



An ISO 9001  
Company

**Bharat Heavy Electricals Limited**  
(High Pressure Boiler Plant)  
Tiruchirappalli-620 014, Tamil Nadu, India  
Dept: MATERIALS MANAGEMENT/BOI

**Annexure – A- Terms and Conditions**

**ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS**

<b>Description of the Equipment and Scope of work:</b>		<b>Design, Manufacturing and supply of Start-up system control valves along with Commissioning and Mandatory Spares and Supervision of Erection &amp; Commissioning.</b>
<b>Projects</b>		<b>Sagardighi 1x660 MW project (1731)</b>
<b>BHEL Tender No. &amp; Date</b>		<b>1802200202 dated 21.10.2022</b>
<i>To be filled by bidder</i>		
<b>Name of the firm (Bidder)</b>		:
<b>Offer reference</b>		:
<b>Address</b>		:
<b>Contact details</b>		<u><b>Contact person 1</b></u> <b>Name:</b> <b>Designation:</b> <b>Office Phone:</b> <b>Mobile:</b> <b>e-mail:</b> <u><b>Contact person 2</b></u> <b>Name:</b> <b>Designation:</b> <b>Office Phone:</b> <b>Mobile:</b> <b>e-mail:</b>
<b>Sl. No.</b>	<b>Terms and conditions</b>	<b>Vendor's confirmation</b>
1 (a)	<b>Technical Requirements:</b> Supply of Start-up system control valve along with commissioning and mandatory spares for boiler application shall be as per the Specification attached with the enquiry 1. BM/ANG/SCV:001 Rev:00 2. Start Up system control valve Datasheet	
1 (b)	Quality Plan shall be submitted by bidder meeting the SQP attached with the enquiry and additional requirements applicable for the offered system. Supply shall be as per the quality plan approved by end customer.	
1 (c)	<b>Pre-qualification requirement (PQR):</b> Offer shall be considered only if bidder is meeting Tender Prequalification requirement (Annexure-B). Vendor to comply with Pre-Qualification requirement of the tender and submit along with their technical bid - the credentials and other documents as indicated in the PQR in the format prescribed. Otherwise their offer will get rejected.	

1 (d)	<p><b>Evaluation method</b> The tender will be evaluated on total package basis inclusive of Start-up system control valve along with commissioning and mandatory spares and Supervision of Erection &amp; Commissioning. Evaluation and L1 identification shall be on total landed cost to BHEL including all cost up to destination. Currency of evaluation shall be <b>INR</b>. Rate quoted in Foreign currencies will be converted to INR by multiplying with the Exchange rate (SBI TT Selling rate) as on the technical bid opening date. If the date of opening happens to be a bank holiday, then the forex rate as on previous bank (SBI) working day shall be taken.</p>	
1 (e)	Vendor shall quote as per the enclosed price Schedule format only.	
2 (a)	<p><b>Firm Price:</b> The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.</p>	
2 (b)	<p>The Tender will be operated in two part bid system. One-part consisting of PQR, Technical bid with Commercial terms &amp; conditions and other part is Price Bid. Based on the PQR compliance, technical suitability and vendor approval by end customer, vendors will be short-listed. Vendors shall submit previous supply credentials for similar item along with the offer in order to take up with end customer for sub vendor approval. The price Bid of short listed vendors will be opened on a suitable date with due intimation to vendors. Reverse Auction is applicable for this tender.</p>	
2 (c)	<p><b>REVERSE AUCTION:</b> <i>BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on <a href="http://www.bhel.com">www.bhel.com</a>) for this tender. RA shall be conducted among all the techno- commercially qualified bidders.</i></p> <p><i>Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.</i></p>	
3	<p><b>Delivery term:</b> <b>Indigenous Suppliers</b> For Main supply and commissioning spares (RFQ Sl. No. 10 to 70):- FOR Sagardighi Project site, West Bengal. For Mandatory spares (RFQ Sl. no. 80 to 100):- FOR BHEL Trichy stores. Transit Insurance is under BHEL scope @0.01%. <b>Import Supplier:</b> Import vendors to submit offers on CFR (Cost &amp; Freight), Chennai port (LILO – Liner in Liner Out) basis. Port of loading should be indicated without fail. Port of discharge should be Chennai.</p>	

<p>4 (a)</p>	<p><b>Payment Terms (Indigenous):</b>  <b>For Main Supply:</b>                  100% direct payment through EFT within 45 days for MSE Vendors from the date of receipt of materials at BHEL Site against site acknowledgement and 10% PBG.                  100% direct payment through EFT after 60 days for Medium Vendors and 90 days for Non-MSE vendors from the date of receipt of materials at BHEL Site against site acknowledgement and 10% PBG.</p> <p><b>For Mandatory Spares:</b>                  100% direct payment through EFT within 45 days for MSE Vendors from the date of receipt and acceptance of materials at BHEL stores against 10% PBG.                  100% direct payment through EFT after 60 days for Medium Vendors and 90 days for Non-MSE vendors from the date of receipt and acceptance of materials at BHEL stores against 10% PBG.</p> <p><b>Payment Terms (Import):</b>                  BHEL Payment term is 100% payment on CAD basis after 90 days from the date of receipt of documents, specified in PO, at BHEL bank and against 10% PBG. Respective bank charges to respective account.</p> <p>If supplier insists for LC, only Usance LC with 120 days credit will be opened one month prior to material readiness. Hence, supplier shall intimate the material readiness accordingly for opening of LC. LC validity period will be 90 days and for any extension, applicable charges will be to supplier's account.</p> <p>Any deviation in the above payment term will attract loading as mentioned below.                  MCLR rate of SBI p.a. + 6% (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) shall be considered for loading for the period of relaxation sought by bidders subject to competent authority approval.</p> <p>Example of the same is provided below.</p> <table border="1" data-bbox="300 1570 1145 1771"> <thead> <tr> <th>Payment term</th> <th>Relaxation period (days)</th> <th>Loading (@ MCLR 7.7% p.a. + 6%)</th> </tr> </thead> <tbody> <tr> <td>LC 90 days</td> <td>30</td> <td>1.13%</td> </tr> <tr> <td>LC 60 days</td> <td>60</td> <td>2.25%</td> </tr> <tr> <td>LC 30 days</td> <td>90</td> <td>3.38%</td> </tr> </tbody> </table>	Payment term	Relaxation period (days)	Loading (@ MCLR 7.7% p.a. + 6%)	LC 90 days	30	1.13%	LC 60 days	60	2.25%	LC 30 days	90	3.38%	
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<p>4 (b).</p>	<p>No deviation is permitted in payment term. Any deviation on the above term is liable for rejection.</p>													
<p>4 (c).</p>	<p><b>Performance Bank Guarantee:</b> BHEL require a performance Bank Guarantee for the due performance of Design, Manufacturing and supply of Start-up system control valves along with Commissioning and Mandatory Spares under this contract to a value of 10% of Order value covering the Warranty period. The PBG shall be in BHEL format (Format attached) which is to be opened in any one of the banks</p>													

	<p>mentioned under List of Consortium Banks attachment. All banks charges shall be to vendor account only. Any deviation on PBG leads to rejection of offer. Performance bank guarantee shall have minimum claim period of 3 to 6 months from the date of expiry.</p> <p>If bidder has difficulties in producing bank guarantee, 10% payment will be withheld in lieu of bank guarantee as stipulated above.</p>	
5 (a).	<p><b>Liquidated damages (LD):</b></p> <p>a) Time is the essence of the contract.</p> <p>b) The ordered items shall be delivered as per the delivery period mentioned in the Purchase Order.</p> <p>c) In case the supplier supplies the ordered items beyond the delivery period specified, Liquidated Damages -LD - as detailed below shall be will be levied from the supplier without prejudice to any other relief /compensation available to BHEL, Tiruchirapalli under any other condition of the contract/applicable legal provisions.</p> <p>d) Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order(PO) would make the supplier liable to an un-conditional LD at the rate of 0.5% of the total order value per week of the delay or part thereof subject to a maximum of 10% of the total order value.</p> <p>e) Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).</p> <p>f) Indigenous: For “FOR Delivery terms”, Lorry way bill date will be taken for LD calculation for cases where e-way bill is not mandatory. Wherever E Way Bill is involved, the date of commencement of movement of vehicle as reflected in E way Bill [the ‘Valid from’ date in the E way Bill] will be taken for LD calculation</p> <p>g) Import: For CFR terms, BL date will be considered for LD calculation.</p>	
5(b).	<p>In case of PO placements, required documents have to be submitted for approval within 25 days from the date of PO &amp; reply for any further clarification has to be within 7 days. Any delay beyond the above specified period will be considered during LD calculation.</p>	
6 (a).	<p><b>Warranty Period:</b></p> <p>Vendor shall give warranty against design &amp; manufacturing defects for a period of 18 months from the date of commissioning or 24 months from the date of supply whichever is earlier.</p>	
6 (b).	<p><b>Repair &amp; replacements:</b> Within the warranty period, vendor has to replace / rectify the defective/ damaged items on free of cost within a reasonable time of reporting from our end. All incidental charges like freight, insurance and customs duty are to your account only. The defective parts and components shall be collected by your Indian agent or / authorized person, only after completing the replacement / repairs. If the supplier fails to replace / rectify the defective/ damaged items on free of cost within 60 days of reporting from our end, the</p>	

	<p>same shall be treated as failure to execute the contract and actions as per the Guidelines for Suspension of Business Dealings with Suppliers /Contractors available in the webpage: <a href="http://www.bhel.com/vender_registration/vender.php">http://www.bhel.com/vender_registration/vender.php</a>. would be taken against such supplier without prejudice to the other remedies available to BHEL under the contract and law in this regard.</p>	
6 (c).	No Deviation is permitted. If still vendor offered any deviation on the warranty period, it may lead to rejection of offer.	
7	<p><b>Erection and Commissioning support:</b>  Seller shall depute their service engineer for erection and commissioning support. If commissioning engineer is deputed from Indian office, then the payment will be released in INR only. Conversion of foreign currency to INR shall be as per clause 1(d).</p> <p>This service will be utilized by BHEL-site through Power sector region on site readiness. Separate PO will be released by BHEL-site through Power Sector region to avail the vendor's supervision service.</p> <p>The bidder will be informed well in advance for the visit at project site.</p> <p>All TA/DA, Site Expenses, Travel charges boarding and lodging shall be borne by the bidder and shall be inclusive in supervision portion. Payment will be made by BHEL-site for supervision of Erection and Commissioning charges within 45 days for MSE /60 days for Medium/90days for non-MSME on completion of Erection and Commissioning.</p> <p>Price to be quoted by the bidder in terms of price per man-day for erection and commissioning support.</p> <p><b>The price calculated for 14 days of Supervision of erection and commissioning or 2 % of the total contract value of Main supply items whichever is lower shall form part of the Total cost to BHEL and will be considered for price comparison.</b></p> <p>Depending upon the actual duration of Supervision of erection and commissioning availed, the payment will be paid by BHEL- Power Sector regions based on the vendor quoted amount (price per man-day) with total Erection and Commissioning Supervision charges limited to cap of 2% of the total contract value of Main supply items.</p> <p>In any case, the Charges for Supervision of Erection and Commissioning shall not be paid more than 2% of the total contract value of Main supply items and the supplier shall render the service abiding by the above condition.</p>	
8	<p><b>Inspection and testing requirements:</b>  Inspection by BHEL/ BHEL approved TPIA/Customer.  CV test report to be submitted for BHEL review and approval before</p>	

	<p>final inspection.                  Inspection and testing requirements are to be carried out as per the specification and BHEL/ end customer approved QAP and all test certificates are to be submitted in complete set as indicated in our specification/QAP.                  In case of order, vendor to give the inspection notification for all witness test as per the QP for BHEL/end customer 3 working days before date of inspection.</p>	
<p>9.</p>	<p><b>Duty benefits for import vendors</b>                  a) Whether PTA/ CEPA or any other agreement/treaty between respective Governments/Countries exists and the same is applicable for your supplies w.r.t this Enquired Items/tender.                  b) If yes, mention the Concessional Customs Duty (Such Duty Benefits) %                  c) Documentary proof for the applicable Concessional Customs Duty (eg. PTA/ CEPA or other agreement) shall be submitted along with the Part-1 bid.                  d) Relevant documents and details to avail the above concessional duty benefits by BHEL shall be submitted by the supplier along with dispatch documents.                  e) In the event of seller failing to provide appropriate documents along with dispatch documents for purchasers to avail disclosed concessional duty benefits in India, financial loss, so incurred, will be to the seller's account.  <b>Note:</b> Evaluation of the Price bids will be based on the above details only and unless mentioned/furnished by the vendor, Customs Duty benefit will not be applied for evaluation purposes.</p>	<p>YES / NO                   SUBMITTED/NOT SUBMITTED                   CONFIRMED/NOT CONFIRMED                   CONFIRMED/NOT CONFIRMED</p>
<p>10.</p>	<p><b>Risk purchase clause:</b>                  a. In the event of any successful Tenderer's failure to fulfil any of the tender / Contract obligations including supply of whole or any part of the ordered items as per Contract / Agreement, BHEL has the right to terminate the contract and purchase from elsewhere, at the risk and cost of the defaulted supplier, either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated in the contract or if the same were not available, the best and nearest available substitute thereof. The supplier shall be liable for the additional expenditure/difference in Cost, if any, including consequential losses which BHEL may sustain by reason of risk purchase in addition to the applicable LD as per the Purchase order/contract.                  b. The decision of BHEL with regard to the additional expenditure / difference in cost and consequential losses incurred by BHEL shall be final and binding on the supplier.                  c. The amount recoverable under risk purchase shall be recovered from the defaulted supplier in all or any of the following manners:</p> <ul style="list-style-type: none"> <li>• from dues available in the form of Bills payable to defaulted supplier, SD, BGs against the same contract.</li> <li>• from the dues payable to defaulted supplier against other contracts in the same Region/Unit /any other region/unit In-</li> </ul>	

	<p>case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier.</p> <p>GST is applicable on amount recoverable from vendors under risk purchase clause as per Govt. Circular No. 178/10/2022-GST dt. 03.08.2022.</p>	
11.	<p><b>Suspension of Business Dealings:</b></p> <p>The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site <a href="http://www.bhel.com">www.bhel.com</a>.</p> <p>If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on <a href="http://www.bhel.com">www.bhel.com</a> and/or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage.</p>	
12.	<p><b>Delivery Period:</b></p> <p>Delivery Period shall be 24 weeks from the date of final document approval (GA drawing, data sheet and Quality plan)</p> <p>Material shall be dispatched after obtaining dispatch clearance from BHEL.</p> <p>For mandatory spares, delivery period shall be 30 weeks from document approval against Main supply.</p> <p>The delivery dates mentioned above and given in the PO are indicative only. The exact delivery date will be intimated by BHEL while giving dispatch clearance.</p> <p>The supplier shall keep the manufactured items safely till the dispatch clearance is given by BHEL.</p>	
13.	<p><b>Documents are to be submitted along with technical bid (Part-1)</b></p> <ol style="list-style-type: none"> <li>01. Covering letter</li> <li>02. Unpriced offer.</li> <li>03. Filled technical specification, datasheets and drawings as mentioned in clause 7.0 of specification.</li> <li>04. Filled BHEL Terms and condition sheet (Annexure-A)</li> <li>05. Filled Pre-Qualification requirement (Annexure- B) along with supporting documents</li> <li>06. Catalogue's</li> <li>07. Detailed BOM of the package with weight details of each item.</li> <li>08. Third party non-disclosure agreement</li> <li>09. MSE documents (if applicable)</li> <li>10. Make In India certification in attached format (if applicable)</li> </ol>	

	<p>11. Filled up and Signed No deviation Format 12. Filled up and Signed Integrity Pact</p> <p>Documents are to be submitted along with Price bid (Part-2) 01. Priced offer as per the format attached with enquiry.</p> <p><b>Note:</b> All the pages of documents are to be signed and sealed by authorized signatory of the company. Any query during enquiry stage shall be replied within three days failing which offer may be rejected as non-responsive.</p>	
14.	<p><b>Offer Validity:</b> 150 days minimum from techno commercial bid opening ( Part-1)</p>	
15.	<p><b>O &amp; M manuals:</b> Detailed O&amp;M manuals shall be furnished. Three soft copies of O&amp;M manuals in (CD ROM) compact disc to be submitted. One hard copy and one CD should be sent along with transit assembly to site directly.</p>	
16.	<p><b>Kindly indicate the GST No of your Firm</b></p>	
17.	<p><b>Kindly Indicate the HSN Code for all items</b></p>	
18.	<p><b>Please indicate the applicable GST % ( IGST )</b></p>	
19.	<p>Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration Number (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GSTN portal. The unregistered dealer as well as the composition dealer has to submit an undertaking stating that they will not claim GST during the execution of the contract even if their status under GST changes to regular tax payer. The dealer has to submit necessary documents if there is any change in status under GST.</p>	
20.	<p>Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) &amp; Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST &amp; UTGST) separately, HSN/ SAC Code, Place of Supply etc. Wherever E-Invoice is applicable, the tax invoice/ CN / DN submitted by the vendor must contain the QR code generated in E-Invoice Portal &amp; IRN.</p>	
21.	<p>All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code)</p>	
22.	<p>Invoices will be processed only upon completion of statutory requirement and further subject to following:</p> <p>i. Vendor declaring such invoice in their GSTR-1 Return/ IFF</p>	

	ii. Receipt of Goods or Services and Tax invoice by BHEL	
23.	As the continuous uploading of tax invoices in GSTN portal (in GSTR-1/ IFF) is available for all (i.e. both Small & Large) tax payers, all invoices raised on BHEL may be uploaded immediately in GST portal on dispatch of material /rendering of services. The supplier shall ensure availability of Invoice in GSTN portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GSTR-2A/ GSTR-2B).	
24.	In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.	
25.	In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor	
26.	In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.	
27.	Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.	
28.	BLANK	
29.	GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 –Central Tax dated 13.09.2018. GST TDS certificate will be generated in GSTN portal subsequent to vendor accepting the TDS deduction in the GSTN portal & the vendor can directly download the Certificate from the GSTN Portal.	
30.	<p><b>MSE VENDOR:</b></p> <p><i>i. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor.</i></p> <p><i>ii. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing, purchase order will be awarded for full/complete supply of total tendered value to MSE.</i></p>	

	<p><i>iii. If more than one MSE vendors are available in the L1+15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on.</i></p> <p><i>iv. Finally if none of the MSE vendor in the price band is not accepting it will be ordered on L1 non MSE vendor.</i></p> <p>Payment for MSE Indigenous vendors will be as per MSMED Act, 2006</p> <p>MSE suppliers can avail the intended benefits only if they submit along with the offer, attested/notarized copy of <b>Udyam Registration certificate</b>.</p> <p><b>Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry, in case of any deficiency in the above required documents or in case the documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal even if submitted earlier.</b></p>	
31.	<p><b><u>Make in India:</u></b> For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/ Non- Local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.</p> <p><b>The local supplier at the time of tender, bidding or solicitation shall be required to provide self-certification that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made.</b></p>	
32.	<p>Orders issued by Govt. of India with respect to Restriction under Rule 144 (xi) of GFR on procurement from bidders representing countries sharing land border will be applicable for this tender. In case of subsequent orders issued by Govt. of India regarding procurement from bidders representing countries sharing land border, the same shall be applicable even if issued after issue of this NIT.</p>	
33.	<p><b><u>Packing Requirements (for indigenous vendors):</u></b></p> <ul style="list-style-type: none"> <li>• Packing should ensure the healthiness of the Equipment including all electrical Accessories which may be stored for longer period (up to 2 years) at Site conditions (open to atmosphere).</li> <li>• All openings (Fluid, Pneumatic &amp; Electric) shall be firmly capped.</li> <li>• Items shall be packed in suitable enclosure (to prevent</li> </ul>	

	<p>damage/rusting due to Seashore atmospheric conditions) from all four sides and also it should be covered with polythene to make it water proof.</p> <ul style="list-style-type: none"> <li>• Packing and struts shall be used to arrest rolling of items and to avoid transit damage.</li> <li>• Limit switches and such components shall be encapsulated properly with suitable material like Thermocol.</li> <li>• Suitable arrangement (lugs/hooks) for loading and unloading of the equipment in packed condition at site.</li> </ul> <p><b><u>Packing Requirements (for import vendors):</u></b></p> <ul style="list-style-type: none"> <li>• Packing shall be sea worthy.</li> </ul>	
<p>34.</p>	<p>The preferred shipment mode “<b>Containerized Cargo or Break Bulk</b>” shall be specified clearly in the offer.</p> <p><b><u>FOR CFR INCO TERMS – CONTAINERIZED CARGO</u></b></p> <ul style="list-style-type: none"> <li>○ For CFR terms, moved through CONTAINERS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis including extra charges, if any, like Container Imbalance Charges, Trade Imbalance charges or any other charges payable to the Liner. No other charges other than the quoted Freight rate will be paid by BHEL excepting applicable Terminal Handling Charges, Container cleaning Charges, DO charges to Shipping Liner at Discharge Port. 14 FREE DAYS FOR Container detention shall be provided.</li> <li>○ In case of shipment through Containers on CFR basis, the BL should bear the endorsement that “14 free days for Container Detention is applicable”.</li> </ul> <p><b><u>FOR BREAKBULK CARGO:</u></b></p> <ul style="list-style-type: none"> <li>○ For CFR terms, moved through BREAK BULK BASIS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis.</li> <li>○ The materials will be Custom cleared from Port itself.</li> </ul> <p><b><u>Important Information for Import Suppliers:</u></b></p> <ul style="list-style-type: none"> <li>• Indian Customs has imposed a penalty on late filing of Bill of Entries (Air/Sea Shipments) by the importer. The maximum free time allowed is 24 hrs from the time of arrival of cargo at final port of discharge. At present penalty is Rs.5000/- per day (for Initial 03 days) &amp; Rs.10000/- per day (thereafter). Hence the supplier shall submit the Non-Negotiable Documents (Bill of Lading, Commercial Invoice, Packing List, Certificate of Origin, etc.) either by email or post/courier to BHEL well before the landing of cargo at final port of discharge.</li> <li>• In case of any penalty due to late filing of Bill of entry for reasons attributable to suppliers (as listed below), the same will be recovered from the bills of supplier:</li> </ul>	

- Non availability of Non-Negotiable Documents (NNDs) before the cargo arrival
- Discrepancy in documents
- Short landing of Consignments (For shipments on CFR–Chennai Port)
- For all the shipments for the contracts (POs) finalized on CFR-Chennai Port basis,
  - Delivery Orders involving multiple agencies like liners/freight forwarders are not allowed. To avoid any delay, BHEL prefers Single agency office at the final discharge Port (Chennai) for issuing the Delivery Order to BHEL.
  - The detention/demurrage charges arise due to the delay in collection of Delivery Orders from multiple agencies of liner/freight forwarder also whose offices are not at available Chennai, the same amount will be deducted from Supplier's bills.
  - Apart from the Terminal Handling Charges, Container cleaning Charges & Delivery Order Charges at final port of discharge, any other charges will not be borne by BHEL.
  - The liner/freight forwarders shall be informed by the Vendor not to claim any additional charges (like charges listed below) for issuing Delivery Order. In case if the liner/freight forwarder claims such charges, the same amount will be deducted from the Vendor bills with/without any prior intimation in order to avoid the delay in Customs clearance. The likely additional/hidden charges are listed below
    - CIC - Container Imbalance Charges/Surcharges
    - EIC - Equipment Imbalance Charge/Surcharges
    - CAF - Container/Currency Adjustment Factor
    - BAF - Bunker adjustment Factor
    - RDS - Rupee Depreciation Surcharge
    - CDS - Currency Depreciation Surcharge
    - PCS - Port Congestion Surcharge
    - LSS - Low Sulphur Surcharge
    - Devanning Charges

**Transport Conditions for Import:**

The Original Documents (Bill of Lading, Invoice, Packing List, Certificate of Origin & Test Certificate) shall reach BHEL well in advance before the vessel arrival. The soft copies of the above shall be forwarded to BHEL immediately after shipment.

- 14 FREE DAYS for Container detention at final port of destination shall be provided and the same to be endorsed in the Bill of Lading. If there is no free day or less than 14 free days provided by the supplier, the actual cost incurred towards detention charges due to non-availability of above said free days will be recovered from the supplier Invoice.

	<ul style="list-style-type: none"> <li>○ In the event of delayed submission of documents/ non-submission of documents by the supplier as per the mutually agreed terms, an amount up to 5% of the invoice value will be retained towards detention/ demurrage &amp; other charges and the difference if any between actual charges and recovery will be settled separately through supplementary invoice.</li> <li>○ In such cases, the Supplier shall authorize the Steamer / Shipping agent / transporter to freely release the consignment to BHEL by providing a "Surrender Bill of Lading".</li> <li>○ Otherwise, No-objection Certificate shall be issued to the Liner, authorizing BHEL to get the Delivery Order without producing the Original Bill of Lading.</li> <li>○ This is required to ensure avoidance of detention/ demurrage at Chennai Sea-port that may arise in case of delayed presentation of documents by the Seller.</li> </ul>	
35.	<p><b><u>Fraud Prevention Policy</u></b> Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>	
36.	<p><b><u>Cartel Formation</u></b> All the firms should desist from forming cartel as the practice is prohibited under Section 3(3) (a) &amp; (d) of the competition Act 2002. If any such instance is observed during this tender will attract disciplinary action as per BHEL policies. The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.</p>	
37.	<p><b><u>Resolution of Disputes</u></b> The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the contract/tender which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.</p>	

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Annexure X to this Terms and conditions.

The Annexure X together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this terms and conditions.

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; 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 other Party refer such dispute or difference to sole arbitration of an arbitrator appointed as per the Arbitration and Conciliation Act, 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force.

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

This contract shall be governed, construed and interpreted in accordance with the laws of India.

Subject as aforesaid, the provision of Arbitration & Conciliation Act 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

The seat of arbitration shall be Trichy, Tamil Nadu, India

The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to arbitration in terms of clause above, the Courts at Trichy, Tamil Nadu, India shall have exclusive jurisdiction over any matter

	<p>arising out of or in connection with this Contract.</p> <p>Notwithstanding the existence or any dispute or difference and/or reference for the arbitration, the vendor shall proceed with and continue without hindrance the performance of its obligation under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.</p> <p><u>In Case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:</u></p> <p>In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between CPSEs and Government Departments/Organizations (Excluding disputes concerning Railways, Income Tax, Customs &amp; Excise Departments, such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/2013 –DPE (GM)/FTS-1835 dated 22-05-2018.</p>	
38.	<p><b><u>Force Majeure clause</u></b></p> <p>a. Notwithstanding the provisions contained in other clauses, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure. For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier’s fault or negligence and which is not foreseeable and not brought about at the instance of the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, freight embargoes and Acts of GOD.</p> <p>b. If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty-one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.</p> <p>c. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.</p> <p>d. In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the</p>	

	Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.	
39.	<b>Set off</b> : BHEL shall have the right to recover any money which in the sole opinion of BHEL is due from the supplier from any money due to the supplier under this Contract or any other contract or from the Security Deposit/BG furnished by the supplier under this Contract or any other contract.	
<b>Note.</b>	<ol style="list-style-type: none"> <li>1. In the event of our customer order covering this tender being cancelled /placed on hold / otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution.</li> <li>2. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL. Any deviation in specified commercial terms- Annexure-A, will lead to rejection of offer.</li> <li>3. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit.</li> <li>4. <b>Any other Techno-Commercial Terms indicated by the vendor in their offer elsewhere will be ignored. BHEL will proceed with tender evaluation as per Annexure-A only.</b></li> </ol>	

# ANNEXURE-B

Project: SAGARDIGHI 1x660MW

Cust No: 1731

Technical pre-qualification requirement for Start-up control valves.


Sl no	BHEL Requirements	Vendor Confirmation / Comments
1.	<p>The bidder should have designed, manufactured, tested and supplied control valves meeting the following requirements.</p> <ul style="list-style-type: none"> <li>• same type as offered in this bid</li> <li>• same application as offered in this bid</li> <li>• valve material as offered in this bid</li> <li>• minimum valve pressure rating as offered in this bid</li> </ul> <p>meeting the technical specification requirement.</p> <p>The same valves should have been commissioned in at least one plant of sub / super critical steam generating units of 500MW or above ratings in similar applications mentioned in our specification and are in successful operation for a period of not less than 2 years as on the date of techno-commercial bid opening.</p> <p>Note: The bidder can also offer such Valve manufactured under collaboration or with a valid licensing agreement for design, engineering, manufacture and supply of such Valve along with necessary documents mentioned below from the collaborator.</p>	<p><b>Confirmed / Not confirmed</b>  <b>Confirmed / Not confirmed</b>  <b>Confirmed / Not confirmed</b>  <b>Confirmed / Not confirmed</b></p> <p><b>Confirmed / Not confirmed</b></p>
2.	<p>The supplier has to submit any one of the following supporting documents meeting the above requirement in Sl. No.1.</p> <p>a) Copy of minimum one (1) performance certificate in English from end user along with copy of related PO/LOI/LOA/WO specifying that the product / equipment is operating successfully for two (2) years from date of commissioning meeting the intended requirement.</p> <p>b) Minimum two PO/LOI/LOA/WO placed from same purchaser meeting the requirement.</p> <p>c) Minimum three customer's/ third party's inspection reports/ test certificates/ commissioning certificates meeting the requirement.</p>	<p><b>Submitted / Not Submitted</b></p> <p><b>Submitted / Not Submitted</b></p> <p><b>Submitted / Not Submitted</b></p>

3.	<p>Boiler start-up valves often experience debris, because the water separator is likely to collect the debris of the boiler. On the other hand, the valve has to be in a completely tight closed position for long operating periods during dry mode of boiler operation. If the trim parts gets damaged by debris, then continuous leakage of flashing water will erode the trim parts and further increase the leakage. This will lead to severe damage of the valve. Therefore, the trim design should prevent particle being trapped in the trim parts and subsequent damage to the trim parts and seals.</p> <p>a) Vendor to provide confirmation that the offered trim design will not get damaged due to debris/particle entrapment.</p> <p>b) Vendor to confirm that the valve trim design offered meeting the requirement against SI.No.3, was in successful operation for a period of not less than 2 year as on the date of techno-commercial bid opening.</p> <p>c) Vendor to furnish supporting documents describing the valve design to meet the requirements mentioned in point (3) above to the fullest satisfaction of purchaser.</p> <p>(d) Vendor shall agree for trouble free operation of the offered valve in the operating condition described in point (3). In case of any design or manufacturing defects/failures found during period up to 6months from the date of commissioning of the valves, vendor is liable to replace/repair the valve free of cost. This clause is applicable even if the guarantee/warranty period is exhausted as per Purchase order conditions.</p>	<p><b>Confirmed / Not confirmed</b></p> <p><b>Confirmed / Not confirmed</b></p> <p><b>Confirmed / Not confirmed</b></p> <p><b>Submitted / Not Submitted</b></p> <p><b>Confirmed / Not confirmed</b></p>
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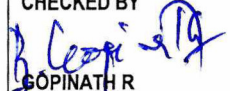

Abbreviation:

(PO) - Purchase order, (LOI) –Letter of Intent, (LOA) - Letter of award, (WO) - Work order



	<b>SPECIFICATION FOR STARTUP CONTROL VALVES</b>	SPECIFICATION NO.: BM/ANG/SCV:001	
		SECTION: Boiler Mountings/PE (FB)	
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ACTUATOR SIZING PRESSURE : 306.8 kg/cm<sup>2</sup> (g)  
 BODY DESIGN: PRESSURE / TEMPERATURE : 330.5 kg/cm<sup>2</sup> (g), 374°C  
 TEST PRESSURE : 1.5 x Design Pressure  
 IBR FORM – III C : REQUIRED  
 TOTAL WEIGHT (VALVE + ACTUATOR + ACCESSORIES) : Kgs.  
 Valves should be directly weld able to connecting pipe without the use of reducers.

PART – A (TO BE FILLED UP BY PURCHASER)		PART – B (TO BE FILLED UP BY BIDDER)		
<b>ACCESSORIES</b>	ELECTRO HYDRAULIC POSITIONER	REQUIRED		
	POSITION LIMIT SWITCH	REQUIRED		
	POSITION TRANSMITTER	REQUIRED		
	SOLENOID VALVE	NOT REQUIRED		
	E/H CONVERTER	REQUIRED		
	JUNCTION BOX	REQUIRED		
	HAND PUMP	REQUIRED		
	LOCAL POSITION INDICATOR	REQUIRED		
	HYDRAULIC POWER UNIT(COMMON FOR HWL AND MEFCV)	REQUIRED		
<b>ELECTRO HYDRAULIC POSITIONER</b>	ELECTRONIC CONTROL UNIT (COMMON FOR HWL AND MEFCV)	REQUIRED		
	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR		
	ENCLOSURE CLASS	IP-65		
	INPUT SIGNAL	4 - 20 mA		
	OUTPUT SIGNAL	TO SUIT ACTUATOR		
<b>LIMIT SWITCH</b>	INCREASE IN SIGNAL	TO OPEN / TO CLOSE		
	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR		
	OPEN: INT: CLOSE	1 No. FOR OPEN & 1 No. FOR CLOSE		
	CONTACT TYPE	DPDT 2 NO + 2 NC		
	RATING (AC/DC)	5A 240V, AC and 0.2A, 220V, DC		
<b>POSITION TRANSMITTER</b>	ENCLOSURE CLASS	IP65 / NEMA 4 & 13		
	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR		
	TYPE	LVDT 2 WIRE TYPE		
	SUPPLY	24V DC		
	OUTPUT RATING	4 – 20 mA / 0-100 Ohms		
	ACCURACY	+/- 1% FS		
<b>HAND WHEEL</b>	ENCLOSURE CLASS	IP65 / NEMA 4 & 13		
	ORIENTATION	SIDE MOUNTED		
<b>JUNCTION BOX</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR		
	No. OF WAYS	THIRTY SIX		
	SIZE	TO BE FILLED BY VENDOR		
	CABLE GLANDS: (SIZE / QNTY)	TO BE FILLED BY VENDOR		
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13		
<b>E/H CONVERTER</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR		
	INPUT SIGNAL : POWER SUPPLY	4 – 20mA, DC / 24V, DC		
	SPLIT RANGE	YES / NO // YES / NO		
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13		
SIGN : NAME : DATE :	PREPARED BY  GIREESH BABU AV	CHECKED BY  GOPINATH R	APPROVED BY  SHANKAR NAIK VANKADOTH	VENDOR SEAL  SIGN.: NAME: DATE:




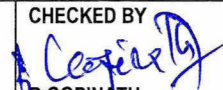



## SPECIFICATION FOR STARTUP CONTROL VALVES

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ACTUATOR SIZING PRESSURE : 350.1 kg/cm<sup>2</sup> (g)  
 BODY DESIGN: PRESSURE / TEMPERATURE : 350.1 kg/cm<sup>2</sup> (g), 348°C  
 TEST PRESSURE : 1.5 x Design Pressure  
 IBR FORM – III C : REQUIRED  
 TOTAL WEIGHT (VALVE+ ACTUATOR+ ACCESSORIES) : Kgs.

Valves should be directly weldable to connecting pipe without the use of reducers. Angle valve is not acceptable.

PART – A (TO BE FILLED UP BY PURCHASER)			PART – B (TO BE FILLED UP BY BIDDER)
<b>ACCESSORIES</b>	ELECTRO HYDRAULIC POSITIONER	REQUIRED	
	POSITION LIMIT SWITCH	REQUIRED	
	POSITION TRANSMITTER	REQUIRED	
	SOLENOID VALVE	NOT REQUIRED	
	E/H CONVERTER	REQUIRED	
	JUNCTION BOX	REQUIRED	
	HAND WHEEL (SIDE MOUNTED)	REQUIRED	
	LOCAL POSITION INDICATOR	REQUIRED	
	HYDRAULIC POWER UNIT(COMMON FOR HWL AND MEFCV)	REQUIRED	
	ELECTRONIC CONTROL UNIT (COMMON FOR HWL AND MEFCV)	REQUIRED	
<b>ELECTRO HYDRAULIC POSITIONER</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR	
	ENCLOSURE CLASS	IP-65	
	INPUT SIGNAL	4 - 20 mA	
	OUTPUT SIGNAL	TO SUIT ACTUATOR	
	INCREASE IN SIGNAL	TO OPEN / TO CLOSE	
<b>LIMIT SWITCH</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR	
	OPEN: INT: CLOSE	1 No. FOR OPEN & 1 No. FOR CLOSE	
	CONTACT TYPE	DPDT 2 NO + 2 NC	
	RATING (AC/DC)	5A 240V, AC and 0.2A, 220V, DC	
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13	
<b>POSITION TRANSMITTER</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR	
	TYPE	LVDT 2 WIRE TYPE	
	SUPPLY	24V DC	
	OUTPUT RATING	4 – 20 mA / 0-100 Ohms	
	ACCURACY	+/- 1% FS	
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13	
<b>HAND WHEEL</b>	ORIENTATION	SIDE MOUNTED	
<b>JUNCTION BOX</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR	
	No. OF WAYS	THIRTY SIX	
	SIZE	TO BE FILLED BY VENDOR	
	CABLE GLANDS: (SIZE / QTY)	TO BE FILLED BY VENDOR	
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13	
<b>E/H CONVERTER</b>	MANUFACTURER & MODEL No.	TO BE FILLED BY VENDOR	
	INPUT SIGNAL : POWER SUPPLY	4 – 20mA, DC / 24V, DC	
	SPLIT RANGE	YES / NO // YES / NO	
	ENCLOSURE CLASS	IP65 / NEMA 4 & 13	
SIGN. : NAME : DATE :	PREPARED BY  GIREESH BABU AV	CHECKED BY  R-GOPINATH	APPROVED BY  SHANKAR NAIR VANKADOTH
			VENDOR SEAL  SIGN.: NAME: DATE:





## SPECIFICATION FOR STARTUP CONTROL VALVES

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### 1.0 PURPOSE

- 1.1 This Specification defines the minimum, acceptable requirements for the design and performance of one pair of BOILER SEPARATOR LEVEL CONTROL VALVES (HWL-1, HWL-2 VALVES) and one BOILER MINIMUM ECONOMIZER FLOW CONTROL VALVE (MEFCV VALVE) for a coal fired, supercritical, steam generating unit.

### 2.0 SCOPE OF WORK

- 2.1 Supplier shall provide equipment and components in accordance with the approved suppliers listed in this specification, unless otherwise approved by BHEL. Equipment or components not listed shall be Supplier's standard.
- 2.2 For skid mounted assemblies, all instrumentation and control wiring connections by BHEL to Supplier's equipment shall be external to the equipment on numbered terminal strips in junction boxes or electrical panels.
- 2.3 All piping furnished by the Supplier shall be provided in ISO standard sizes in nominal Metric units (DN sizes). All weld end preparations, socket weld couplings, threaded connections, flange sizes and ratings, at BHEL/Supplier terminal points shall comply with ISO standards in Metric units and also as per the data sheet.
- 2.4 Nozzles shall be prepared for connection with BHEL piping as follows:
- Welded connections 50 NB and smaller shall be socket weld connections in accordance with the requirements of ASME B16.11.
  - Welded connections 65NB and above shall be butt weld connections. Butt weld ends shall be beveled for welding in accordance with the requirements of BHEL.
- 2.5 All flanged connections shall be supplied in accordance with the requirements of ASME B16.5.
- 2.6 All materials shall be new and in accordance with applicable ASTM specifications or with other recognized standards such as SAE. No peening, caulking or filling shall be permitted in repairing cracks, pin-holes or blow-holes. Defects in fabricated steel shall be repaired by chipping out welds to bottom of vee and re-welding.



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- 2.7 The use of asbestos, cadmium or material containing asbestos shall not be permitted. The use of mercury or material containing mercury shall not be permitted. All nonmetallic materials shall be noted to BHEL for approval.
- 2.8 The equipment and materials specified are intended to be the minimum suitable for the intended service. They are not intended to limit the Supplier's responsibility for proper design and selection of equipment. It is the Supplier's responsibility to bid a complete system for the intended service and the specification is only for general guidelines. Any changes in proposed equipment or materials during design shall be approved by BHEL.
- 2.9 All quotations and attachments submitted to BHEL shall be in the English language.
- 2.10 All quotations and inquiries to BHEL shall be routed through Purchase department- Materials Management/BOI.
- 2.11 Parts subject to wear, corrosion, deterioration or requiring adjustment, inspection or repair shall be accessible and capable of reasonably convenient removal, replacement and repair.
- 2.12 The Supplier shall complete and submit the Supplier Data Sheets and guarantees located in Section 10.0 of this specification with the equipment offered in full conformance with the specification. The Supplier shall provide a complete written description of all omissions or exceptions to the requirements of this specification. This written description must be included in Section 11.0 EXCEPTIONS TO THE SPECIFICATION of this specification. Without the complete data sheets and the EXCEPTIONS TO THE SPECIFICATION sheets, the proposal will not be evaluated.
- 2.13 Optional equipment shall be priced separately.
- 2.14 The Supplier shall be governed by the following regulations, codes, and standards, including their latest respective addenda, amendments, and errata.

AFBMA	Antifriction Bearing Manufacturers' Association
AGMA	American Gear Manufacturers' Association
AHI	American Hydraulic Institute
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute



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API	American Petroleum Institute
ASME	American Society Mechanical Engineers
ASTM	American Society Testing and Materials
AWS	American Welding Society
EIA	Electronics Industries Association
FCI	Fluid Controls Institute, Inc.
IEC	International Electro technical Commission
IEEE	Institute of Electrical and Electronics Engineers
IPCEA	International Power Cable Engineers Association
ISA	Instrumentation Society of America
MSS	Manufacturers Standardization Society of the Valve & Fittings Industry
NEMA	National Electrical Manufacturers' Association
NEC	National Electrical Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety Health Act
PFI	Pipe Fitting Institute
SAMA	Scientific Apparatus Makers Association
SSPC	Steel Structures Painting Council
UL	Underwriter's Laboratories

In addition to the codes and standards specifically mentioned above for the equipment / plant / system, all equipment parts, systems and works covered under this specification shall comply with all currently applicable statutory regulations and safety codes of the Republic of India as well as of the locality where they will be installed, including the following:

- a) Bureau of Indian Standards (BIS)
- b) Indian Electricity Act
- c) Indian Electricity Rules
- d) Indian Explosives Act
- e) Indian Factories Act and State Factories Act
- f) Indian Boiler Regulations (IBR)
- g) Rules for Electrical installation by Tariff Advisory Committee (TAC).
- h) Any other statutory codes / standards / regulations, as may be applicable.

Unless covered otherwise by Indian codes & standards and in case nothing to the contrary is specifically mentioned elsewhere in the specifications, the latest editions of the following codes and standards shall also apply:

- a) American Petroleum Institute (API)
- b) International Organization for Standardization (ISO)
- c) Tubular Exchanger Manufacturer's Association (TEMA)
- d) American Welding Society (AWS)



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- e) Expansion Joint Manufacturers Association (EJMA)
- f) Heat Exchange Institute (HEI)
- g) Standards of the Hydraulic Institute, U.S.A.

Other International/ National standards such as DIN, VDI, BS, GOST etc. shall also be accepted for only material codes and manufacturing standards, subject to the Employer's approval, for which the Supplier shall furnish, adequate information to justify that these standards are equivalent or superior to the standards mentioned above. In all such cases the Supplier shall furnish specifically the variations and deviations from the standards mentioned elsewhere in the specification together with the complete word for word translation of the standard that is normally not published in English.

- 2.15 Nothing in this specification shall be construed to relieve the vendor from his responsibility. This specification covers briefly the requirements of the system. It is the responsibility of the vendor to take care of other basic and essential requirements. In case of any discrepancy in the contents expressed in the specification, vendor shall include all items required for completeness of the system even if it is not specified explicitly in this specification.

### 3.0 APPLICABLE CODES & STANDARDS

- 3.1 The valves shall comply with the applicable requirements of the latest edition of ASME B31.1, Power Piping Code.
- 3.2 Valve design in accordance with ASME B16.34.
- 3.3 The valve sizing shall be in compliance with latest edition of ISA 75.01 Hand book on Control Valves considering measures to avoid choked flow.
- 3.4 All pressure retaining parts of the valve shall be made of materials, including specific limitations on various materials that are in full compliance with PG.-5 of ASME Code Section 1.
- 3.5 Materials- Only materials listed and rated in B16.34 are acceptable and materials offered shall be appropriate to the design conditions listed.
- 3.6 For valves manufactured other than standards listed above, the Supplier shall specify (at the time of quotation) the Codes and Standards which will be used through the manufacturing and design processes. The Codes and Standards as specified will be subject to approval by **BHEL**.



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- 3.7 Reference to the above Codes and Standards shall mean the latest revision, edition and addenda effective at the date of order unless specifically stated otherwise in this specification.
- 3.8 All welders and all welding procedures welders utilized shall be qualified in accordance with ASME Section IX. When welders and welding procedures are qualified in accordance with codes other than those specified, the Supplier must take exception at the time of quotation.
- 3.9 All materials shall be readily identifiable. Mill test reports shall be obtained for all pressure boundary parts. These test reports shall be available for review at the Vendor's shops. Copies of these are to be supplied to the Company, if requested, prior to ordering.
- 3.10 Valve Revisions at supplier end

Supplier shall fabricate the valves based on the drawings approved by BHEL. If the valve design requires modification due to Supplier error during the Supplier tests or QA inspection, the Supplier will correct the design and reflect these changes in the AS-BUILT revision of the drawings.

### 4.0 EQUIPMENT FURNISHED BY SUPPLIER

- 4.1 Two (2) BOILER SEPARATOR LEVEL CONTROL VALVES (HWL-1, HWL-2 VALVES) complete with hydraulic actuator and associated positioning controls as per this specification.
- 4.2 One (1) BOILER MINIMUM ECONOMIZER FLOW CONTROL VALVE (MEFCV) complete with hydraulic actuator and associated positioning controls as per this specification.
- 4.3 One (1) Common Hydraulic Unit and Electronic Control Unit for the positioning control of the two BOILER SEPARATOR LEVEL CONTROL VALVES (HWL-1, HWL-2 VALVES) and Minimum Economizer Flow Control Valve (MEFCV) as per this specification.

#### 4.4 Accessories and Tools

- 4.4.1  One (1) stainless steel tubing, fittings and necessary supports to connect all necessary hydraulic lines between the SUPPLIER supplied Common Hydraulic Unit and the SUPPLIER supplied two BOILER SEPARATOR LEVEL CONTROL VALVES (HWL-1, HWL-2 VALVES) and one Minimum Economizer Flow Control Valve (MEFCV)



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hydraulic actuators. Each Valve location from the common hydraulic unit shall be referred from the project specific data sheet (Annexure I).

- i. Hydraulic Unit to HWL1 - refer Annexure II
- ii. Hydraulic Unit to HWL2 - refer Annexure II
- iii. Hydraulic Unit to MEFCV - refer Annexure II

4.4.2  *Two (2)* fills of hydraulic fluid, first for start up and second for hydraulic fluid change prior to operation.

4.4.3  Following special tools are must.

- a) Flushing kit for valves.
- b) Flushing kit for Hydraulic system including the flushing device. Flushing filter, Flushing Filter elements, hose pipes & valves to be supplied as spares along with the flushing kit.
- c) N2 filling kit – Used for charging of accumulators with N2 as well as pressure checking and adjustment
- d) *One (1)* lot of all tools that are required for maintenance of the valves. In case of problems arising during hydro test /assembly / maintenance at later stage, it will be supplier responsibility to resolve at no extra cost to BHEL. The supplier shall furnish the following but not limited to the mentioned, all tools such as suitable sockets and extension bars, double wrenches, screwdrivers, tapes etc., required for erection, calibration, servicing including instructions for their use. Tools shall be new. Tools shall be shipped to the project site in a suitable, separate container, clearly marked with the name of the equipment for which they are intended.

4.5 *One (1)* Set of commissioning spares for each valve as per the model of valve.

## 5.0 TERMINAL POINTS

5.1 At all valve inlets and outlets.

5.2 At the terminal junction boxes on each supplied valve, the terminals in the hydraulic power unit, and the terminals in the control cabinet.



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### 6.0 FACILITY SITE SPECIFIC DATA

Please refer to attached specifications Annexure-II for Facility Site Specific Data (if applicable) and Painting Schedule for Surface Preparations and Coatings requirements (if applicable).

### 7.0 DRAWINGS AND DATA REQUIRED WITH OFFER

7.1 Detailed Calculations to demonstrate the suitability of the selected valve for the application.

- 7.1.1 Cavitation in case the valve is for liquid application.
- 7.1.2 Noise and Vibration.
- 7.1.3 Flashing in case the valve is for saturated liquid application.
- 7.1.4 Valve sizing calculations.( Cv, valve outlet velocity )
- 7.1.5 Actuator sizing calculations

7.2 All drawings, calculations, specifications, bills of materials and other data submitted shall be in Metric units. Dual Dimensions are acceptable with Metric (primary) and English (in parenthesis). Metric units shall comply with the International SI System.

7.2.1 The following units are to be used for main parameters:

- Temperature °C
- Pressure kg /cm<sup>2</sup> (g)
- Dimensions mm
- Flow kg/sec

7.3 Documents to be submitted with offer

- Valve Performance Data and curves.
- The Supplier shall provide dimensional outline drawings of the assembled unit(s). The drawings shall show overall dimensions, terminal box dimensions, mounting connections, clearances required for proper installation and maintenance shall state lifting requirements, and the weights of all major components. In addition to the sectional drawing, supplier has to provide isometric drawing of HWL valve body for heat tracing requirement.
- GA drawing of actuator.
- Actuator sizing calculations.
- GA drawing and circuit diagram of Common Hydraulic Control Unit.
- Hydraulic Power Unit diagram (P&ID) with Set points.



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- Hydraulic connection diagram from HPU to individual actuator with BOM.
- Flushing and commissioning procedure documents with drawings.
- Electrical Circuit diagram.
- Control panel arrangement.
- List of commissioning spares.
- List of special tools as required for maintenance of valve and all equipment supplied.
- Performance data and curves.
- Completed Supplier Data Sheets per Section 10.0
- Any special requirements or operational limits shall be explicitly stated in offer itself.
- Field testing requirements.
- Terminal box wiring diagram
- Integrated Manufacturing and Quality Plan for BHEL's review
- Documents as per TPQR requirements.
- Vendor shall provide allowable Force & Movements at inlet/outlet of HWL1 & HWL2 and MEFCV valves for our downstream engineering activity to avoid vibration/ fatigue/ water hammer on the flash tank nozzle.

### 7.4 Descriptions of Equipment

- A written description of the equipment being offered shall be provided with the Bid. This information shall explain details of the design, construction, control, operation and performance.
- Consumable list including, compressed air, instrument air and electrical requirements indicating Quality parameters, frequency of usage; intermittent or continuous.
- Experience List for valves in similar service including size, service, flow rate, pressure, temperature, pressure rating and date placed in operation.

### 7.5 Documents to be submitted after PO

- Detailed arrangement drawings of the assembled units including support details, flange connections, etc. All materials shall be readily identifiable on Supplier's drawings.
- Electrical wiring diagrams and connection details
- Instrument list
- Instrument data sheet(s) (ISA format or equal)
- Valve flow characteristic curve
- List of shop tests that will be conducted on the furnished equipment
- Complete set(s) of instruction, operation, maintenance, and erection manuals, quantities will be identified in the purchase order



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- List of shop applied paints and protective finishes identifying compatible site applied coatings
- List of all lubricants required for the equipment operation identifying preferred acceptable substitutes
- Detailed shipping list with quantity units in meters and numbers (not in Lot(s)).
- Link between BOM and shipping list shall be provided
- O&M manual for Valve, HPU and actuator.
- O&M manuals – 1 set of Hard copy to be sent to site along with equipment.
- Data sheets & drawings for approval.
- O&M manual in soft copy – One copy of O&M manuals in soft copy is to be submitted. The O&M manuals should be furnished within three months from the date of placement of order.
- Certification sheet for each valve containing the following information:
  - ✓ Manufacturer's Name
  - ✓ Manufacturer's serial number on the valve body
  - ✓ Flow direction arrow on the valve body
  - ✓ ASME material specification used for pressure parts including valve body and other pressure retaining parts
  - ✓ Maximum allowable pressure (design pressure), kg/cm<sup>2</sup> (g) and design temperature, °C
  - ✓ Hydrostatic shell test pressure, kg/cm<sup>2</sup> (g). Additional certification for valves manufactured to B16.34 Special Class.
  - ✓ Welding Certification: All welding on the valve has been performed using procedures and welders qualified in accordance with ASME Code Section IX.
  - ✓ Radiographs: Radiographic examination has been performed as required by ASME B16.34. One set of the completed radiographs, properly identified with the respective parts, will be retained and available for inspection for a period of five (5) years.
  - ✓ IBR form III C.
  - ✓ Surface examination of all castings performed by magnetic particle or liquid penetrant methods to the technique and acceptance standards of ASME B16.34.
  - ✓ One (1) copy of each material manufacturer's certification.
  - ✓ Authorized and dated signature certifying the above information to be complete and correct.
  - ✓ Operation and Maintenance Manual describing the operation & maintenance of the entire system shall be supplied (both hard copies and soft copies).
  - ✓ Do & Don't of valve operation.
  - ✓ Trouble shooting guideline.



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### 8.0 PERFORMANCE DATA & TECHNICAL REQUIREMENTS

#### 8.1 Component Design Criteria-Function

##### 8.1.1 Separator Level Control (HWL-1 & HWL-2) Valves:

The separator level control valves (HWL-1 & HWL-2) are used to control the water level in the water separator during “wet” mode operation of a supercritical boiler. As the level exceeds the set point first one, then the second valve will open. The valves will throttle saturated water from boiler at high pressure to a flash tank at atmospheric pressure. The water will be flashing to steam as it exits the valves.

##### 8.1.2 Minimum Economizer Flow Control (MEFCV) Valve:

The Minimum Economizer Flow control valve (MEFCV) is used to control the economizer inlet flow during start-up and low load operation. Demand for this valve is established based on measured economizer inlet flow compared to a minimum boiler flow requirement.

Boiler start-up control valves ( HWL-1 & HWL-2) and (MEFCV) often experience debris, because the debris of the boiler typically collects in the water separator of boiler which is upstream of these valves. On the other hand, the valve has to be absolutely full shut-off for long operating periods. If the trim parts slightly damaged by debris, then continuous leakage of water will erode the trim parts and further increase the leakage. This will lead to severe damage of the valve. Therefore, the trim design should prevent particle being trapped in the trim parts and subsequent damage to the trim parts and seals.

### 9.0 DESIGN AND CONSTRUCTION

9.1 In general, all valves and associated accessories shall meet the applicable requirements of accepted standards and attached customer specifications.

9.2 Design of the valves shall meet the latest edition of ASME B16.34.



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- 9.3 The valve sizing shall be in compliance with latest edition of ISA S75.01 Hand book on Control Valves considering measures to avoid choked flow.
- 9.4 **The valve sizing shall be suitable for obtaining maximum flow conditions with valve opening at approximately 80% of total valve stem travel and minimum flow conditions with valve stem travel not less than 10% of total valve stem travel.** All the Control Valves shall be capable of handling at least 120% of the required maximum flow. Further the valve stem travel range from minimum flow condition to maximum flow condition shall not be less than 50% of the total valve stem travel.
- 9.5 The control valve size should not be smaller than connecting line size by more than 1 step.
- 9.6 VALVE CONFIGURATION:**
- a. **MEFCV Valve** shall be selected suitably by Bidder to meet performance parameter. **Angle type is not acceptable.**
  - b. **HWL1 & HWL 2 Valves** shall be **ANGLE TYPE** configuration.
- 9.7 Valve shall be forged design.
- 9.8 Plug shall be one-piece construction either cast, forged, or machined from solid bar stock. Plugs shall be screwed and pinned to valve stems or shall be integral with the valve stems.
- 9.9 All control valves shall have stems, guide bushings, plugs, seat rings, stem lock pins, stuffing box parts and other trim parts made of stainless steel alloys and suitably hardened. Valve guide posts and bushings shall be stellite faced. Stellite faced guide posts and bushings shall be differential hardened for applications involving high pressure drop as well as for flashing and cavitation applications. **Trim material shall be 17-4 PH SS / 440C depending upon the service conditions to ensure required degree of hard facing so as to avoid erosion.** However, Bidder may offer valves with body and trim materials better than specified and in such cases, Bidder shall furnish the comparison of properties including cavitation resistance, hardness, tensile strength, strain energy, corrosion resistance and erosion resistance etc. of the offered material vis-a-vis the specified material for Owner's consideration and approval.
- 9.10 The valve model proposed should be designed to prevent cavitation, wire drawing and flashing on the downstream side of the valve and piping for



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operation throughout the full operational range of the valve under the specified conditions. For cavitation service, the trim design shall be of multistage pressure drop type to prevent cavitation occurring downstream of trim as well as valve.

- 9.11 **Bidder shall furnish in his proposal detailed calculations to establish whether flashing or cavitation will occur or not under any operating condition mentioned in technical specification. These calculations shall be subject to Owner's review and approval and in case it is established at any stage of the contract that cavitation will occur, the Bidder shall provide specially designed anti-cavitation trim for the same. Further the Bidder shall furnish in his proposal the detailed write up, technical literature, etc. clearly indicating as to how the occurrence of cavitation shall be prevented by the design of his offered anti-cavitation trim.**
- 9.12 Valve sizing shall be in accordance with the latest edition of ISA Handbook on Control Valves with due consideration for the measures to avoid choked flow. Bidder shall ensure that valve outlet velocity does not exceed 8 m / sec. for liquid services, 150 m / sec. for steam services and 50% of sonic velocity for flashing services.
- 9.13 Valve outlet shall have a 5 degree downward slope to ensure proper drainage of valve outlet.
- 9.14 Valve inlet and outlet cages shall be provided if required by the indicated process conditions.
- 9.15 For valves with butt weld ends, the supplier is required to prepare weld profiles to BHEL supplied information.
- 9.16 Both the valves and their accessories shall be designed for the process and local installation environment.
- 9.17 All valves and accessories shall be suitable for outdoor service. Electrical components (actuators, limit switches, solenoid valves, positioners, controllers, etc.) shall meet the requirements of IP 65.
- 9.18 The Supplier shall provide all necessary converters, positioners, position transmitters, etc. mounted on the control valve.
- 9.19 The direction of flow shall be clearly marked on each valve.



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- 9.20 Control valves, their actuators and associated ancillary equipment must be selected to suit the application, design and working conditions specified and also the environmental conditions in which they are installed. The pressure and temperature rating of valve body shall be equal or exceed the process design conditions on control valve data sheet.
- 9.21 Valves and their actuators shall be adequately rated to suit the maximum differential pressure against which they will have to work, i.e. when the valve is fully closed.
- 9.22 Valve guiding and seating systems shall be so designed that smooth control is maintained over the full operational stroke. Design should be such that it eliminates vibration.
- 9.23 Valve's gland packing material shall be grafoil or graphite for all the valves.
- 9.24 The end for all the Control Valves shall be matched to the corresponding details for the piping on which the valve is installed.
- 9.25 The boiler water system will be acid cleaned at site using a 1 to 1.5% (by weight) inhibited hydrofluoric acid. The valve internals must be capable of withstanding hydrofluoric acid without getting damaged.
- 9.26 The Leakage Class of separator level control valves (HWL-1 & HWL-2) and for Minimum economizer flow control valve (MEFCV) is to be **Class-V** as per FCI 70.2.
- 9.27 Hydraulic Valve Actuators
- 9.27.1 The separator level control valves (HWL-1 & HWL-2) shall be supplied with a Hydraulic actuator capable of a quick full stroke closing time of 3 sec against closing loads. Normal full stroke opening/closing time shall be 10 sec. The Hydraulic actuator for the minimum economizer flow control valve (MEFCV) full stroke opening/closing time shall be 10 sec.
- 9.27.2 The Hydraulic actuator shall be sized to operate against the maximum differential pressure of the process.
- 9.27.3 A mechanical position indicator shall be provided on the actuator.



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- 9.27.4 The actuator shall be equipped with a hydraulic positioning valve to convert a 4 –20 mA DC signal from the DCS to a hydraulic signal.
- 9.27.5 The actuator shall be furnished with a 4 –20 mA DC valve position feedback signal.
- 9.27.6 The actuators for the HWL valves only shall be equipped with a safety quick closing system. The safety control system shall be activated by a signal (dry contact) from the DCS supplied by others. The safety control system shall be independent of other control device. The safety control system shall be capable of closing the valve with normal control system devices unavailable.

### 9.28 Hydraulic Unit and Electronic Control Unit (HWL-1, HWL-2 & MEFCV)

- 9.28.1 All control valves (HWL-1, HWL-2 & MEFCV) shall be supplied with a Hydraulic Unit and Electronic Control Unit. The hydraulic power unit serves to supply the necessary pressurized hydraulic fluid to the Hydraulic actuators. A common hydraulic power unit may be used for multiple Hydraulic Valve Actuators. The hydraulic power unit shall be equipped with an accumulator to maintain adequate pressure during peak operating requirements. The hydraulic pumps shall be designed for the required pressure and mean oil consumption.
- 9.28.2 The hydraulic power unit shall be equipped with redundant motor-pump units with motor starters mounted in the Electronic Control Units. Each pump set shall be equipped with the necessary charging valve, check valves, filters, pressure reducing valves, pressure relief valves, and instrumentation required for operation of the hydraulic power unit.
- 9.28.3 The hydraulic power unit shall be equipped with an oil tank sized for the entire volume of oil. A tank air breather filter shall be furnished.
- 9.28.4 The hydraulic power unit shall be equipped with an accumulator sized to deliver the oil flow at required pressure for all conditions. The accumulator shall be equipped with a pressure gauge.



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9.28.5 The Electronic Control Unit cabinet shall be a free standing IP 65 rated with front and rear access doors to be installed outdoors. The control cabinet shall contain processors or controllers and I/O necessary for valve positioning, hydraulic unit control and interface between the Hydraulic Unit / Electronic Control Unit and customer supplied DCS.

9.28.6 In addition to the following signal exchanges, if additional signals are envisaged as per vendor's design, then the same have to be terminated in the respective terminal boxes/junction boxes.

HWL-1 Position Demand (from DCS)	4-20 mA DC
HWL-1 Valve Position feedback (to DCS)	4-20 mA DC
HWL-1 Position Failure (to DCS)	Dry Contact
HWL-1 Quick Closing (from DCS)	Dry Contact
HWL-1 Valve Opened (to DCS)	Dry Contact
HWL-1 Valve Closed (to DCS)	Dry Contact

HWL-2 Position Demand (from DCS)	4-20 mA DC
HWL-2 Valve Position feedback (to DCS)	4-20 mA DC
HWL-2 Position Failure (to DCS)	Dry Contact
HWL-2 Quick Closing (from DCS)	Dry Contact
HWL-2 Valve Opened (to DCS)	Dry Contact
HWL-2 Valve Closed (to DCS)	Dry Contact

MEFCV Position Demand (from DCS)	4-20 mA DC
MEFCV Valve Position feedback (to DCS)	4-20 mA DC
MEFCV Position Failure (to DCS)	Dry Contact
MEFCV Opened (to DCS)	Dry Contact
MEFCV Closed (to DCS)	Dry Contact

Hydraulic Power Unit On (from DCS)	Dry Contact
Hydraulic Power Unit Off (from DCS)	Dry Contact
Hydraulic Power Unit Pressure too low (to DCS)	Dry Contact
Hydraulic Power Unit Auto (to DCS)	Dry Contact
Hydraulic Power Unit Alarm (to DCS)	Dry Contact
Hydraulic Power Unit Fault (to DCS)	Dry Contact

9.28.7 415 V, 3 Ø, AC Power supply feeder will be provided for the hydraulic power pack. 240 V, AC Power supply feeder will be provided. It is vendor's responsibility to further distribute



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- the same to different points and further derivation of various control supplies/power supplies.
- 9.28.8 Vendor to offer the latest version of control system/positioners with additional features.
- 9.28.9 The offered Hydraulic Power Unit and the Control system/panels shall be suitable for outdoor applications.
- 9.28.10 All Cables (Power cables/Control Cables/Instrumentation cables) run between various equipment supplied vendor, shall be in vendor's scope. These cables shall be laid in conduits/cable trays.
- 9.28.11 All Cables (Power cables/Control Cables/Instrumentation cables) interfaced with various equipment supplied by the vendor, have to be terminated by using suitable Double compression, flame proof/weather proof, Brass with Nickel plated cable glands.
- 9.28.12 Vendor to provide suitable cable glands for all interfacing cables from/to DCS. Cable sizes will be indicated during engineering stage.
- 9.28.13 Test Certificates and Calibration Certifications shall be provided for all Instruments and Motors as applicable.

### 9.29 Valve Selection Criteria

- 9.29.1 The control valves, actuators and actuator hydraulic systems shall be sized based on the valve data sheets. These data sheets shall be filled in and submitted with the bid and with the first submittal of valve drawings.
- 9.29.2 The Supplier shall meet all process conditions shown on the data sheet or shall notify BHEL of any deviations. All deviations must be approved by BHEL before manufacture of the valve.
- 9.29.3 The Supplier shall guarantee total sound levels on Supplier furnished equipment shall not exceed 85 dB(A). Sound pressure level at all conditions shall not be greater than 85 dBA when measured at 1.0 meter from the valve. The noise abatement shall be obtained by valve body, trim design and piping arrangement and not by the use of silencers.



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9.29.4 The bidder has to submit calculated noise levels (dBA) for the operating conditions specified in the datasheet.

### 9.30 Test and Examinations

All valves shall be tested in accordance with the quality assurance program agreed between the Owner and the Contractor, which shall meet the requirements of IBR and other applicable codes. The BHEL Approved Quality Plan is to be followed. The tests shall include but not limited to the following bidder shall submit a manufacturing quality plan along with the offer for BHEL / QA review and approval.

9.30.1 Material, mechanical and chemical test shall be performed in a manner as specified in the relevant codes.

9.30.2 Non-destructive examination shall be performed as per ASME-B-16.34 (Steel Valves).

9.30.3 100% radio graphic test on casings of all valves having rating of 600 lbs or above; magnetic particles / dye penetrant examination on all internal and external machined surfaces and 100% ultra-sonic testing of forgings and bars (of size 40 mm and above) of all valves with rating of 600 lbs or above shall be performed as per ASME B16.34.

9.30.4 The material test certificates (correlated to melt number) shall be furnished by the vendor for identification and correlation.

9.30.5 The butt-welding end of all valves, dye-penetrant test as per ASTM E165 shall be carried out on 100% of the valves and the result shall show no defects.

9.30.6 100% MPI shall be done on base/body casing with pressure rating 1500 class and above in line with ASME B16.34.

#### 9.30.7 Hydro Test

Valves shall be subjected to hydro shell test in accordance with ASME-B16.34 prior to seat leakage test. If the valves are reworked on the pressure parts for any reason after hydrostatic test, they must be retested. Valves shall be hydrostatically tested in Manufacturer's Works in accordance with code requirements. All hydrostatic testing and inspection shall be completed before any paint is applied to valve body. Certificates of inspection shall be executed in accordance with the latest codes and required codes shall be forwarded to the



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Engineer. All gaskets used for test shall be of the same material and design as specified for the finished product. Where mechanical gasket joints are broken following tests, new gaskets shall be furnished with the equipment, and the joints shall be retested.

### 9.30.8 Leakage Test

Valve closure test and seat leakage tests shall be performed in accordance with ASME -B16.34 and as per applicable Leakage Class. The leakage from packing shall be zero or bubble tight.

### 9.30.9 Functional Tests

The fully assembled or completed valves including the actuators control devices and accessories shall be functionally tested to demonstrate the operability and response time of the valve and the actuator. This may be done by cycling the valves 3 or 4 times from open to close position. The same controller can be used to test each valve. These tests shall also include the verification of control valve operation features such as stay put operation, fail to open, fail to close on signal failure etc. in line with the specification requirements. Performance tests such as Linearity, Hysteresis, Sensitivity and Accuracy are to be checked as per specification.

### 9.30.10 Cv Test (If applicable)

Cv test shall be carried out as type test on each size type and design of the valves as per ISA-75.02 standard and the test reports, shall be furnished for Owner's approval.

## 9.31 Additional requirements

9.31.1. Machined surfaces shall be suitably protected.

9.31.2. Valve ends shall be protected by means of metallic covers/polythene caps/rubber and protectors to prevent damage to ends & also to avoid foreign material entering the valve while shipment & storage.

9.31.3. All valves shall be packed suitably in wooden cases in order to avoid damage during transit and also during storage at site.



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- 9.31.4. Valve tag nos. shall also be incorporated in all the dispatch documents.
- 9.31.5. All unpainted surfaces shall be protected with a rust preventive, which can be removed by solvent washing. The use of grease or oil other than light grade mineral oil for corrosion protection is prohibited.
- 9.31.6. Paint specifications are to be submitted for purchaser's review with bid.
- 9.31.7. All exposed machined surfaces shall be coated with suitable rust preventative coating prior to shipment.
- 9.31.8. The seller shall adequately crate, block, anchor and protect equipment as required to prevent damage during overseas shipment and outdoor storage for a period of one (1) year at the site.
- 9.31.9. All threaded connections shall be plugged or capped with standard pipe plugs or caps.
- 9.31.10. List of commissioning spares shall be quoted if applicable.
- 9.31.11. List of recommended spares for 5 years trouble free operation of valves shall be quoted.
- 9.31.12. Recommended list of special tools and equipment to be provided and also to be supplied along with valve.
- 9.31.13. One spare filter element each to be supplied for the SS filter provided in the Hydraulic Control Unit.
- 9.31.14. Drain valve for the oil tank, vent air breather, and isolation lines in the oil supply lines are to be necessarily provided.
- 9.31.15. Mechanical oil level indicator has to be extended through full height of the tank. (0 % to 100 %)
- 9.31.16. Man hole to be provided in the Oil tank in order to provide means to access the internals of the oil tank and for maintenance.
- 9.31.17. Stainless steel Oil tank to be supplied and internal surface should not be painted.
- 9.31.18. Vendor to provide isolation valves in the pressure and return lines (oil lines) to carry out maintenance activities in the oil line and also in the fail safe manifold & control manifold.



## SPECIFICATION FOR STARTUP CONTROL VALVES

SPECIFICATION NO.: **BM/ANG/SCV:001**

SECTION: Boiler Mountings/PE (FB)

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- 9.31.19. Vendor to supply welding type socket fittings in the entire hydraulic pipes joint.
- 9.31.20. Vendor to provide a provision to indicate the accumulator pressure in local as well as in remote.
- 9.31.21. Hydraulic fluid /oil cooler is to be provided
- 9.31.22. Flushing procedure for oil pipe lines with required drawings, BOM list to be submitted by vendor which shall meet the ISO 44061999/ NAS standard.
- 9.31.23. Vendor to mention the equivalent Servo grade or other Indian grades for HPU oil.
- 9.31.24. Recommended spares list shall be submitted by the vendor.
- 9.31.25. Hook up drawing to be submitted with all required details.
- 9.31.26. Pressure transmitter in the oil supply line of HPU to check leak in oil lines
- 9.31.27. P&ID for hydraulic circuit between HPU and individual actuators with BOM.
- 9.31.28. P&ID should include all the setting points for various control elements.
- 9.31.29. Detailed shipping list to be sent to site and that shall be easily correlated with P&ID and BOM.
- 9.31.30. Deleted.
- 9.31.31. Dos and Don'ts / Precautionary measures to be adopted at site during various stages of commissioning of boiler shall be prepared by the vendor and to be submitted for BHEL.

### 9.32 Support and Services

- 9.32.1 Optional price to be quoted by the seller in terms of price per man-day for erection and commissioning support.  
If commissioning engineer is deputed from Indian office, then the payment will be released in INR only.  
This service will be utilized by BHEL-site through power sector regions. Separate PO will be released by BHEL-Site through power sector regions to avail the vendor's supervision service.

During this period, vendor should also ensure that the blanking plate is installed during initial supply and subsequent hydro test and acid cleaning operation at site. Vendor to ensure proper purging of the lines to eliminate the presence of foreign particles before installing the trim parts and commissioning activity.



## SPECIFICATION FOR STARTUP CONTROL VALVES

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All the expenses like to & fro charges, incidentals, boarding & lodging at site are to be borne by the vendor.

The price calculated for 14 days of erection and commissioning per unit (Two HWL valves and One MEFCV) will be considered for price comparison per unit.

Depending upon the actual duration of erection and commissioning support availed, the payment will be paid by BHEL- power sector regions based on the vendor quoted amount (price per man-day).

**In case of any issues/problems arise during the hydro test assembling, dismantling of valve or the maintenance of the valve, the supplier is responsible for resolving the issues and transporting the specialized tools and equipment (Hydraulic torque wrenches, special tools & equipment etc.,) to the site for carrying out the maintenance and repair works and vendor should bear the relevant expenses as well. They should make sure that they will take the materials back, only after all the issues have been resolved at the site. BHEL will not bear any expense on the repair work and on the transportation of equipment to the site.**

The Vendors to submit an Optional price for providing training to our personnel at the works of Valve manufacturer for 2 man month period .

Our personnel will make their own Travel / Lodging / Boarding arrangements. Depending upon the actual duration of training man months availed, the payment will be proportionately reduced on the vendor quoted amount (if period is lesser than 2 man months).

### 9.33 Evaluations

9.33.1 Bids will be analyzed, not only to determine conformity to the requirements of this Specification, but also to evaluate any features of design, construction, and guaranteed performance of the equipment offered which would result in a higher or lower capital, operating, or maintenance cost to BHEL.



## SPECIFICATION FOR STARTUP CONTROL VALVES

SPECIFICATION NO.: **BM/ANG/SCV:001**

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### 10.0 SUPPLIER'S DATA SHEETS (TO BE SUBMITTED WITH THE OFFER)

#### 10.1 Valve Data Sheets

10.2 All data to be in Metric units. The Supplier shall fill in the valve data sheets for each valve. The operating conditions furnished for MEFCV is preliminary only. Final operating conditions can be informed only after the boiler recirculation pump operating conditions are finalized, which can happen even after the placement of this PO. This may/may not affect the selected Cv for MEFCV. The vendor to accommodate these changes in the operating conditions and offer the valve which meets all the specification requirements without any price implication to BHEL.

#### 10.3 Guarantees

<b>CUSTOMER NAME</b>	
<b>PROPOSAL NUMBER</b>	
<b>SUPPLIER NAME</b>	

The Supplier shall clearly state at the time of quotation all performance guarantees specific to the equipment offered.

### 11.0 DEVIATIONS TO THE SPECIFICATION

<b>CUSTOMER NAME</b>	
<b>PROPOSAL NUMBER</b>	
<b>SUPPLIER NAME</b>	

I have confirmed to Sections 1.0 through 10.0 and Annexure-I & II except as specifically noted as follows:

### 12.0 APPENDIX A, CONTRACT SPECIFIC REQUIREMENTS

Please refer the attached, Annexure I - Valve Datasheets and project specific data sheets, Annexure II - for Facility Site Specific Data

	<b>SPECIFICATION FOR STARTUP CONTROL VALVES</b>	SPECIFICATION NO.: <b>BM/ANG/SCV:001/ANNX-II</b>	
		SECTION: Boiler Mountings/PE (FB)	
		REV. NO.: 00	DATE: <b>25.08.2022</b>
		PAGE NO : 01 OF 01	

## Annexure-II

### 1. Project Specific Data:

One (1) stainless steel tubing, fittings and necessary supports to connect all necessary hydraulic line between the common SUPPLIER supplied Common Hydraulic Unit and the three SUPPLIER supplied BOILER SEPARATOR LEVEL CONTROL VALVES (HWL-1, HWL-2 VALVES) and Minimum Economizer Flow Control Valve (MEFCV) hydraulic actuators. Each Valve location from the common hydraulic unit is as follows.

- i. Hydraulic Unit to HWL1 - 60m.
- ii. Hydraulic Unit to HWL2 - 60m.
- iii. Hydraulic Unit to MEFCV - 70m.

Vendor shall submit for the following documents/ drawings.

1. **P&ID**- HPU for Startup control Valves & MEFCV
2. **Layout and Arrangement Drawings** – From HPU to MEFCV/HWL1 &HWL2 along with BOM details such as Tube/ fittings/ Valves/ Nipple/ Hoses/ applicable components etc.
3. **Support/ Clamp** details/ drawings shall be provided by the vendor.
4. Erection Welding Schedule details.



BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPPALLI - 620 014, INDIA.  
QUALITY ASSURANCE DEPARTMENT

STANDARD QUALITY PLAN FOR CONTROL VALVES (STEAM & WATER APPLICATIONS)

SQP:SD:06 Rev 00

Page: 1 of 5

Prepared By  
Quality Assurance

VENKANNA RUPANI


R Venkanna  
14/09/2015

Reviewed by	Signature
Quality Assurance S. PANNNEER SELVAM	 14/09/15
Engineering K. SRIDHARAN	 16/09/15
Materials Management/BOI K. UDAYA KUMAR	 16/9/15
Quality Control R. DHARMAR	 15/09/15

Rev No	Date	Approved by	Signature
00	14/09/2015	AGM / QA & BE	

Record of Revisions

Rev No	Details of Revision	Remarks
00	Fresh Issue	

 <b>MANUFACTURER'S NAME &amp; ADDRESS:</b> <b>BHEL TIRUCHIRAPPALLI</b> <b>APPROVED SUPPLIERS</b>		<b>STANDARD QUALITY PLAN</b>							<b>QWI NO:SQP:SD:06</b> <b>REV.NO.00 DATE: 14/09/2015</b> <b>PAGE: 2 OF 5</b>				
		<b>PRODUCT: CONTROL VALVES – STEAM &amp; WATER APPLICATIONS (SH, RH SPRAY BLOCK; SB PRESSURE REDUCING; WARM KEEPING LEVEL; START-UP SYSTEM:SEPARATOR LEVEL &amp; MINIMUM ECONOMIZER FLOW)</b>											
		<b>SUB-SYSTEM :Steam Generator Package</b>											
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
					M	C/N				M	C	N	
1	2	3	4	5	M	C/N	7	8	9	D*	**	10	11

1.0 RAW MATERIALS & BOUGHT OUT ITEMS														
1.1	Body, Bonnet, inlet & outlet nozzles (if applicable)	Chemical & Mech Properties, Heat treatment, Hardness@	B	TC Verification	1/Heat	1/Heat	BHEL approved datasheet/ ASTM Std	BHEL approved datasheet / ASTM Std	MTC	√	P	V	V	@on Gr 91 materials only.
		Surface quality*	B	Visual Examination	100%	100%	MSS SP 55	MSS SP 55	MTC	√	P	V	V	*on castings.
		Internal Soundness for class rating ≥ 900 (RT/UT#)	B	TC Verification	100%	100%	ASME Sec V	RT: ASME B16.34 Appendix I/ UT: ASME B16.34 Appendix IV	MTC	√	P	V	V	#RT as per ASME B16.34; UT for forgings of dia/thick ≥50mm.
		#Sub-Surface Soundness(MPI)	B	TC Verification	100%	100%	ASME Sec V/ ASTM E709	ASME B 16.34 Appendix II	MTC	√	P	V	V	#On accessible areas.
1.2	Trim(Plug, Seat ring & Stem)	Chemical & Mechanical Properties, Hardness@	B	TC Verification	1/Heat	1/Heat	BHEL approved datasheet / ASTM Std	BHEL approved datasheet / ASTM Std	MTC	√	P	V	V	@on Gr 91 materials only.
		Stem Internal Soundness(UT#)	B	TC Verification	100%	100%	ASME Sec V/ ASTM A 388	ASME B 16.34 Appendix IV	MTC	√	P	V	V	#UT for dia/ thick ≥50mm
1.3	Pressure retaining fasteners	Chemical, Mechanical Prop & Dimensions	B	TC Verification	1/Heat	1/Heat	BHEL approved datasheet /ASTM Std	BHEL approved datasheet /ASTM Std	MTC/ COC	√	P	V	V	
1.4	Diaphragm/ Piston Cylinder, if applicable	Surface Quality, Strength & %Elg, Hardness, *, Endurance Life, Dimensions	B	Visual & Measurement	1/ Lot 100%	1/ Lot 100%	Manufacturer's Specification  10,000 Cycles	Manufacturer's Specification  No damage	COC	√	P	V	V	*property change after heat aging.
1.5	Springs, if applicable	Chemistry, Strength, Hardness, Endurance*, Scragging, Linearity & Dimensions	B	Chemical Analysis, Compression & Load test, Measurement, Cyclic Test, Measurement	1/ Lot	1/ Lot	Manufacturer's Specification  10,000 Cycles	Manufacturer's Specification  No damage	COC	√	P	V	V	*including stiffness ratio.

**LEGEND:** \*RECORDS IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY THE SUPPLIER IN QA DOCUMENTATION;  
**\*\* M:** MANUFACTURER, **C:** BHEL QC/BHEL AIA, **N:** CUSTOMER; **P:** PERFORM. **W:** WITNESS, **V:** VERIFICATION; **CLASS:** A - CRITICAL ; B - MAJOR ; C - MINOR;  
MTC- Mill /Manufacturer's Test Certificate; IR- Inspection/Test Report; (R): Routine test; (I)/(Ts): Type test, COC: Certificate of compliance



MANUFACTURER'S  
NAME & ADDRESS:  
BHEL TIRUCHIRAPPALLI  
APPROVED SUPPLIERS

### STANDARD QUALITY PLAN

PRODUCT: CONTROL VALVES – STEAM & WATER APPLICATIONS (SH, RH SPRAY  
BLOCK; SB PRESSURE REDUCING; WARM KEEPING LEVEL;  
START-UP SYSTEM:SEPARATOR LEVEL & MINIMUM ECONOMIZER FLOW)

QWI NO:SQP:SD:06  
REV.NO.00 DATE: 14/09/2015  
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SUB-SYSTEM :Steam Generator Package

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS	
					M	C/N				M	C	N		
1	2	3	4	5	M	C/N	7	8	9	D*	**	10	11	
1.6	Pressure Gauges, if applicable	Rating/Range, Performance	B	Visual, Calibration	100%	100%	Manufacturer's Specification	Manufacturer's Specification	IR/COC	√	P	V	V	
1.7	Accessories: Solenoid valve, limit switch, ALR, junction box, positioner & transmitters, etc.#	Make/rating/type; Degree of protection(as applicable)*	B	Verification	100%	100%	BHEL approved datasheet	BHEL approved datasheet	COC & Certificates *	√	P	V	V	#BHEL approved makes. *For electrical items, certificates by statutory bodies shall be furnished.
<b>2.0 INPROCESS INSPECTION</b>														
2.1	Welding Qualifications, if welding is involved	Procedure	B	Document Review	100%	100%	ASME Sec IX	ASME Sec IX	PQR & WPS	√	P	V	V	# ASME Sec IX for BHEL export boilers only
		Personnel #	B	Document Review	100%	100%	IBR/ ASME Sec IX#	IBR/ ASME Sec IX #	WPQ	√	P	V	V	
2.2	PWHT, if applicable	Time & Temp control	B	Review of HT Chart	100%	100%	WPS & IBR	WPS & IBR	HT Chart	√	P	V	V	
2.3	Hard faced Trims	Hardness	B	Measurement	On test samples only		BHEL approved datasheet / Mfg Std	BHEL approved datasheet / Mfg Std	Test Report	√	P	V	V	
2.4	Body, Bonnet, Plug, Seat Rings & Stems after machining	Surface quality, Dimensions including profile check	B	Visual & Measurement	100%	--	Manufacturer's Drawing	Manufacturer's Drawing	--	-	P	--	-	
2.5	Lapping*	M/c surface contact	B	Visual	1/Heat		---	Proper Physical contact	Test Report	-	P	-	-	*for rotating stem valves.
2.6	NDE on hard faced trims	Weld Soundness	B	LPI	100%	100%	ASME E165	ASME Sec VIII Div 1 Appd 8.4	Test Report	√	P	V	V	
2.7	NDE on butt weld joints	Weld Soundness	B	RT/UT	100%	100%	ASME Sec V	ASME Sec I	Test Report	√	P	V	V	*Film Review
2.8	NDE on butt weld ends	Soundness of edges after m/c	B	LPI	100%	100%	ASME Sec V	ASME Sec VIII Div 1 Appd 8.4	Test Report	√	P	V	V	
2.9	Body & Bonnet	Leak tightness & pressure resistance	A	Hydro Test	100%	-	ASME 16.34/ ISA 75.19	No Leak	Register/ Log	--	P	-	-	
2.10	Hardness on Gr 91 welds	Hardness	B	Measurement	100%	10%	Manufacturer's standard	186-300 BHN	Test Report	√	P	W	V	

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MANUFACTURER'S  
NAME & ADDRESS:  
BHEL TIRUCHIRAPPALLI  
APPROVED SUPPLIERS

### STANDARD QUALITY PLAN

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BLOCK; SB PRESSURE REDUCING; WARM KEEPING LEVEL;  
START-UP SYSTEM:SEPARATOR LEVEL & MINIMUM ECONOMIZER FLOW)

QWI NO:SQP:SD:06  
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SUB-SYSTEM :Steam Generator Package

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
					M	C				N	M	C	
1	2	3	4	5	M	C/N	7	8	9	D*	**	10	11

#### 3.0 FINAL INSPECTION & TESTING

3.1	Performance Test on assembled valves fitted with all accessories	Leak tightness & pressure resistance of Body & Bonnet joint	A	Hydro Test	100%	10%	ASME 16.34/ISA 75.19	No Leak	Test Report	√	P	W	V	IBR Form III C shall be submitted	
3.2		Leak through seat	A	Seat Leak Test (Air/Hydro test)	100%	10%	FCI 70.2 /BHEL approved datasheet	FCI 70.2 /BHEL approved datasheet	Test Report	√	P	W	V		
3.3		Travel, linearity, hysteresis, valve opening & closing time, fail safe feature, functioning of all accessories.	A	Performance/ Calibration Test	100%	10%	IEC 60534-4/ BHEL approved datasheet	BHEL approved datasheet	Test Report	√	P	W	V		
3.4		Packing Tightness*	A	Packing Leak Test	100%	10%	ASME B16.34/ BHEL approved datasheet	ASME B16.34/ BHEL approved datasheet	Test Report	√	P	W	V	*can be done during hydro test (Cl 3.1)	
3.5		Control valve flow Capacity# (Discharge Vs Opening)	A	Capacity Test (Cv test)	1/Type	1/Type	BHEL approved datasheet /ISA 75.02	ISA 75.11	Test Report#	√	P	V	V	#Type test witnessed by BHEL or done at FCRI shall be submitted for review & clearance by BHEL Engg (certificate valid for 5 years).	
3.6		Actuator chamber-Strength & leakage	B	Air Leak Test	100%	10%	Manufacturer's std	No leak when tested @ 1.5 times supply press or 60 psi max.	Test Report	√	P	W	V		
3.7		Actuator & Positioner	Model, Sl No, Qty, Rating	B	Visual & Document Review	100%	10%	BHEL approved datasheet	BHEL approved datasheet	Test Report/ COC	√	P	W	V	
3.8		Final Inspection	Overall Dimensions*	B	Measurement	100%	10%	BHEL approved GA Drawing	BHEL approved GA Drawing	Test Report	√	P	W	V	*including OD, d1, thickness, etc.

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MANUFACTURER'S  
NAME & ADDRESS:  
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APPROVED SUPPLIERS

### STANDARD QUALITY PLAN

PRODUCT: CONTROL VALVES – STEAM & WATER APPLICATIONS (SH, RH SPRAY  
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QWI NO:SQP:SD:06  
REV.NO.00 DATE: 14/09/2015  
PAGE: 5 OF 5

SUB-SYSTEM :Steam Generator Package

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
					M	C				N	M	C	
1	2	3	4	5	M	C/N	7	8	9	D*	**	10	11

#### 4.0 PAINTING, PRESERVATION & PACKING

4.1	Painting	Surface Prep, Primer & finish coats & Shade, DFT	B	Visual & Measurement	100%	100%	BHEL approved painting Scheme	BHEL approved painting Scheme	Test Report	√	P	V	V	
4.2	Identification #	Marking /Name Plate & Tagging	B	Visual	100%	100%	BHEL Spec & PO	BHEL Spec & PO	Test Report	--	P	V	V	#with IBR stamp
4.3	Packing*	Cleanliness, Water-proof packing & Stability	B	Verification	100%	100%	Manufacturer's practice	Manufacturer's practice	Packing List	√	P	V	V	*with site storage & handling instructions.
4.4	Spare Parts	Parts, Type, Qty, Dimensions, etc.	B	Visual & Measurement	100%	100%	BHEL approved datasheet & PO	BHEL approved datasheet & PO	IR/COC	√	P	V	V	

Note: 1. Customer verification stages specified above shall be followed. Any witness stages shall be as specified/indicated in BHEL PO.

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MTC- Mill /Manufacturer's Test Certificate; IR- Inspection/Test Report; (R): Routine test; (T)/(Ts): Type test, COC: Certificate of compliance

## PART-I (No Deviation Certificate)

**Note: The following Declaration to be submitted on the bidder's Letter Head, duly signed & stamped and to be attached along with your Technical bid of the tender.**

-----  
**=====  
Startup System Control Valve for Udangudi, Yadadri and Patratu Projects.  
=====**

Enquiry No.: **1802200202 dated 21.10.2022**

I/We M/s. .... have read and clearly understood all the Terms and conditions in Tender Schedule of and accordingly accept the same without any deviation what so ever.

- *I/ We unconditionally agree to all the tender conditions and no new conditions are imposed by us in the technical / price bid. I understand in the event of imposing any condition in the technical / price bid, such condition would be ignored by BHEL and only the prices will be considered for the purpose of evaluation". In case of any deviation (Technical or commercial) the same is mentioned below.*

SPECIFICATION	a) Technical Specification: BM/ANG/SCV:001 Rev:00 b) Datasheets Annexure-I. c) Project specific data: Annexure-II. d) Standard Quality Plan SQP:SD:06	
DOC. REFERENCE	BHEL ENQ. CALLED FOR	FIRM'S ALTERNATE OFFER
-Nil-	-Nil-	-Nil-

- *I/ We confirm that none of our group concern or affiliates etc., appears on the list of banned firms / companies by BHEL (list available on [www.bhel.com](http://www.bhel.com)) nor any of the Director / Partner / proprietor of bidder / such group concern or affiliate etc. are involved with such company.*
- *I/ We also declare that, we have not been suspended or black listed or issued with Show Cause Notice by BHEL- Trichy or any other BHEL Unit or any PSU/ Government organization.*
- *I/ We confirm that other than us, none of our group concerns or affiliates etc. are participating in the tender either directly or indirectly through any other agency under same proprietor / common director(s) / common partner(s).*
- *I/ We confirm that if any of the above statement / information furnished by us in this tender is found to be false/ fake at any stage of tender evaluation or during execution of contract, BHEL will have the right to initiate appropriate action including legal proceeds / termination of contract, recovery of damages, penalties etc. as deemed fit.*

(Contractor Signature with Seal)

Contractor Signature

Contractor Seal

## **THIRD PARTY NON-DISCLOSURE AGREEMENT**

I, \_\_\_\_\_, on behalf of the \_\_\_\_\_ (Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL, Trichy on contract is confidential and that the nature of the business of the BHEL, Trichy is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL, Trichy Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL, Trichy all documents and property of BHEL, Trichy, including: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL, Trichy's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, Trichy and are reasonable given the nature of the business carried on by the BHEL, Trichy I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Place:- \_\_\_\_\_

Date:- \_\_\_\_\_

Name

Company

Signature

## Integrity Pact (IP)

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders / Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SL	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	Iem3@bhel.in

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

(c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

### Note:

*No routine correspondence shall be addressed to the IEM (phone/post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) departments officials whose contact details are provided below.*

Details of contact person(s): -

(1)

Name: Rajesh Kummar SB

Deptt: MM/BOI

Address: 24 Building, BHEL, Trichy

Phone: 0431-2574166

Email: sbrajesh@bhel.in

(2)

Name: Jiby MJ

Deptt: MM/BOI

Address: 24 Building, BHEL, Trichy

Phone: 0431-2574363

Email: mjjiby@bhel.in

**INTEGRITY PACT****Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

**and**

\_\_\_\_\_, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

**Preamble**

The Principal intends to award, under laid-down organizational procedures, contract/s for  
Supply of Start-up system control valves along with Commissioning and Mandatory Spares and Supervision of Erection & Commissioning.  
(Enq. No. 1802200202)

\_\_\_\_\_ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

**Section 1- Commitments of the Principal**

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
  - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

**Section 2 - Commitments of the Bidder(s)/ Contractor(s)**

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

### **Section 3 - Disqualification from tender process and exclusion from future contracts**

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

### **Section 4 - Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

**Section 5 - Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

**Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)**

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

**Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

**Section 8 -Independent External Monitor(s)**

- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

### **Section 9 - Pact Duration**

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

**Section 10 - Other Provisions**

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

*SBRajeshk*

**S.B. RAJESH KUMMAR**  
 Senior Engineer Dy.Mgr  
 MM / Purchase / BOI  
 BHEL, TRICHY - 620 014.  
 (Office Seal)

For & On behalf of the Principal

For & On behalf of the Bidder/ Contractor  
 (Office Seal)

Place Trichy  
 Date 21.10.2022

Witness: *JIBY-M-J*  
 (Name & Address) Dy. ENGR,  
MM/BOI, BHEL TRICHY

Witness: \_\_\_\_\_  
 (Name & Address) \_\_\_\_\_  
 \_\_\_\_\_

**/ On Bidder's office letter pad /**

**Self-Declaration**

<b>Enquiry No.</b>	
<b>Enquiry Date</b>	

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018 and 04.06.2020.

I / We hereby declare that I / We are a "Local Supplier" meeting the requirement of minimum local content (.....%) defined in the above government notification for the goods against above mentioned enquiry Number.

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

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

**For Company Name:**

**Seal:**

**Signature:**

**Date:**

**Place:**

(Please fill all the yellow color field)

## BANK GUARANTEE FOR PERFORMANCE SECURITY

(Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s))

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

**IFSC AND MICR CODE**

Dear Sirs,

1. In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at \_\_\_\_\_<sup>1</sup> through its Unit at.....(name of the Unit) having awarded to ( Name of the Vendor / Contractor / Supplier ) (VENDOR CODE ) with its registered office at \_\_\_\_\_<sup>2</sup> hereinafter referred to as the 'Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated .....<sup>3</sup> valued at Rs.....<sup>4</sup> ( Rupees -----)/FC.....(in words.....) for .....<sup>5</sup> (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to .....% (... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

2. we, ....., (hereinafter referred to as the Bank), having registered/Head office at ..... and inter alia a branch at ..... being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs -----<sup>6</sup> ( Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

3. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_.

4. We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

5. The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

6. We the .....bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

7. We.....BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

8. The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier's liabilities.

9. This Guarantee shall remain in force upto and including.....<sup>7</sup> and shall be extended from time to time for such period as may be desired by Employer.

10. This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

11. Unless a demand or claim under this guarantee is made on us in writing on or before the .....<sup>8</sup>we shall be discharged from all liabilities under this guarantee thereafter.

12. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirappalli.

13. We..... BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....<sup>6</sup>

- b) This Guarantee shall be valid up to .....<sup>7</sup>
- c) Unless the Bank is served a written claim or demand on or before (minimum 3 to 6 months from the expiry date <sup>8</sup> all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

14. We, \_\_\_\_\_ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of  
(Name of the Bank)

Dated.....

Place of Issue.....

BANK EMAIL ID:

BANK PHONE NO:

AUTHORISED SIGNATORIES CELL PHONE NO:

BANK FAX NO:

<sup>1</sup> NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

<sup>2</sup> NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

<sup>3</sup> DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

<sup>4</sup> CONTRACT VALUE

<sup>5</sup> PROJECT/SUPPLY DETAILS

<sup>6</sup> BG AMOUNT IN FIGURES AND WORDS

<sup>7</sup> VALIDITY DATE

<sup>8</sup> DATE OF EXPIRY OF CLAIM PERIOD

<b>List of Consortium Banks</b>	
<b>Sl. No.</b>	<b>Name of the bank</b>
1.	State Bank of India
2.	Canara Bank
3.	Axis Bank
4.	Bank of Baroda
5.	Central bank
6.	Citi Bank N.A.
7.	Deutsche Bank
8.	Exim Bank
9.	Federal Bank Limited
10.	HDFC Bank Limited
11.	Hongkong and Shanghai Banking Corporation Limited
12.	Indian Bank
13.	ICICI Bank Limited
14.	IDBI Bank Limited
15.	IndusInd Bank Limited
16.	Indian Overseas Bank
17.	Kotak Mahindra Bank Limited
18.	Punjab National Bank
19.	RBL Bank Ltd.
20.	Standard Chartered Bank
21.	Union Bank of India
22.	Yes Bank Limited

**BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS**

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest

but in any case within 15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.

8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.

14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.

20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.
21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
22. The proceedings of Conciliation under this Scheme may be terminated as follows:
- On the date of signing of the Settlement agreement by the Parties; or,
  - By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
  - By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
  - By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
  - On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.
23. The Conciliator(s) shall be entitled to following fees and facilities:

<b>Sl No</b>	<b>Particulars</b>	<b>Amount</b>
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator)

Sl No	Particulars	Amount
		<p>In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per Conciliator) In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator)</p> <p>Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.</p>
3	Secretarial expenses	<p>Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC.</p> <p>Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC</p>
4	<p>Travel and transportation and stay at outstation</p> <p>i) Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)</p> <p>Others</p>	<p>As per entitlement of the equivalent officer (pay scale wise) in BHEL.</p> <p>As per the extant entitlement of whole time Functional Directors in BHEL.</p>

<b>Sl No</b>	<b>Particulars</b>	<b>Amount</b>
		Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

24. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
25. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
26. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
27. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after

termination of the conciliation proceedings in terms of para 22 hereinabove.

28. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
29. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.
30. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
  - a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
  - b. admissions made by the other party in the course of the Conciliator proceedings;
  - c. proposals made by the Conciliator;
  - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
31. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
32. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
33. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation

proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.

34. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

**FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES  
TO CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

**Sub: Resolution of the Disputes through conciliation by Independent Expert Committee (IEC).**

Ref: Contract No/MoU/Agreement/LOI/LOA& date \_\_\_\_\_.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated\_\_\_\_ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

**Representative of BHEL**

**FORMAT FOR GIVING CONSENT BY  
CONTRACTOR/VENDOR/CUSTOMER/COLLABORATOR/CONSORTIUM PARTNERS FOR REFERRING THE DISPUTES TO CONCILIATION  
THROUGH IEC**

To,

BHEL

.....

**Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).**

Ref: Contract/MoU/Agreement/LOI/LOA No \_\_\_\_\_ & date\_\_\_\_\_

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

**(Signature with stamp)**

**Authorized Representative of Contractor  
Name, with designation  
Date**

**STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO  
THE IEC BY BOTH THE PARTIES**

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Claim(s)/Counter Claim(s):

<b>SI. No.</b>	<b>Description of claim(s)/Counter Claim</b>	<b>Amount (in INR)Or currency applicable in the contract</b>	<b>Relevant contract clause</b>

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

**Note**– *The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.*