

**CORRIGENDUM -3 DTD. 09.12.2020 OF TENDER SPECIFICATION BHEL PSSR SCT 1928**

Handling, Transportation, Fabrication, Assembly, Erection, Welding, NDT, Inspection & Testing of Piping And Erection Of Associated Equipment along with Accessories, Structures, Insulation for Nuclear And Nuclear Auxiliary Systems In Reactor Buildings for Unit- 3 & 4 at Kudankulam Nuclear Power Project, Tamilnadu

<b><u>Sl. No.</u></b>	<b><u>Clause No.</u></b>	<b><u>Existing in Tender/Corrigendum</u></b>	<b><u>Revised As</u></b>
1	Vol.I Book-I-Notice for Inviting tender (NIT) Clause 1.0 Salient Features of NIT, Sl No. vii) EMD Amount	Rs.2,38,00,000/- (Rupees Two Crores Thirty-Eight Lakhs only)	Rs.1,00,00,000/- (Rupees One Crore only).
2	BHEL Clarification to Pre Bid Query is attached as annexure-1.		

**Note:-**

1. All other Terms & Conditions remain unchanged. Bidders are requested to consider this Corrigendum as part of the Tender Specification and quote accordingly.

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Anil Kumar  
DGM/SCT

## **Annexure-1 TO CORRIGENDUM -3 DTD. 09.12.2020 OF TENDER**

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#### **Reply to Pre-bid Query Submitted by Bidders**

<b>SI No</b>	<b>Reference Clause of Tender Document</b>	<b>Existing Provision</b>	<b>Bidder's Query</b>	<b>BHEL's Clarification</b>
1	<b>Notice Inviting Tender (NIT)</b>			
1.1	<b>Void</b>			
1.2	Clause No 6 Cautions to Bidders	The duly signed & stamped copies of Volume – 1 Book I & Volume 1 Book II are to be attached as a part of your offer, under the form Techno-commercial Bid.	It mentions that Volume -1 Book 1 and Volume 1 Book II are to be attached with the bid. Since it is e-bidding, is it required to sign and upload the scanned copies or signed copies to be sent by courier.	Tender condition prevails. The documents Volume -1 Book 1 and Volume 1 Book II only may be signed and stamped through DSC. All other documents shall be signed and stamped physically and upload the scanned copies in the online portal as per instructions in NIT.
1.3	Clause No 9 Assessment of Capacity of Bidder		A detailed explanation is required to understand the formula mentioned in the bid.	Please refer Clause No 9 Assessment of Capacity of Bidder of NIT for details.
1.4	Clause No 15	Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), if applicable, along with techno-commercial bid.	Can this be scanned and uploaded in the e-bid format or to be sent separately before submission of bid.	Integrity pact shall be signed and stamped by the Power of Attorney holder as per format in Annexure 7 of NIT and the scanned copy to be uploaded with your offer.
1.5	Annexure – 1A Pre Qualification Criteria Clause No B Note 5	Technical Pre-Qualification Criteria	Technical Qualification is based on the Size of the equipment erected. Vendors will attach the details with value of the order. Is it necessary for the vendors to assess the value of work as specified in B1 using	Calculation as per Note 5 is not required.

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			the formula in note no 5.	
<b>2</b>	<b>Special Conditions of Contact – Vol 1 B (SCC)</b>			
2.1	Intent of Specifications 1.0 Clause no 1.6	No extra claim on grounds of sequence of erection	No extra claim on grounds of sequence of erection. If the specified method is not suitable for erection work, in the event of such situation will contract be considered for extra claim.	Tender condition prevails.
2.2	Intent of Specifications 1.0 Clause no 1.7.3	Completion of work as per BHEL Schedule	It is the responsibility of BHEL to ensure availability of fronts and equipment. In case of non-availability of front and equipment, is vendor eligible for idle payment and extension of contract without LD.	Ensuring availability of work fronts and equipments are BHEL responsibility. In case of non-availability of front and equipments, the contract period will be extended without LD., for which the Form 14 shall be duly filled and submitted mentioning the reasons. Refer clauses 2.11 and 2.12 of Volume IC: GCC and other relevant clauses mentioned elsewhere.
2.3	General Services to be rendered by the Bidder 2.0 Clause No. 2.1	Services for construction, fabrication, equipment erection testing as well as trial run & commissioning of various equipment and accessories	Commissioning and Trial Run of equipment – Is this responsibility of contractors? If yes, the schedule specified in the contract covers Trail Runs and Commissioning.	Commissioning & trail run of equipment is not in the scope of contractor.
2.4	General Technical Requirements 3.0 Clause 3.2	Where the Bidder proposes alternative codes or standards he shall include in his tender one copy (in English) of each	It is difficult for the contractor to come up with alternate codes and standards to be included as part of the Tender. Can this	Tender condition prevails

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		Standard Specification to which materials offered shall comply. In such case, the adopted alternative standard shall be equivalent or superior to the standards mentioned in the specification.	discussions be taken up during the execution of the contract at site as and when need arises	
2.5	Obligations of Contractor 4.0 Clause No. 4.1.4	Required quantity as arrived at by calculation / standards will only be supplied	Calculation of Qty of Consumables – Does contract has any say in agreeing or disagreeing on the qty of consumables if it is not appropriately calculated. In such events can this be recalculated to arrive at actual qty required	Tender condition prevails.
2.6	Obligations of Contractor 4.0 Clause No. 4.2.2.8	Increasing / shortening of the crane boom to suit work requirements shall have to be arranged by the indenting contractor at his cost.....	Cost of increasing Boom Length of Crane – How can bidder's can estimate the cost of increasing boom length at this stage unless it is specified. For example, for increasing length of boom for a crawler cranes require special handling equipment which cannot be estimated at this stage	This clause is not applicable, as NPCIL have providing Heavy duty crane Tender condition prevails. For details refer Vol I Book I Vol I A Part I Chapter V (of TCC).
2.7	Obligations of Contractor 4.0 Clause No. 4.2.2.9	The area and infrastructure development of the area to be carried out by the	Making of approaches by sand / sand bags filling – How one can estimate at this stage. Can this quantified for	This clause is not applicable, as NPCIL have providing Heavy duty crane Tender condition prevails.

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		customer..... account shall be payable.	the benefit of BHEL and bidders	
2.8	Obligations of Contractor 4.0 Clause No. 4.2.2.16b	BHEL Cranes may be initially issued in basic assembled condition.....	BHEL provided cranes – Does BHEL provide crane operators with Cranes, if not whose responsibility to arrange for crane operators when multiple contractors are utilizing the cranes	This clause is not applicable, as NPCIL have providing Heavy duty crane Tender condition prevails. For details refer Vol I Book I Vol I A Part I Chapter V (of TCC).
2.9	Obligations of Contractor 4.0 Clause No. 4.2.2.16c	In case the BHEL cranes are not covered under AMC of BHEL.....	AMC for Cranes – When multiple contractors are utilizing cranes it is better BHEL to cover AMC of equipment provided by BHEL. Contractors cannot estimate the value at the time of bidding	This clause is not applicable, as NPCIL have providing Heavy duty crane Tender condition prevails.
2.10	Material Handling, Storage & Preservation 6.0 Clause No 6.1.7	Approach road conditions from the stores / yards.....	Condition of Roads while Transportation – It is difficult for bidders estimate the cost involved at this stage. In some instances, it may be mandatory to move heavy equipment when construction activities are going on. In such events, preparation of roads itself be a major activities involving high costs.	Pl note that NPCIL shall deliver major equipments at erection site i.e outside Reactor building of respective unit. List of free delivey items pl refer VOLUME-IA <b>PART-I CHAPTER – V clause no 1.5.2 Annexure-II.</b> Contractor scope material transportation is minimum compared to NPCIL. Hence the road may be in good conditions , if any small rectification is required will be done by the contractor.

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2.11	Material Handling, Storage & Preservation 6.0 Clause No 6.1.8	Contractor shall be responsible for examining all the plant and materials issued to him and notify the Engineer immediately of any damage,.....	Damage to equipment while storage – Since many of the activities are going on at site simultaneously, How to handle the situation if the equipment is damaged by third party or in the event of any accidents	Erection all risk insurance is taken by BHEL to take care of any eventuality. However it is contractor responsibility for any materials issued to them till handing over.
2.12	Material Handling, Storage & Preservation 6.0 Clause No 6.1.12	The contractor shall be responsible for making suitable indoor storage facilities to store all equipment	Indoor Storage – What is the estimated area required? This will help contractor to work out a suitable cost to build such facility	1200Sq.Mtr appx
2.13	Drawings and Documents 7.0 Clause No 7.4	The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance	Furnished data – What is the expected variation or changes.	Pl note that it is an item wise contract. Payment will be made for the quantity executed as certified by BHEL engineer. Hence expected variation in furnished data shall not matter. Also refer clause 2.14 of Volume IC: GCC
2.14	Drawings and Documents 9.0 Clause No 9.1.23	The contractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.	Air Quality Check – How to ensure Air quality in construction site.	Reactor building is confined area. Hence air quality check is must during erection and welding as per NPCIL norms
2.15	RA Bill Payments 10.0	RA Bill Payment	95% Payment release– This % is only for Basic payment or including PVC	Please refer Volume IA Part I Chapter VII of TCC, S No 11 of Vol IA Part II Chapter I of TCC, S No 16 of Vol IA Part II Chapter I of TCC and other relevant clauses mentioned elsewhere in contract.

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<b>3</b>	<b>Volume-1C General Conditions of Contact (GCC)</b>			
3.1	Clause No 1.9	Earnest money deposit	Can the unsuccessful bidders withdraw Rs 2 lakhs EMD amount instead of waiting for 3 years	Please refer 1.9.4 in S. No.4 of Vol IA Part II Chapter I (TCC), which says, 'EMD given by all unsuccessful tenderers will be refunded normally within 15 days of award of work'.
3.2	Clause 1.10	Security Deposit	As per the recent notification of MOF, can this be reduced to 3% instead of 5%	Tender condition prevails.
3.3	Clause 1.10.3 Vii	Security deposit recovery	Recovery of Security Deposit from Running Bills – Need detailed explanation	Please refer 1.10.4 and 1.10.5 in S. No.5 of Vol IA Part II Chapter I (TCC), which is self-explanatory.
3.4	Clause 2.7.7	In case the execution of works comes to a complete.....final and binding on the contractor	Demobilization & remobilization	Tender condition prevails.
3.5	Clause 2.7.9	Liquidated Damages	There are many line items in the contract, does this apply only to the delayed quantities or for the entire order value and also Can this be reduced to 5% max instead of 10% of the value	Tender condition prevails.
3.6	Clause 2.14.2	Compensation due to variation of final executed value in excess of the limits....	Since each line item carries estimated quantities and unit rate for each of the line items. What is the expected variation as per BHEL	Refer clause 2.14 of Volume IC: GCC
3.7	Clause 2.17.4	Payment / recovery due to variation in index shall be determined on the basis of the following	Is it necessary for the bidders to indicate current based rates in their offer at the time of bidding	Please refer Volume IA Part I Chapter VII of TCC, S No 11 of Vol IA Part II Chapter I of TCC

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		notional formula without....		
3.8	Clause 2.22	Retention Amount	What is Warrantee and Guarantee period for release of 50% of retention amount	Pl refer VOLUME-IA PART-I CHAPTER – VI clause no 1.6.12
3.9	Clause 2.23	Payment Terms Running Account Bills (RA Bills)	Considering the nature of work request BHEL to consider following Payment Terms <ul style="list-style-type: none"><li>• 10% Mobilization advance Interest free or at nominal Interest</li><li>• 10% of each work after submission of procedure</li><li>• 10% of each work after approval of procedure</li><li>• 70% of each line item as progressive payment after approval by BHEL executive</li></ul>	Tender condition prevails
3.10	Clause 2.24	Performance Guarantee	As per the clause 50% of the retention amount shall be released along with final bill and balance 50% after Warrantee and Guarantee for a period of 12 months. Can this retention amount be released progressively as and when each line item	Tender condition prevails

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			completes the warrantees obligation	
<b>4</b>	<b>Vol-1A Technical Conditions Contract (TCC) - Part I</b>			
4.1	Scope of Work General – 1.2.2.3.1 Clause No. xvi	Supply and application of special purpose high temperature & radiation resistant paint on various equipments, pipelines and support and metal structures	Radiation resistance paint – Details of Specifications and estimated qty required for contractors to estimate the value	Pl refer Volume II Price bid Part C Bill of quantities C 6.2 for specification & quantity.
4.2	Scope of Work General – 1.2.2.3.1 Clause No. xxv	Filling of serpentine concrete in reactor pit equipment as per drawings and specification	Approx. qty required and specifications	Pl refer Volume II Price bid Part C Bill of quantities C 15 for specification & quantity.
4.3	Scope of Work General – 1.2.2.3.1 Clause No. xxvii	Circuit release report (CRR) release in construction management software (CMS)	Will BHEL issue construction management software license for contractors	Construction management software will be provided by BHEL.
4.4	Scope of Work 1.2.2.4 Receipt and Storage of FIM Clause No 1		System configuration required for IBA-CMM software	Construction management software will be provided by BHEL.
4.5	Scope of Work 1.2.2.15 Temporary Piping for Flushing Clause No 1	During flushing some equipments needs to be bypassed for which temporary piping shall be carried out	System bypass for Flushing – Estimated Quantum of work and sizes for contractors to estimate. In case of non-availability of data at this stage, can this be classified as extra works to be paid in line with available rates elsewhere in the contract	It is item wise contract. Pl refer Volume II Price bid Part C Bill of quantities C 8 for quantum of work.
4.6	Scope of Work 1.2.2.16 Drilling, Fixing of Anchor	Core cutting / drilling	Does this be classified in extra work	Separate BOQ item is provided for payment. Pl refer Volume II Price bid Part C Bill of quantities C 11.

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	Fasteners Clause No. iii			
4.7	Scope of Work 1.2.2.19 Nickel Gasket Replacement Clause No. i	A few high pressure filters are provided with Nickel gasket, these filters are transported with temporary gasket. This gasket shall be replaced before taking the filter into commissioning / service	Scope of supply of Temporary Gasket	Filters are transported with temporary gasket.
4.8	Scope of Work 1.2.2.19 Nickel Gasket Replacement Clause No. iv	Special tools for lifting of Hatch	Scope of supply of Special Lifting Tools for Hatch	Special Lifting Tools for Hatch are in the scope of bidder.
4.9	Scope of Work 1.2.2.19 Nickel Gasket Replacement Clause No. iv o	Change of Gasket	Scope of supply of Gasket NPCIL / BHEL	Supply of Nickel Gasket is in the scope of NPCIL
4.10	Scope of Work 1.2.2.33 Argon Gas Supply Station Clause No. 1	Argon Gas Supply Station	Cost of establishment of Argon Gas Supply station and necessary approvals from Authorities	It is in the scope of bidder
4.11	Vol IA Part -I Chapter – IV Clause No 1.4.1	Deployment of Tools & plants	The list specifies cranes and handing equipment to be deployed. Is it necessary to have these in site all the times or can be hired as and when required	Pl refer Vol IA Part -I Chapter – IV Clause No 1.4.2
4.12	Vol IA Part -I Chapter – IV	Jig Transit	This being a very expensive equipment, request BHEL to provide as a FIM during alignment activities	To be arranged by bidder as and when required.

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4.13	Vol IA Part -I Chapter – VII Clause No 1.7	Payment Terms	Stage 2 and Stage 3 Payments – Can these be further split in to multiple payments based on progress of work at site certified by Engineer In charge	Tender condition prevails.
4.14	Vol IA Part -I Chapter – VIII Clause No 1.8.1.4	GST Payment to contractors	As per the clause, GST would be paid only after contractor uploads GST paid challan in portal. If the GST to be paid by the contractor in advance, it is a huge burden to manage the cash flow. Hence request BHEL to pay the GST amount along with GST invoice	Tender Condition prevails.
4.15	Vol IA Part -I Chapter – XV Clause No 1.15.5	Services provided by the engineer on free issue basis: Material handling equipments	Material Handling Equipment –As per clause 1.4.1 in Chapter IV, Crawler crane to be provided by Contractor. However Clause No 1.15.5 in chapter XV crawler crane will be free issued by BHEL. Kindly clarify	Please refer VOLUME-IA PART-I CHAPTER – V clause no 1.5.1, where it is clearly mentioned that heavy duty crawler crane will be provided for handling the list of equipments attached and same is reproduced in clause no 1.15.5 of Chapter XV. In clarity up to 75MT crane shall be arranged by bidder. High capacity crawler crane shall be provided by NPCIL
4.16	Vol IA Part -I Chapter – XV Clause No 1.15.7.3	Material Supply From Contractor	Approx. qty and specification of Russian and Indian make Paints	Please refer Volume II Price bid Part C Bill of quantities C 6.
4.17	Vol IA Part -II Chapter – I SL No. 7	Penalty for Intermediate Milestones	Detailed Explanation required for better understanding of this clause	Refer clause 1.6.7 & 1.6.10 in Vol IA Part I Chapter VI in conjunction with S.No.7 of Vol IA Part –II Chapter – I for clarity.

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4.18	Vol IA Part -II Chapter – I SL No. 8	Overrun Compensation (ORC)	Does PVC applicable during ORC	Refer clause 2.17.6 in S.No.11 of Vol IA Part –II Chapter – I.
<b>5</b>	<b>Volume I A – Part II – Technical Specifications</b>			
5.1	2.2.1 Erection, alignment and welding of reactor and its Support assembly Clause No 4.2 b	OC-51 Paint	Scope of supply of OC-51 paint	Supply of OC-51 paint is in bidder scope. Separate BOQ item is provided. Kindly refer Volume II Price bid Part C Bill of quantities C 6.2
5.2	2.2.1 Erection, alignment and welding of reactor and its Support assembly Clause No 68	Carry out the trial welding of nickel gasket (dia of gasket 5 mm) for technology qualification. Arrange necessary jigs and fixtures for carrying out the qualification, for handling the round gaskets.	Technology Development for Nickel Seal Welding – Scope of supply of Nickel Seal for Welding Technology Development	Supply of Nickel gasket is in the scope of NPCIL.
5.3	2.2.3 Reactor cavity Equipments Clause No 4.5	Biological & Thermal Insulation	Scope of supply of Insulation Bricks	Pre fabricated thermal insulation Blocks & pre fabricated biological shielding blocks will be supplied by NPCIL. Pl refer 2.2.3 Reactor cavity Equipments clause 4.5 C & D.
5.4	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 6	Certification of Welding Personnel	Indicates that 40 no of Welders are required to be qualified to carry out the work round the clock. This being a highly skilled job, is this mandatory to have so many welders in place or contractors can manage with less numbers of welders.	It is an indicative purpose. However contractor shall arrange required qualified welders to meet the target and schedule given by BHEL/ NPCIL.

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5.5	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 6 C	Consumables for Qualification	It is mentioned that consumables are to be arranged by Contractors. These are special consumables imported from Russia, Contractors may not know the sources for these consumables. Request BHEL to arrange for consumables including low alloy steel spools of required thicknesses for qualification	High thickness pipe and plate provided by BHEL/NPCIL for training of welders. consumables as required for welder training shall be arranged by the contractor. Detail of Indian dealers for Russian electrode will be provided by NPCIL during the time of execution.
5.6	Void			
5.7	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 7	Heat load analysis and finalization of specialized contractor	BHEL has in-house capabilities to carry out all types of Technology development towards Welding. Can this be done by BHEL and give the Technology to Contractors?	BHEL will take care for Technology qualification for MCP welding. However any special testing at outside and arranging of any specialist/ agency over& above shall be in the scope of bidder
5.8	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 8	Welding Technology Qualification	The lists mentions the Technology Development work, similarly is this necessary for all welders qualified differently for different Technologies	It is an indicative purpose. Contractor shall train and qualify adequate welders to complete job as per project schedule

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5.9	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 8 ci	Technology certification shall be conducted only with NPCIL (Russian) supplied specimen and welding consumables.	This clause specifies that Technology development work needs to be done with NPCIL / Russian supplied material which is contradictory to Clause No 6 C which mentions that all consumables are to be arranged by Contractors	Final technological qualification work to be done with NPCIL/ Russian supplied Materials only. Before that welder training with Indian materials and contractor supplied welding electrodes. Pl note that very minimum Russian supplied specimens and welding electrodes are available for technology qualification.
5.10	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 8 C vi	Separate Quote for Technology Development	Is there a separate line item in BOQ to quote separately	Separate line item is provided for technology qualification. Pl refer Volume II Price bid Part C Bill of quantities B 1.1 & 1.2
5.11	2.2.13 - Main Coolant Pipeline (MCP) – Welding, Heat Treatment and Inspection Clause No 9.1	Induction Heating System	BHEL provides Induction Heating System similarly system needs Resistance Heating System as per clause No 9.2, Whose scope is Resistance welding system	Required resistance heating system is in the scope of bidder.
5.12	2.2.22 Supply and Application of Paint Clause No 3.4	Radiation Registrant Paint OC51-03	As indicated in the clause, this is a special paint supplied by Russian Manufacturers. Can this paint be imported by any party, does this need any special permission to import. Request BHEL to share the manufacturer information for contractors to get	Pl refer Volume II Price bid Part C Bill of quantities C 6.2. for quantity and specification. It is under scope of contractor

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			quote before. Can BHEL explore the option of supplying this as free issue?	
5.13	2.2.23 Hot Insulation of Pipeline Clause No 5	Hot Insulation of Pipeline	Can BHEL provide approx. estimation of Quantities' for contractor to work out and include as part of their estimates	Pl refer Volume II Price bid Part C Bill of quantities C 7.1 for quantity of insulation.
6.	C1 Financial PQR	Financial PQR – 68 crores turnover in last 3 years	We request you to modify to less than Rs 50 Crores, so that we can participate in subject tender. Please confirm.	Tender condition prevails.