#### **ADDENDUM-1**

DATE: 07.06.2024

Stacker cum Reclaimer Package for Singrauli STPP Stage-III (2x800 MW)

Tender Ref: 77/24/6007/BPA

NIC Tender ID: 2024\_BHEL\_35972\_1

#### "Extension of due date for submission of offer"

Due date for submission of Offer has been extended to 17.06.2024

Submission of offer by 1.00 PM on 17.06.2024

Opening of Techno commercial bid at 4.00 PM on 17.06.2024

Any further addendum such issued carry part of the bidding documents and this will be available at the web site from where the original documents have been received / downloaded by the bidder. Hence, bidders are requested to visit the web site on regular basis.

The Pre-Bid Clarification-01 dtd. 07.06.2024 is enclosed.

#### For Further Queries if any, Contact:

For Commercial:

Smt. Bhubaneswari Parida Manager / PG-III BHEL-ISG, Prof.C.N.R.Rao Circle, Bangalore-560 012 Off: 080 2218 4116,

e-mail: bparida@bhel.in

For Technical:

Sh. Sandeep Sadu Manager / PE / Mech BHEL-ISG, Prof.C.N.R.Rao Circle, Bangalore-560 012 Off: 080 2218 4219,

e-mail: ssd@bhel.in

S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL			
	TECHNICAL CLARIFICATIONS								
1	Technical Enquiry Specification- • BROAD SCOPE OF SUPPLY: • STACKER CUM RECLAIMER MACHINE - DRIVE SCHEDULE	Table B.1. Pt. k	Pg. 3 of 36	Long travel drive: Electric motor with suitable coupling & electro hydraulic Thruster brakes. (gear motors are not acceptable for Long Travel drives)      Travel drive (Electric motor with suitable coupling & electro hydraulic Thruster brakes, VVVF and Bidirectional)	We recommend to use Geared motor for Long Travel Drives. Geared motors having integral DCEM brake and is with hollow shaft and it is a compact unit hence sepearate input/output couplings are not required. This drive arrangment eliminates the misallignments due to operation and this drive has less mainteneance than conventional drive with seperate couplings, brakes, motor.  We have executed Geared motor travel drive for our executed projects and are working satisfactorily hence pl review and confirm.	(gear motors are not acceptable for Long Travel drives)"  Above clause as mentioned by bidder in his query is not at all appearing in referred clause Table B.1.  Pt. k of technical specification. Bidder to read the specification thoroughly before putting forward such points.  Bidder's proposal to use Geared motor for long travel drives, shall be subject to acceptance by NTPC during contract stage.			
2	INSTALLATION SERVICES, ERECTION & COMMISSIONING, PG TEST, O&M, AMC E. OTHER IMPORTANT POINTS:	Pt. 3 to 5 Pt.16	Pg. 8 of 36	-	Please confirm our understanding regarding scope for following points: i) Supply of rail and rail fixing hardware - Bidder scope ii) Rail fixing, alignment & grouting - BHEL civil scope iii) Rail supervision - Bidder civil scope iv) Supply and erection of counterweight - Bidder scope v) Supply of grouting cement except for rail - Bidder Scope vi) Grouting for other mechanical equipment and structure except rail - Bidder civil scope	Scope is amply clear in BHEL Tech. Enq. Spec. Bidder to follow the same.			
3	Techincal Enquiry Specification- Wheel Load	Pt. 15	Pg. 11 of 36	Maximum wheel load permissible with impact for Stacker cum Reclaimer Machine shall be 270 KN.	We recommend to consider wheel load 300 kN. Please confirm.	Not acceptable. Bidder to follow NIT specification.			
4	Technical Enquiry Specification- • BROAD SCOPE OF SUPPLY:	Pt. 22	Pg. 11 of 36	Bidder shall validate the mechanical and structural design of Stacker cum Reclaimer by Finite Element Analysis method to demonstrate that the stresses are within allowable limits. The same shall be vetted by reputed institutions like IITs/IISc etc./International consultant before review of NTPC/ BHEL.	Our supplied machines are working efficiently and we have carried out inhouse design of the same. Being proprietary item , we propose to elimate the clause of vettting of FEA by NTPC/BHEL/third party institutions/consultants.  If you still insist for review of FEA analysis then it will be explained to the client at bidders office during drawing approval, if necessary.	Not acceptable. Bidder to follow NIT specification.			
5	D. DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE:	Pt.3	Pg. 13 of 36	3. As per the layout the stacker cum Reclaimer machine shall be suitable to operate and shall be able to form 3 nos. stockpile of total capacity = 200000 MT minimum and the base of stockpile shall be 50m and height shall be 10.5m (minimum).	To meet the requirement to have total capacity of 200000 MT, stockpile of height 11 m is required. Please check and confirm.	Please refer Annexure-4 Rev01 of coal stockyard layout attached along with this clarification.			

					I	07.00.2024
S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
6	Technical Enquiry Specification-CRD	Pt. 11	Pg. 15 of 36	Separate motorized cable reeling drums / Flexible cable carrier (Energy Chain System) for power and control cable shall be provided with arrangements for winding and rewinding of the cables.	We recommend to use common power and control cable reeling drum suitable for composite flexible trailing cable. PI review and confirm.	Bidder to follow NIT specification.
7	Annexure-4 Coal Stockyard Layout & Yard conveyor Profile Drawing	-	Pg. 1 of 1	-	Please provide values for FGL, FFL & Top of Belt level for yard conveyor. At present, levels maintained as per layout provided.	Stacker rail top shall be 700mm above FGL.     FFL will be 200mm below rail top.     Top of yard conveyor belt shall be 1200mm above FFL.
8	Technical Enquiry Specification- • BROAD SCOPE OF SUPPLY:	Pt. 24		Water tank along with pumps and pipeline to be provided on stacker/reclaimer for plain water dust suppression system for boom conveyor, belt feeder (if applicable), tripper discharge, yard conveyor receipt.	We are considering machine mounted Plain water dust suppresssion system including tank of One hour storage, manual hose reel drum and hose of length 30m. Water to be collected from tap-off points provided along the length of stockpile which is in scope of client, pl confirm.	Noted. However hose with quick release coupling is in bidder's scope.
9	By pass arrangement			By pass arrangement at tripper discharge	By pass arrangement at tripper discharge is not envisaged. Hence we are not considering the same.	Noted
10	DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE	Pt. D.13	Pg. 15 of 36	Should the stacker reclaimer under go any structural distress/ failure during operation or in the anchored condition during the plant life of 30 years, apart from meeting the other contractual requirements specified elsewhere, the supplier shall have to furnish, to NTPC, the complete structural design document / calculations, pertaining to the equipment.	In case of any failure, bidder shall carry out necessary RCA and will be submitted to the client along with associated documents, if required.	Not acceptable. Bidder to follow NIT specification.
11	OTHER IMPORTANT POINTS:	Pt No. E.16	Pg. 20 of 36	Supply of grouting cement and grouting of all mechanical equipment / items and its drive base shall be in the bidder's scope. BHEL / BHEL's civil contractors shall provide only the foundation pockets for pedestals (wherever necessary) as per GA drgs of the bidder.	shall be in the scope of BHEL civil contractor we request client to consider supply of grouting material	Not acceptable. Bidder to follow NIT specification.
12	Important Points w.r.t Document/Drawing Submission to Customer/Consultant (through BHEL):	Pt. 47.b	Pg. 23 of 36	Complete detail engineering drawings, calculations, selection of components etc. shall be reviewed & subject to approval of BHEL/Customer/Customer's Consultant during detail engineering.	Detail engnieering drawings are our proprietary items hence we are unable to submit those drawings for review/approval.	Not acceptable. Bidder shall submit the same.

S. No.	Tender Document Description	Cl. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
13	Important Points w.r.t Document/Drawing Submission to Customer/Consultant (through BHEL):	Pt. 47.g.i	Pg. 24 of 36	Review and vetting of Fabrication drgs & other structures (if applicable)	Fabrication drawings are our proprietary items hence we are unable to submit those drawings for review/vetting.	Noted. However, in case of an issue, bidder shall furnish the fabrication drawings as desired by BHEL & NTPC.
14	I_Part_A / NTPC NIT Specification (CS-1150- 001R-2)	Pt. No. 1.16.00	Pg. 184 of 606	Two (2) number of Stacker cum Reclaimer machines having rated stacking and reclaiming capacity of 2200 TPH / 2750 TPH complete with all equipment and conveyors, structural, electrical, cable reeling drums/flexible cable carrier (Energy Chain System), all trailing cables and accessories, rails, rail foundations, boom resting pedestals, boom tie arrangement, boom maintenance platforms, lighting towers (with foundations), end buffer structures, provision of retaining wall in between machine foundation and stockyard, grade slab, drains, cable pit, cable trench/cable supporting pedestals, pipe support pedestals, fixing and grouting of rails along with all associated civil & structural works to operate in conjunction with yard conveyor.	As Fixing of rails, its alignment and grouting of rails shall be in the scope of BHEL civil contractor we request client to consider construction of retaining wall etc., pertaining to civil works in BHEL civil contractor scope. Bidder's scope of supply is limited to mechanical/Electrical / C&I for unidirectional BWSR	1) Bidder to ref. Clause L.a (page 33 of 35) of BHEL Tech. Enq. spec. Construction of retaining wall is in BHEL's civil contractor scope, however necessary input drgs. has to be furnished by bidder.  2) Bidder's scope shall be as per BHEL technical enquiry specification.
15	I_Part_A / NTPC NIT Specification (CS-1150- 001R-2)	Pt. No. 1.33.00		Wind Barrier along with the supporting structure shall be provided all around the coal stockpile	Wind barrier is not in scope of supply of bidder, pl confirm.	PI. Ref. NTPC TECHNICAL AMENDMENT NO.1 dated 24.11.2023 SI. No. MH-41, Page 13 of 17. Ref. Clause is already deleted. Bidder is instructed to go through NTPC amendments & Clarifications documents as well & to be read in conjunction to BHEL/NTPC NIT Specifications.
16			General	As per the available documents there is no details available regarding the Service water, service air & portable water construction work System.	Kindly confirm whether construction of service water, service air & portable water is in our scope or not. If it is in bidders scope, Kindly indicate terminal point for service water, service air & portable water storage facility tapping point in layout drawing & design criteria.	Bidder's query is not clear.  Details regarding construction power and construction water is available in the tender.
	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), BROAD SCOPE OF SUPPLY	2 k	4 of 35	Long travel drive: k. Long travel drive: Electric motor with suitable coupling & electro hydraulic Thruster brakes	Travel drive shall be direct drive geared motor along with VVVF drive & DC Electromagnetic brake for travel drive. Bidder has already executed same type of arrangement for NTPC Khurja, NTPC Panki etc.	Bidder's proposal to use direct drive geared motor along with VVVF drive & DC Electromagnetic brake for travel drive, shall be subject to acceptance by NTPC during contract stage.

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18	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), BROAD SCOPE OF SUPPLY:	B.1	3 of 35	d. Boom length- 41 m minimum e. Rail gauge – shall be minimum 8.2m, same has to be decided by the Bidder based on design criteria given in specification	length of 41 m & rail gauge of 8.2 m.	Stacker cum reclaimer machines have to be designed by the Bidder meeting the clauses & design criteria mentioned in NIT specification
19	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), BROAD SCOPE OF SUPPLY:	3	8 of 35	Supply of rails and rail fixing accessories for entire stacker cum Reclaimer travel region shall be in bidder's scope. Fixing of rails, its alignment and grouting of rails shall be in the scope of BHEL civil contractor, but same shall be supervised by bidder's civil engineers and no claim or issues shall be raised by bidder later on about the alignment issues as it will be a joint responsibility.	i)Supply of rails and rail fixing - By Bidder's scope, ii)Installation / Fixing of rails, its alignment and grouting of rails - By BHEL Civil contractor Scope. iii)Civil work related for boom anchoring, end buffer frame - By BHEL Civil contractor Scope.	Scope is amply clear in BHEL Tech. Enq. Spec. Bidder to follow the same.
	SCOPE MATRIX _ISG SINGRAULI	31		b) Grouting for Stacker Reclaimer Rails - Respective Mech. Vendor	v)Only supervision during installation of rails - By bidder's scope.	
20	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), INSTALLATION SERVICES, ERECTION & COMMISSIONING, PG TEST, O&M, AMC:		7 of 35	TRAINING MODULE for Stacker Reclaimer machines comprising following aspect: The Successful Bidder shall conduct training of engineers of the Owner on engineering, operation and maintenance of the Machines at the Successful Bidder's or Associates or Sub Vendor's premises where adequate training facilities are available during the design and manufacturing stage of the successful bidder.	In our opinion, site training during the erection activity shall be more effective. Hence we proposed training at actual site only.	Bidder to follow NIT specification.  Bidder's proposal shall be put up to NTPC during contract stage & shall be subject to acceptance by NTPC.
21	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), BROAD SCOPE OF WORKS/ SERVICES	2	8 of 35	Bidder shall also furnish the list of recommended spares for three years' normal operation along with the offer.		Noted

	1			T	T	07.06.2024
S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
22	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), INSTALLATION SERVICES, ERECTION & COMMISSIONING, PG TEST, O&M, AMC		9 of 35	8. Belt Weigher, anemometer, rail cleaners, manual rail clamps and electrically operated rail clamps shall be in bidder's scope of supply and erection.	Bidder will provide, 2 Nos. Hydraulic Rail clamps shall be provided with one number common hydraulic power pack which includes electric Motor, Hydraulic	Bidder to follow NIT specification.
	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), D. DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE		13 of 35	Electro-hydraulic thruster operated rail clamp and manual rail clamp shall be provided for holding the stacker cum reclaimer.	Pump, Hydraulic Tank, Filters, Tank Accessories etc. Please confirm.	
23	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), D. DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE	14	16 of 35	Continuous R.C.C Stacker/Reclaimer rail foundation to be provided throughout the length of travel zone and suitable RCC platform to be provided at one end of travel of the stacker cum reclaimer to rest the head end of the boom while either under maintenance or out of operation.	We understand, civil work including rail foundation, retaining wall, RCC Platform, buffer & boom anchoring foundation shall be carried out by By BHEL Civil contractor Scope.	RCC structures are in BHEL civil contractor scope. Required input has to be provided by bidder during contract engg. However minor civil works as mentioned in BHEL technical enquiry spec is in the scope of bidder.
20	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), D. DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE	L	34 of 35	EXCLUSIONS:  a. Civil rail foundation throughout the length of travel zone and retaining walls for Stacker cum Reclaimer are excluded from bidder's scope. However civil inputs w.r.t this shall be furnished by the bidder to BHEL.		
24	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), D. DESIGN PARAMETERS FOR STACKER CUM RECLAIMER MACHINE	23	17 of 35	21. Bidder shall validate the mechanical and structural design of stacker cum reclaimer by Finite Element Analysis method to demonstrate that the stresses are within allowable limits. The same shall be vetted by reputed institutions like IITs/IISc etc./International consultant before review of NTPC.	keep FEA & vetting activity for such small capacity & boom length machines, as it's a time consuming	Not acceptable. Bidder to meet the NIT specification.

S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
25	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), E. OTHER IMPORTANT POINTS	11	19 of 35		In absence of specific details, bidder has offered material of construction (MOC) as follows, i) Interconnecting piping for Hydraulics - MS with duly painted.	Shall be subject to acceptance by NTPC during contract stage.
26	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP),	е		Scope of Engineering Services:- Successful bidder shall prepare and submit editable 2D AutoCAD as well as editable 3D model (in PDMS) of stacker cum reclaimer machine along with the storm anchor details, rails foundation and boom resting arrangement details associated with the scope of work of this package.	Bidder will provide the 3D model (in PDMS) of the machine for integration with your CHP. However for drawing approval purpose, bidder will furnish 2D drawing. Kindly confirm.	Bidder to meet the requirements mentioned in NTPC specification.
27	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP),		24 of 35	i. Review and vetting of Fabrication drgs & other	Being a proprietary equipment & company policy, we are unable to submit the Stability Calculation, fabrication drawing (detail engineering drawing) & other structural drawing of proprietary equipment.	Not acceptable. Bidder shall submit Stability Calculation (considering seismic and wind loads) as well as other drawings as listed in annexure-15 and any other details/drgs/docs as required by BHEL/ NTPC during detail engineering.  However with respect to fabrication drgs,
	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP), BROAD SCOPE OF SUPPLY:	18	11 of 35	Complete detail engineering drawings, calculations, selection of components etc. shall be reviewed & subject to approval of BHEL/Customer/Customer's Consultant during detail engineering.		bidder to note that in case of any issue, bidder shall furnish the fabrication drawings as desired by BHEL & NTPC.
28	Tech Enq Spec-SCR PKG (NTPC-Singrauli STPP),	21		Buffer stoppers on the machine and rails shall be supplied and erected by bidder along with the buffer fixing/ mounting structures. The machine shall be fitted with energy absorbing impact buffers and have an anti-collision system installed.	The machine shall be fitted with energy absorbing impact rubber buffers.	Bidder's query is not clear. Bidder to follow NIT Spec.

S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
29	Annexure-3 CHP & Biomass Flow Diagram, Annexure-4 Coal Stockyard Layout & Yard conveyor Profile Drawing			By pass arrangement at tripper discharge	By pass arrangement at tripper discharge is not envisaged in flow diagram. Hence we are not considering.	
	Annexure-15 Drg & document Submission Schedule				Submission schedule shall be mutually discussed & finalized during execution stage.	Not acceptable, bidder to follow schedule given in NIT
31	SCOPE MATRIX _ISG SINGRAULI	44		Counter weight for Wagon Tippler, stacker & reclaimer machines - Respective Mech. Vendor	i)Counter weight shall be in RCC construction. ii)Civil work shall be carried out by BHEL Civil contractor Scope. Hence bidder would like to exclude RCC counter weight. However bidder will provide site construction drawing for the same. Kindly confirm.	
32	Annexure-7 Mandatory spares list			ANNEXURE-7: List of Mandatory Spares List (Mechanical) for Stacker cum Reclaimer Machines PKG (CHP)		Noted
	Pages from I_Part_A			MANDATORY SPARES		
33	Additional					
i)	General Point			Specifications of Idlers & yard conveyor tripper pulley are absent.	Kindly furnish the same for standardization purpose & minimizing the inventory.	relevant clauses of NTPC NIT specification CS-1150-001R-2
ii)	General Point			Belt specification is absent.	Please furnish the belt type & cover thickness for our consideration.	It is already mentioned in Clause E.3 (Page 18 of 35) of BHEL Tech. enq. Spec. to refer relevant clauses of NTPC NIT specification CS-1150-001R-2
34	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	B.2	4 of 35	Rail Length: Bidder to decide based on Layout furnished in Annexure-4 and to achieve overall coal stockpile storage capacity of 2,00,000 MT minimum from total 3 Nos stockpile as per NIT spec.	The length of rail is not evident in layout. BHEL to submit detailed layout of yard conveyor to ascertain the rail length.	Bidder has to decide the rail length based on the stockpile layout furnished, meeting all the NIT spec provisions like parking etc. and to achieve overall coal stockpile storage capacity of 2,00,000 MT minimum from 3 Nos stockpile as per NIT spec. Bidder to refer Annexure-4 Rev01 attached along with this clarification.
	Annexure-3 & 4, Plot plan and Flow diagram			By-pass arrangement at tripper discharge	By-pass arrangement at tripper discharge is not envisaged in flow Diagram and plot plan layout. Hence not considering.	Noted.

S. No.	Tender Document Description	Cl. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
36	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	B-5-i	5 of 36	Online Healthiness Monitoring of Bearings & Gearboxes of Stacker cum Reclaimer Machines	Need clarity on Bearing size and Gearbox to be considered for online monitoring.	Bidder's query is not clear. This system has to be provided by bidder as per NIT spec.
37	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	C-A	12 of 36	LIMITING GUARANTEE POWER Coal flow path (Direct stream) and one no. stacker- reclaimer, one no of yard conveyor (maximum of stacking / reclaiming modes)	For Stacker / Reclaimer Power guarantee's, Yard conveyor shall not be part of it.	Yard conveyor drive shall not be part of LIMITING GUARANTEE POWER of stacker cum reclaimer package.
38	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	D-14	16 of 36	Continuous R.C.C Stacker/Reclaimer rail foundation to be provided throughout the length of travel zone and suitable RCC platform to be provided at one end of travel of the stacker cum reclaimer to rest the head end of the boom while either under maintenance or out of operation.	RCC structures are BHEL civil contractor scope.  Stacker cum reclaimer head end of boom will be hovering on top of RCC platform. It will not rest on RCC platform.	RCC structure is in BHEL civil contractor scope. As per NTPC spec, platform shall be to rest the head end of the boom while either under maintenance or out of operation. Therefore, bidder has to design his machine considering all these provisions as mentioned in NIT spec.
39	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	D-24	17 of 36	Water tank along with pumps and pipeline to be provided on Stacker/reclaimer for plain water dust suppression system for boom conveyor, belt feeder (if applicable), tripper discharge, yard conveyor receipt.	We are considering Plain water DS system with manual HRD. And M/c mounted tank for ~1 Hrs. Operational capacity. Please Confirm.	Storage tank capacity of 1 hr. is acceptable.
40	Technical Enquiry Specification for Stacker cum Reclaimer - NTPC Limited CHP of Stage-III (2x800 MW) Singrauli STPP	E-47-g-i	24 of 35	Review and vetting of Fabrication drgs & other structures (if applicable)	Being a proprietary equipment, submission of fabrication drawing shall be excluded.	Noted. However, in case of an issue, bidder shall furnish the fabrication drawings as desired by BHEL & NTPC.
41	Indicative sub vendor list as per Annexure 12	S.No 70	64 of 133	PLANETARY GEARBOX	For Planetary Gearbox Request to add additional vendors like Bonfiglioli, Rossi to have more flexibility on vendor choice	Successful bidder may propose the same during contract stage, and same shall be subject to acceptance of these vendors by NTPC/ BHEL.

						07.06.2024
S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
42	Indicative sub vendor list as per Annexure 12			Bearings & Bearing Housing	Vendor source not available in sub vendor list. Request to provide	Successful bidder may propose the same during contract stage, and same shall be subject to acceptance of these vendors by NTPC/ BHEL.
43			General	Civil work	Complete Civil engineering & construction is not in bidder scope.	Bidder is being informed not to raise such general queries. Bidder has to thoroughly review & follow the entire specification and ask specific queries, referring to the corresponding clauses.
44	ANNEXURE-2 ELECTRICAL AND C&I SCOPE MATRIX FOR SCR PACKAGE	F (6)	3 of 9	Interfacing with Other Systems and Packages at Site The system shall be interfaced with CHP DDCMIS, the Station LAN and other third party systems as required. It shall be capable to exchange data via web services. It shall be able to interface with ERP system available with Employer and help in planning and procurement of Coal.	Aaprt from CHP DDCMIS, the Station LAN, what are the other third party systems which need to be interfaced.  In the meantime kindly share us the overall layout for identifying the CHP DDCMS location for estimation purpose	Bidder to follow Annexure-23 for Stockyard Managaement system
45	ANNEXURE-2 ELECTRICAL AND C&I SCOPE MATRIX FOR SCR PACKAGE	11	9 of 9	IMPORTANT NOTES TO BIDDER  Temperature transmitters (if any) as per NIT Spec for all motors in Stacker Reclaimer are also in scope of bidder	Kindly clarify the temperature scanner requirement for all motors.	Bidder to follow specification
46	Annexure-02 ELECTRICAL and C&I ITEMS SCOPE OF SUPPLY AND WORKS FOR STACKER RECLAIMER MACHINE	B/2	Page 7 of 9	Remarks  All ACDBs, DCDBs, Solenoid Valve DBs and MCCs located on Stacker Reclaimer shall be of Fixed Module type, single front. All 415V Circuit breaker modules and other MCC modules shall be fully draw out type. Bidder to refer detailed specification of LT Switchgear.	machine. Kindly Confirm	ACB Shall have provision to of drawing out. MCC shall be fixed type for Stacker Reclaimer.

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47	Annexure-02 ELECTRICAL and C&I ITEMS SCOPE OF SUPPLY AND WORKS FOR STACKER RECLAIMER MACHINE	N / 1	Page 7 of 9	Statutory Clearances/ Approvals  All the Statutory Clearances required for this package is in the scope of bidder. Obtaining statutory clearances for Complete STACKER RECLAIMER MACHINE from Chief Electrical Inspector to Government (CEIG / CEA) and local Electricity board (if reqd) including furnishing of all Drawings, documents, etc. to the satisfaction of the statutory authorities shall be in the scope of the bidder and any other such special approvals that may be required in line with the prevalent norms to Charge & commission the Electrical System as a whole. The entire cost including all necessary fees, incurred for obtaining such approval/clearances, shall be borne by the vendor.	Bidder request that any statutory approval for Stacker reclaimer machine shall be in BHEL scope. However, bidder shall provide necessary assistance to obtain the same.	Didd
48	Annexure-26 TECHNICAL SPECIFICATION SECTION - VI / PART- B / ELECTRICAL SUB SECTION B-06 LT SWITCHGEARS & LT BUSDUCTS	7.00.00	PAGE 13 OF 19	The motor feeders shall be provided with Intelligent Motor Controller (IMC) in place of overload relay, in the power circuit.	Bidder propsed non-intelligent conventional type starter feeder in PMCC which are provided for Stacker reclaimer machine. Kindly Confirm	
49	TECHNICAL SPECIFICATIONS SECTION – VI, PART- B BID DOC. NO. CS- 1150-001(R)-2	3.01.07	175	Fire Fighting The Control room shall be equipped with all necessary fire fighting facilities	Kindly confirm, whether we need to provied NOVEC / FM200 / Inert gas system for E-house.	Bidder to follow specification
50	ANNEXURE-2 ELECTRICAL AND C&I SCOPE MATRIX FOR SCR PACKAGE	1/9	4 of 9	Fire Extinguishers :-  An automatic fire detection and fire extinguishing system shall be provided for the electrical equipment enclosure. The fire extinguishing system shall comply with the relevant local legislation and NFPA	Currently we have considered automatic Fire Detection & Alarm System and Portable fire Extinguihsers only.	Bidder to follow specification

						07.00.2024
S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
51	Annexure-7 Mandatory spares list	I&J		DC Battery Battery Charger	Battery & Battery Charger are not used on Stacker cum Reclaimer, hence Not applicable. Pl. confirm.	This Battery & Battery charger spares are given considering the requirement of 220V DC for LTMCC/HTMCC (if applicable).If during detailed engineering and drawing approval 220V DC is not applicable then related spares shall not be applicable for bidder.
52	Annexure-7 Mandatory spares list	С		PA system-Call stations & Amplifiers-Network devices & accessories	cum Reclaimer Machine, hence not applicable. Pl. confirm.	PA system is part of stacker reclaimer as per Annexure-2. Detailed spares will be decided during detailed engineering as per approved drawing list.
53	Annexure-7 Mandatory spares list	D		CCTV system	CCTV as a complete System-is not provided uon Stacker cum Reclaimer Machine, hence only applicable spares will be supplied. (Ex. Data base server etc.are not applicable). Pl. confirm.	CCTV is a part of Stockyard Management system. Bidder to follow specification.
54	Annexure-7 Mandatory spares list	C&I-A.2		24V DC Power supply system	24V DC power supply system-is not used on Stacker cum Reclaimer, hence Not applicable. Pl. confirm.	NTPC specification calls for PLC with 24V DC input with asoicated battery & battery chargers. If during detailed engineering customer accepts PLC with 230V UPS AC same shall not be applicable for bidder.
55	of Supply & Works for	Sr.No. A 3.3kV System	1 of 9	BHEL will provide power from 1 no Feeder from BHEL HTMCC (3.3KV board) for each machine (1 no for one stacker).  The power will be provided up to the bidder's 3.3KV HT Junction Box located at the centre of the travel length of Stacker Reclaimer machine.	We understand that power will be given at incoming of Junction box at the centre of the Stacker Reclaimer machine (Centre pit JB)	Bidder understanding is correct
56	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.NoB 415V System, Sr.No-2 LT Switchgear	1 of 9	All 415V circuit breaker modules and other MCC modules shall be fully draw out type.	MCC's located on Stacker Reclaimer, paddle feeder & travelling trippers shall be of fixed module type. It is mentioned in Technical Specification for EPC Package BID DOC NO.: CS-1150-001R2 Sub-Section B-0 General Electrical Specification, Clause 3.06.00 (b). Please clarify.	Bidder understanding is correct

S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
57	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.NoB 415V System, Sr.No-2 LT Switchgear	1 of 9	Upstream BHEL HT breaker close permissive & trip command (potential free contact) shall be connected to Land mounted control JB through control CRD.	Cables and trays from Control JB to BHEL HTMCC breaker is in BHEL/client scope.	Only control cables & Tray from Control JB to BHEL HTMCC Breaker is in BHEL scope. OFC Cable from Machine PLC to CHP DCS with redundancy is in bidders scope.
58	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No. C Sr.No.1 Cable Reeling Drum	2 of 9	Yard conveyor can be stopped from control panel of Reversible stacker-reclaimer. Provision also be given to trip the Reversible stacker-reclaimer from CHP control room.	Cables and trays from Control JB to CHP Control room is in BHEL/client scope (As mentioned in Annexure-02 page no-2)	Only control cables & Tray from Control JB to BHEL HTMCC Breaker is in BHEL scope. OFC Cable from Machine PLC to CHP DCS with redundancy is in bidders scope.
59	Technical Enquiry Specification of SCR Machine Package IS-1- 23-2008/SCR	Broad Scope of Supply Sr.No.6 Electrical and C&I Mandatory spares Broad Scope of Supply Sr.No.6 Electrical and C&I Mandatory spares	5 of 35	As per enclosed Annexure-7 List of Mandatory spares for Stacker Reclaimer Sr.No I & J: DC Battery & Battery Charger spares are mentioned	From Annexure-7 mandatory spares as applicable to Stacker Reclaimer machine only will be considered. DC battery & battery charger not applicable.	This Battery & Battery charger spares are given considering the requirement of 220V DC for LTMCC/HTMCC (if applicable).If during detailed engineering and drawing approval 220V DC is not applicable then related spares shall not be applicable for bidder.
60	Technical Enquiry Specification of SCR Machine Package IS-1-23-2008/SCR	Sr.No.48 Constructio n Power & Constructio n Water	25 of 35	Construction power and construction water shall be provided at one location.	Distance shall be considered less than 200 Meters.	Tender conditions prevail.
61	Technical Enquiry Specification of SCR Machine Package IS-1-23-2008/SCR	Sr.No.8	29 of 35	Bidder shall follow the procedure for inspection as per approved QAP/FQP	BHEL is to provide FQP. FQP is not available in the bid document.	Bidder has to submit the FQP during contract engineering & obtain approval from NTPC/ BHEL.

S. No.	Tender Document Description	Cl. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
62	Specification of SCR	H.Work instruction for storage & handing over of Mandatory spares.	31 of 35	Work instruction for storage and handling of mandatory spares.	No procedure for inspection mandatory spares mentioned. Inspection of mandatory spares will be offered along with the main equipment as spares cannot be inspected later stage.	Inspection shall be carried out as per approved QAP.
63	Machine Package IS-1-23-2008/SCR	D. Documents /informatio n to be furnished along with the Technical offer	32 of 35	Documents/information to be furnished along with the Technical offer	For majority of bought out items technical data sheet shall be given after detailed engineering	Noted
64	Sub vendor list for Electrical and C&I as per Annexure 12			Sub vendor list for Electrical and C&I as per Annexure 12	In annexure 12 for all the instruments it is mentioned as "Main Contractor Approved Sources" But list of main contractor approved sources not submitted.	Will be decided during detailed engineering
65	Sub vendor list for Electrical and C&I as per Annexure 12				No approved vendors for EPR cables.	Shall be taken up during detail engineering
66	Technical Specification for EPC Package BID DOC NO.: CS- 1150-001R2 SUB-SECTION B-0 General Electrical Specification	General Rquiremen ts	10 of 16	LT Incomers Breaker feeders shall be controlled from DDCMIS through hard-wired interlocks & Close/Trip commands. LT Breaker controlled motor feeders shall be controlled from the DDCMIS through hard-wired interlocks & Close/Trip commands. All LT Contactor controlled motor/heater feeders shall be controlled from DDCMIS through Intelligent Motor Controller (IMC) on profibus DP communication.	List of signals communicated to & from DDCMIS shall be submitted. All the hardwired and Profibus shall be connected up to Control JB placed at the centre of machine travel.	Shall be taken up during detail engineering.

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67	Technical Specification for EPC Package BID DOC NO.: CS- 1150-001R2 SUB SECTION B-06 LT Switchgears & LT Busducts	Clause 2.01.03	2 of 19	ACB Closing/Tripping coil & Spring charging motor of circuit breaker: 220 V DC/110 V DC	Since battery charger & DC supply is not available in SCR machine, we will consider 230V AC UPS supply.	This Battery & Battery charger spares are given considering the requirement of 220V DC for LTMCC/HTMCC (if applicable).If during detailed engineering and drawing approval 220V DC is not applicable then related spares shall not be applicable for bidder.
68	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.F(6) Interfacing with Other Systems and Packages at Site	3 of 9	The system shall be interfaced with CHP DDCMIS, the Station LAN and other third party systems as required. It shall be capable to exchange data via web services. It shall be able to interface with ERP system available with Employer and help in planning and procurement of Coal.		Bidder to follow tender specification
69	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.F(7) System Hardware	3 of 9	Following SIL-2 safety level system hardware / equipment for Stockyard Management System shall be provided but not limited to:  1. PLC for Automatic Sprinkler system located in CHP control room.  2. Separate Operator work Stations (OWS) of size 21" in Control Room and S/R operating cabin for 3D profiling, unmanned operation and Hotspot Detection.  3. Suitable furniture & control desk shall be provided to be located in CHP control room.  4. UPS power supply in redundant configuration along with distribution and cabling shall be provided for the system by the Contractor.	BHEL shall provide UPS power for the PLC & equipment installed in CHP control room.	Bidder understanding is correct. Bidder to furnish UPS load details kept in CHP control room as per approved drawing during detail engineering.
70	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No. F (8) Online Healthines s Monitoring of Bearings & Gearboxes of Stacker Reclaimer Machine	3 of 9	For online monitoring of healthiness of bearings and gearboxes of Stacker and Reclaimer machines a real time health monitoring system shall be installed on the Stacker Reclaimer machines. The system shall at all the times provide the operator a health report card of all major drives / equipments of the S/R machine in form of a report / alarms. The system shall be capable of providing predictive information of all incipient failures in bearings and gearboxes	Not feasible, will be considered only for major equipment.	Bidder to follow tender specification

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S. No.	Tender Document Description	CI. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL	
71	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.F(10 ) Site Acceptanc e test	3 of 9	All the systems specified herein shall be fully integrated i.e. 3D profiling, Thermal imaging, S/R PLC, GPS etc. Further other systems like CHP DDCMIS, Solenoids of Sprinkler System, station LAN, Employer ERP system shall also be interfaced to make system complete.	BHEL shall ensure that the packages other than bidder's supply shall compitable to the system bidder supplied and have communication protocol.	Shall be decided during DDE	
72	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.I(8) Automatic Fire detection FDA system	4 of 9	For fire detection of stacker-reclaimer, a local fire alarm panel for alarms shall be provided on each stacker-reclaimer machine along with interfaces & connectivity with fire alarm panel placed at CHP control room. The communication shall be as per standard and proven practice of the contractor.	Communication shall be provided up to control JB placed at the centre of machine travel.	Bidder to follow tender specification.	
73	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.I(9) Fire Extinguishe rs	4 of 9	An automatic fire detection and fire extinguishing system shall be provided for the electrical equipment enclosure. The fire extinguishing system shall comply with the relevant local legislation and NFPA.	Specification shall be provided by BHEL.	Bidder to follow tender specification	
74	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.J(3) Logic Diagram & PLC programmi ng and HMI Developme nt.	5 of 9	The format of this logic diagram shall be informed by employer during detail engineering. The recommended logic and write-up shall match fully.	We understand that logic diagram shll be given by BHEL client and accordingly program will be done by bidder.	Logic diagram is in Bidders scope	

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75	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.J(4) PLC based control system consisting of Control desk, PLC panels, I/O racks, along with its power supply arrangeme nt etc. shall be provided for the control of Stacker- cum- Reclaimer machine.	5 of 9	Interface with plant DDCMIS through Control CRD as well as wireless is to be provided. Soft communication (wireless) between machine PLC and Main plant DDCMIS shall be redundant. Communication protocol for interfacing between Machine PLC and BHEL-DDCMIS shall be decided during detailed engineering.	Bidder can consider either Profibus or MODBUS.  BHEL shall clarify the communication protocol requirement.	Bidder to follow tender specification
76	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.J(7) General Information	6 of 9	The following details to be provided with bid documents:  1) The power requirement from BHEL HT MCC. 2) The hardware interface between yard machine PLC and Main Plant DDCMIS. 3) Power Point Presentation and Brief description of on Stock Yard Management system. 4) The software signals exchanged between yard machine PLC, Stock Yard Management system, radio communication and Main Plant DCS. 5) Anti-collision system configuration. 6) Stock yard management system write up and configuration.	It is not possible during bidding stage except power requirement.	Bidder to furnish maximum data possible

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77	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No. K (4) Belt scale & belt weighing system (Electronic microproce ssor based)	6 of 9	DCS interface (for all required signals) shall be provided for the Remote totalizer pulse signal (potential free contact) and Remote flow rate indication (4-20mA DC signals). If any special cable is required for connecting the remote indicators then the supply of cables and laying of cables shall be also in bidder's scope.	Belt weigher is coming in boom conveyor hence flow rate indication will be provided in SCR PLC.	This signal shall be given in CHP DCS by hard wired as Analog Input.
78	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Sr.No.L(1) Statutory Clearances / Approvals	1	All the Statutory Clearances required for this package is in the scope of bidder.	Statutory clearance is not in bidder scope.	Bidder to follow tender specification
79	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Important notes to Bidder Sr.No.2	9 of 9	All the field instruments shall be of latest models. Also, redundancy of field device, PLC etc. shall be as per the specification. For the sake of completeness of the system and in order to ensure desired performance and safety measures, any hardware or software item required, shall be in the scope of bidder irrespective of their explicit or implicit inclusion in this specification.	Kindly clarify is there any specific requirement for Field instrument redundancy. Redundancy in field instruments are not considered.	Bidder to refer Annexure-25 C&I specification
80	Annexure-02 Electrical and C&I Items Scope of Supply & Works for Stacker Reclaimer Machine	Important notes to Bidder Sr.No.32	9 of 9	3D model drawings applicable for this package is in the scope of Bidder.	3D package is not considered for E&I.	Bidder to follow tender specification
81	Technical Enquiry Specification of SCR Machine Package IS-1-23-2008/SCR	E. Other important points Sr.No.35 Integration with entire CHP	21 of 35	Integration with entire CHP shall be in scope of bidder. Necessary provisions shall be considered in the equipment/ items/ systems which are in bidder's scope for integrating with equipment/ systems/ items which are part of BHEL's other contractors' scope.  Bidder's scope shall also include system integration & control requirements and control philosophy w.r.t. other auxiliary systems like dust suppression, dust extraction, ventilation and water systems, done by BHEL's other contractors.	Bidder has excluded any short of integration with CHP package. Our battery limit will be limited to Machine package PLC further integration will be in BHEL scope. We shall provide the required provision for which the integration of equipment / system which is offered by BHEL / others. BHEL need to provide the detail of the system which need to integrated with SCR for better understanding.	Not acceptable. Bidder to follow NIT specification and consider necessary provisions.

		07.06.2024				
S. No.	Tender Document Description	Cl. No.	Page no.	Existing Provision	Bidder's Query	Clarification by BHEL
82	Technical Specification Section – VI, PART-B BID DOC NO.: CS- 1150-001(R)-2 C&I Annexure to Sub section-A-20 Coal & Biomass Handling Plant	Clause 3.00.00 Hotspot detection & Automatic sprinkler operation	2 of 4	Life time license version of operating system, application software along with any other software required for proper operation of the system shall be provided.	License shall be renewed from time to time as per OEM recommendation.	Bidder to follow specification
83	Sub vendor list for Electrical and C&I as per Annexure 12	Sr.No. 52		Stockyard Management System Vendors 1) TSA – Brazil 2) EIP Enviro - Noida	For Stockyard Management System shall we consider one more vendor NextGen Automation Pvt. Ltd, Kolkata. Please confirm	Additional vendors Shall be taken up during detailed engineering. NextGen is approved in TALCHER.
84	Sub vendor list for Electrical and C&I as per Annexure 12				There is no approved vendors for Radio Modem shall we consider Lotus Wireless, Bangalore.	Please refer Sl.No 49 of Annexure-12. Lotus wireless is already approved
				COMMERCIAL CLARI	FICATION	
1	Special terms & conditions of contract: Payment terms	21	16 of 39	(iii) 65% of ex works price of plant & equipment, as per approved billing schedule, along with 100% freight charges (proportionate to the supplies) and 100% GST (as applicable), shall be payable against clean receipted LR/ proof of receipt at site on pro-rata basis.	per approved billing schedule, along with 100% freight charges (proportionate to the supplies) and 100% GST (as applicable), to be released against	Tender conditions prevail.
2	Due date for bid submission of the bid			07.06.2024	We require 3 weeks time to submit the bid from the date of receipt of your reply for all the queries	Noted
3					Please specify the location of the storage yard for the package.	The allotted land for laydown / storage of material is approx. 5-6 km far from main plant area.  Watch and ward of the stores as per tender specifications shall be in the scope of the bidder. Transportation/ shifting of materials from stores to erection site including watch & ward, as per tender specifications, shall be in the scope of the bidder.

