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V	-	
2.2	Fixing of spring & lever	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V	-	
2.3	Bright nickel plating of brush holder body	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V	-	
2.4	Assembly of double brush holder	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V	-	

3.0 FINAL INSPECTION

3.1	Visual & Dimension report including plating thickness	--	Major	Measurement	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.2	HV Test (for items of drawing no. 31391601009 only)	--	Major	Physical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.3	Spring pressing force	320+55/-20 Grams	Major	Physical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.4	Surface finish of double brush holder	--	Major	Physical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.5	Pocket size with GO & NO GO Test	--	Major	Physical	10%	BHEL drg.	BHEL drg.	I.R.	√	P	W	-	
3.6	Identification & packing	--	Major	Visual	100%	BHEL drg.	BHEL drg.	I.R.	√	P	V	-	

Note: 1. Witness by inspection agency to be random 10% of each material code (minimum 1 piece per material code) from each lot. However, vendor to carry out 100% tests internally and tests report shall be reviewed by inspection engineer during inspection at Vendor's works. 2. Vendor has to provide TC/IR mentioning above Q.P. clauses and also index/summary sheet for co-relation of TC/IR with QP clauses. TPIA to check the same.

MANUFACTURER/ SUBCONTRACTOR	LEGEND: DRG: BHEL APPROVED DRAWING, APPD.: BHEL APPROVED, SPEC: SPECIFICATION, BOM: BILL OF MATERIAL, MTC: MATERIAL TEST CERTIFICATE, T.C.: TEST CERTIFICATE, I.R.: INSPECTION REPORTS, COC: CERTIFICATE OF CONFORMANCE, M: MANUFACTURER / SUBCONTRACTOR, B: BHEL /BHEL NOMINATED INSPECTION AGENCY, N: END CUSTOMER, 'P': PERFORM, 'W': WITNESS, 'V': VERIFICATION, "√" RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	Digitally signed by Sachin Jain Date: 2023.12.14 09:50:35 +05'30'
			APPROVED BY

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN				TO BE FILLED BY BHEL			TO BE FILLED BY BHEL			
 BHEL	VENDOR'S NAME	ITEM	PLUG IN BRUSH HOLDER & HOUSING		QP NO.	QA/BE/QP/brush holder/20222541							
					REV.	00	Date: 03.11.2022						
			DRG. NO.	31430501015 Rev. 04, 31430501084 Rev. 01, 41430501007 Rev. --									
			SPEC.	As per PO									
			REV	As per PO		Page 1 of 1							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS	
									M	B	N		
1	2	3	4	5	6	7	8	9	D	10		11	

1.0 RAW MATERIALS & B.O.I.													
1.1	Brass material like plug, lever, brush guide	Material properties	Major	Visual	100%	BHEL drg./Spec.	BHEL drg./Spec.	MTC	√	P	V		
1.2	Spring material	Material properties	Major	Visual	100%	BHEL drg./Spec.	BHEL drg./Spec.	MTC	√	P	V		
1.3	Insulation & pins	Material properties	Major	Visual	100%	BHEL drg./Spec.	BHEL drg./Spec.	MTC	√	P	V		
1.4	Housing	Material properties	Major	Visual	100%	BHEL drg./Spec.	BHEL drg./Spec.	MTC	√	P	V		
2.0 IN PROCESS INSPECTION													
2.1	Assembly of brush holder	--	Major	Visual	100%	Vendor's standards	Vendor's standards	Internal Records	√	P	V		
3.0 FINAL INSPECTION													
3.1	Visual & Dimension report including tin plating thickness of housing	--	Major	Measure ment	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.2	D.P. test of brush guide	--	Major	Physical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.3	I.R. before & after HV test		Major	Electrical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.4	High Voltage Test	--	Major	Electrical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.5	Spring pressing force / static thrust	--	Major	Physical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.6	Feeler gauge clearance test for assembly	--	Major	Physical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.7	Angle of contact check	--	Major	Physical	10%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.8	Surface finish, edges & defects check	--	Major	Physical	100%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	W		
3.9	Identification & packing	--	Major	Visual	100%	BHEL drg./Spec.	BHEL drg./Spec.	I.R.	√	P	V		

Note: 1. Witness by inspection agency to be random 10% of each material code (minimum 1 piece per material code) from each lot. However, vendor to carry out 100% tests internally and tests report shall be reviewed by inspection engineer during inspection at Vendor's works. 2. Manufacturer to maintain calibrated instruments having better accuracy than the item under the test. Inspection Engineer shall check the same. 3. Vendor has to provide TC/IR mentioning above Q.P. clauses and also index/summary sheet for co-relation of TC/IR with QP clauses. TPIA to check the same.

MANUFACTURER/ SUBCONTRACTOR	LEGEND: DRG: BHEL APPROVED DRAWING, APPD.: BHEL APPROVED, SPEC: SPECIFICATION, BOM: BILL OF MATERIAL, MTC: MATERIAL TEST CERTIFICATE, T.C.: TEST CERTIFICATE, I.R.: INSPECTION REPORTS, COC: CERTIFICATE OF CONFORMANCE, M: MANUFACTURER / SUBCONTRACTOR, B: BHEL /BHEL NOMINATED INSPECTION AGENCY, N: END CUSTOMER, 'P': PERFORM, 'W': WITNESS, 'V': VERIFICATION, "√" RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	Digitally signed by Sachin Jain Date: 2024.09.13 15:47:48 +05'30' APPROVED BY
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