

2X660 MW MAITREE STPP - EOI

CLARIFICATION FOR THE BIDDERS QUERIES

Sl. No.	Specification Reference VOL/SEC/CLAUSE	Bidders Queries	BHEL clarifications
1		It will be very difficult to provide required technical details at this stage. We can provide certain details during Tender Stage and others during Detail Engineering. It requires detail engineering to provide the data required. Also, certain data can only be provided during tender stage. We hope you understand our concerns. We will provide you technical details to the extent possible at this stage.	Bidder shall furnish the list of documents as indicated in the Expression of interest document along with the EOI
Online Coal Analyser			
2	<u>1.0 Pre-Qualification Requirement (Point a)</u> <u>Bidder should have designed, manufactured/got manufactured, erected and commissioned at least five (5) numbers of Online Coal Analyzer at different sites with rated capacity which should have been in successful operation for at least two (2) year prior to date 22.09.2015</u>	Please indicate if the Contract copies/Purchase Order copies in support of your pre-qualification requirement for design, engineering, manufacturing, erection & commissioning of minimum 05 nos. Online Coal Analyzer shall be considered for various type of industries like Coal, Power, Steel & Cement	Online Coal Analyzer shall be considered for Coal application.
3	<u>1.0 Pre-Qualification Requirement (Point b)</u> Agents having agreement with OEM for supply can quote for this package	Kindly indicate if overseas OEM can quote jointly with their Indian Agent where OEM shall operate as the lead bidder	As per the EOI for for Online Coal Analyser "Agents having agreement with OEM for supply can quote for this package."

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4	<u>Sec V, Functional Specs B4, Fuel & Ash</u> <u>System specification, Page 22</u> The online analyzer shall be of cross-belt type and shall give real-time information about total moisture, ash, sulphur and determine the heating value	Kindly specify if analysis of individual ash elements are also required.	The online analyzer shall be of cross-belt type and shall give real-time information about total moisture, ash, sulphur and determine the heating value
5	Radiation License/NOC etc.	Tender has not specified anything on this point	It shall be as per the International standards and practices. However it shall be subject to the approval of the Customer/ Customer's Consultant.
6	Point 2., Technical Requirement of EOI Under System Capacity & quantity , it is specified the PGNA type Online Coal Analyzer, suitable for 1400 mm belt size (Steel cord)	Please specify if the customer will consider other technologies available for Elemental analysis i.e. XRF etc.	Bidder to follow specification
7	Information on Steel Cord Belt	Requested to furnish information on the distance between each steel cord in the belt, and the width and thickness of each steel cord in the belt?	Distance between steel cord in the belt shall be furnished during detailed engineering.
8	Chlorine content in Belt	If chlorine is available, please specify the percentage content of the same	It shall be furnished during detailed engineering.
Conveyor System for CHP & Pipe Conveyor system for Limestone, Gypsum & Bottom Ash			
10		We request you to change the date of successful operation for at least two year prior to date of bid opening i.e. from 22.09.15 to 30.08.2016 technical Pre-qualification requirement Conveyor system for CHP.	Bidder to follow specification
11		1. For the ANNEXURE-2 LIMESTONE, GYPSUM & BOTTOM ASH CONVEYING SYSTEM, we have rich experience and qualified for the belt conveyor and pipe conveyor in bulk material handling plant, Is that possible to send us more details and give us an opportunity to understand this package?	Basic details along with NIT specification is already indicated in the EOI and its annexures.

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12		Kindly provide plot plan and coal flow diagram in Auto cad format, this will help us to prepare our equipment GA drawings and conveyor profiles.	It is attached along with this queries
13		· Kindly provide coal properties.	Refer the attachment for the coal properties
14		Since the subject enquiry is for 660MW , we request you to kindly review our credentials (attached) and if we are found to be competent to participate in your requirement , we shall be obliged to work on this opportunity of offering our services to BHEL-ISG.	Prequalification requirement for each packages are indicated in the EOI.
15		After going through your proposed Eligibility Criteria of Coal Handling System for 2 x 660 MW Maitree STPP, Bangladesh, we feel the same is stringent and if it is slightly diluted, we can have a chance to participate in your Tender.	Bidder to follow specification

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16	ANNEXURE -3 (CONVEYOR SYSTEM FOR CHP) - 1.0 PRE-QUALIFICATION REQUIREMENTS: - TECHNICAL Bidder should have designed, manufactured/got manufactured, erected and commissioned at least five (5) numbers integrated bulk material handling plant at different sites (essentially comprising of conveying and crushing) including all associated structural steel works and electrical works of 1000 metric tons per hour rated capacity or above for coal for coal or other materials of equivalent volumetric capacity which should have been in successful operation for at least two (2) year prior to date 22.09.2015.	"Bidder should have designed, manufactured/got manufactured, erected and commissioned at least five (5) numbers integrated bulk material handling plant at different sites (essentially comprising of conveying) including all associated structural steel works and electrical works of 1000 metric tons per hour rated capacity or above which should have been in successful operation for at least two (2) year prior to date 22.09.2015." OR "Bidder should have designed, manufactured/got manufactured, erected and commissioned at least five (5) numbers integrated bulk material handling plant at different sites (essentially comprising of conveying) including all associated structural steel works and electrical works of 1000 metric tons per hour rated capacity or above which should have been in successful operation for at least two (2) year prior to date 22.09.2015 and collaborates/associates with a Design Agency who has designed at least one number integrated bulk material handling plant (essentially comprising of conveying and crushing) of 1000 Metric tonnes per hour rated capacity or above which should have been in successful operation for at least two (2) year prior to date 22.09.2015."	Bidder to follow specification
17	Bidders to quote for individual packages. Package -Pipe conveyors (LS, Gypsum & Bottom Ash), Lime stone & Gypsum conveyors, ship loading system for gypsum & Extraction system for Gypsum from Silo	We are interested to participate for LIMESTONE, GYPSUM & BOTTOM ASH CONVEYING SYSTEM PACKAGE only (consisting of pipe conveyor).	Bidder can participate in individual package as per the EOI.

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18	Plot Plan Drg. No: PE-DG-421-100-MOOL, Rev-02 or latest	Please provide Latest Plot Plan drawing in AutoCAD format so that, we can draw centreline of pipe conveyors with suitable radius for negotiating horizontal curve on the plant layout drawing. As per our initial observation, minimum radius of 150-200 m is required for negotiating 90° horizontal bend of pipe conveyor with EP belting.	Attached along with the queries
19	Input drawings	Please provide PROFILE DRAWINGS in AutoCAD format for discharge and feeding belt conveyors, pipe conveyors and height of Silos (specifically Gypsum & Bottom Ash) for basic engineering of the system. i.e. To calculate Length, Lift of conveyors OR please arrange to furnish conveyor wise length, lifts for our working.	Bidders shall develop the profiles based on the layout and the information as per the NIT specification..
20	S. No.1 of table "1 no. Trough belt conveyor LSBC-1 including belting"	Feeding arrangement of jetty conveyor LSBCN-1 at jetty area to be clarified.	Grab unloader shall feed the Limestone on to the conveyor LSBCN-1
21	S. No.2 of table " 2 nos. Two way conveying pipe conveyor system. Carrying Side with Limestone & return side with gypsum including belting"	We presume that 2 (two) nos. Pipe Conveyor LSPC-1A/B shall be installed to transport limestone (Cap. 1000/1100 TPH each) on carrying side from jetty to limestone storage yard. The same Pipe Conveyor LSPC-1A/B will also carry gypsum (cap. 100/110 TPH) on return side from gypsum Pipe conveyor GPCIA/B to gypsum silo at jetty. Please confirm whether the system shall be designed considering carrying of material on both carrying & return side simultaneously.	Bidders understanding is correct, that 2 (two) nos. Pipe Conveyor LSPC-1A/B shall be installed to transport limestone (Cap. 1000/1100 TPH each) on carrying side from jetty to limestone storage yard. The same Pipe Conveyor LSPC-1A/B will also carry gypsum (cap. 100/110 TPH) on return side from gypsum Pipe conveyor GPCIA/B to gypsum silo near jetty.
22	S. No.5 of table "2 nos. Belt Feeder at LS Hopper Complex including belting"	Please inform Location, Length and Lift of Belt Feeder in LS hopper Complex.	Location of the LS hopper complex is indicated in the plot plan attached. Belt feeder is of non- inclined type. Length of belt feeder shall be proposed by bidder.
23	S. No. 11 of table "2 nos. Bucket elevator for Gypsum loading from conveyor to Silo near Jetty"	Please inform holding Capacity & height of Gypsum Silo near jetty for selection of Bucket Elevator.	Tentative Capacity of the Gypsum Silo near jetty is 8712 Ton & height shall be approx. 40 m

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24	S. No. 12 of table "Extraction system for Gypsum from Silo"	We presume Gypsum from Silo near jetty shall be loaded on to both trucks & ships. Do we need to Consider following items in our scope - -Loading Spout OR Sector Gate for truck loading. If required specify capacity, configuration etc. -1 no. truck weigh bridge. -1 no. Ship Loading System Please confirm above points, Loading Rate of Ship & truck, Truck Type/Axle loads etc. along with elaboration about your requirement of Gypsum Extraction & Loading System.	Truck weigh bridge is not part of the bidder scope. For other details refer NIT specification.
25	S. No.2 of table " 2 nos. Pipe Conveyor From TP-14 to Bottom ash Silo near Jetty including belting" & Exclusions	a. We presume our scope is up to discharge at Bottom Ash Silo at Jetty only. Further our scope excludes BA extraction system from BA Silo to HCSD System nearby jetty. b. Please inform holding Capacity & height of Gypsum Silo near jetty for selection of Bucket Elevator.	a. Bidders understanding on the scope is correct. B. Tentative Capacity of the Gypsum Silo near jetty is 8712 Ton & height shall be approx. 40 m
26	TERMINAL POINTS Bottom Ash Pipe Conveying System . • Conveyors below the Bottom Ash intermediate Silo of each unit.	We understand our scope for BA system starts from receipts at Conveyor BAPC-1 & BAPC-2 only as shown in Plot Plan Org. No: PE-OG-421-100-MOOL. Further we presume conveyors from intermediate BA silos are Pipe conveyors as per their nomenclature as BAPC-1 & 2 in the Plot Plan. Please clarify.	Bidders understanding is correct.
27	Scope of Utilities -Dust Extraction (DE) System at TP's -Dust Suppression (OS) System at TP's -Fire Detection & Protection System(FOPS)	We presume entire scope of utilities viz. DE, OS & FOPS is excluded from our scope. Please confirm.	Dust extraction is in the scope of the Main Conveyor package bidder as part of Package-3. Dust suppression is a separate package as per Package-6
28	1-FD-702-100-M001	Conveyor 6A & 6B capacity are 3400 tph rated and 3740 tph rated as per flow diagram. And as per EOI capacity are 1250 tph rated and 1375 tph design. We hope conveyor capacity will be as per flow diagram. Kindly confirm.	Refer EOI document under CONVEYOR SYSTEM FOR CHP for the capacity.

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29	PE-DG-421-100-M001	Kindly provide Layout/Profile drawings for JH and Conveyor (CHP)	Plot plan attached along with the queries. Profile drawing to be developed by bidder as per the NIT specificaition/ CEMA/ International standards.
30	Mechanical	Kindly provide Material size before and after screening at PSH	Refer NIT specification
31	Mechanical	Kindly provide Material size required after crushing at CRH	Refer NIT specification
32	Mechanical	We are considering throughout deck plate thickness 3 mm minimum. Kindly confirm.	Deck plates shall be of 3.15 mm. As per specification, All outdoor belt conveyors shall be fully enclosed. All overground and overhead conveyors shall be located in suitably enclosed bridge structure. Structural steel bridges of adequate width and depth (2700 mm clear head room) shall be provided complete with conveyor bottom deck plates, seal plates, walkways of chequered plates with anti-skid arrangement(s), hand rails on both sides of each conveyor belt.
33	Mechanical	Minimum chute cross section to be considered. We suggest 1200x1900 for 2000 B/W and 1000x1000 for 1400 B/W. Kindly confirm.	Bidder to propose the chute size based on the NIT Specification and the CEMA/International standards.
34	Mechanical	We considered minimum 5 m skirt length. Kindly confirm	It shall be as per CEMA/International standards/ NIT Specification. However the same shall be finalised during detailed engineering subjected to Customer approval considering dust suppression system.
35	Mechanical	Carrying and return idler spacing 1.2 m and 3 m respectively. Kindly confirm	It shall be as per CEMA/International standards/ NIT Specification

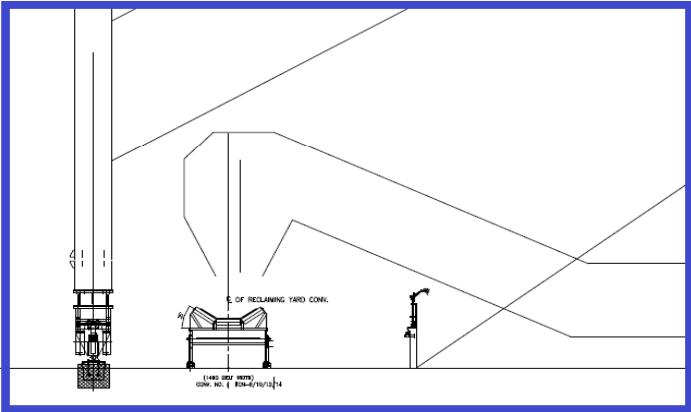
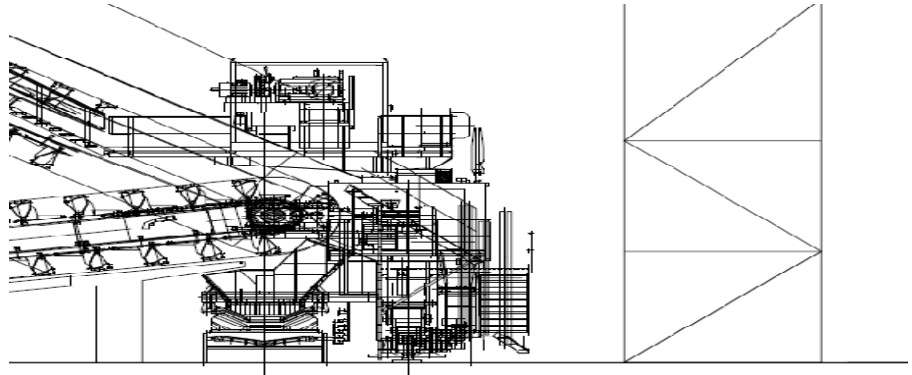
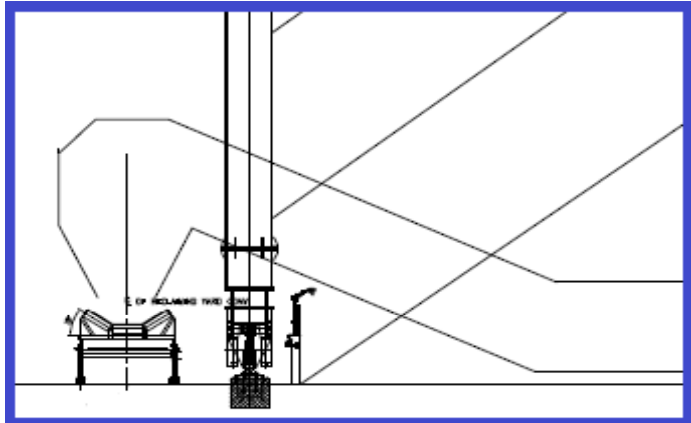
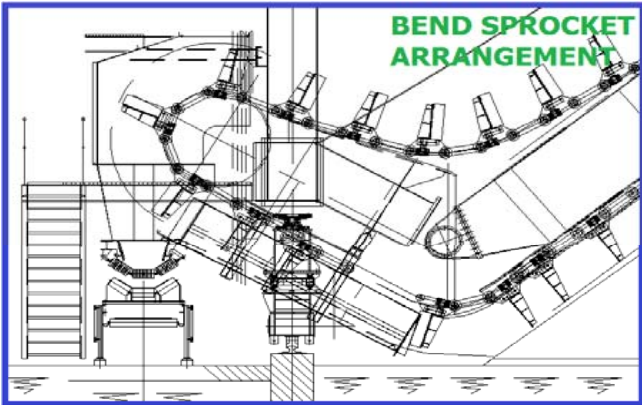
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36	Mechanical	Pulley shaft deflection for drive 5 min and for non drive 8min. Kindly confirm	It shall be as per CEMA/International standards/ NIT Specification
37	Mechanical	Please furnish Complete technical specification for CHP	Refer Annexure and EOI
38	Mechanical	Please furnish Complete scope matrix	Refer NIT Specification for the scope matrix
39	Mechanical	Please furnish Topography Plan	Refer plot plan for the RL details.
40	Mechanical	Please provide Level of Top of Bunker	Tentative RL shall be + 61.020
41	Mechanical	Please provide Stock pile capacity	Refer the Annexures.
42	General	Kindly provide the general specification for the conveyor.	Refer NIT Specification
43	General	Kindly provide the technical specification for Coal Handling conveyor package including electrical and instrumentation requirement. Nothing clearly mentioned regarding safety switches, types etc.	Refer the Annexures.
44	General	Kindly provide the scope matrix and Battery limit for coal handling conveyor package for electrical and instrumentation.	Refer EOI document.
45	General	Kindly provide mechanical data sheet for Conv. & Equipments.	Refer NIT Specification
46	General	Brakes required for conveyor should be AC thruster type. Kindly confirm.	Bidder to follow specification.

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47	Section V- Functional Specification – B4 Fuel and ash handling systems. B4.3.1.4 – Screening and crushing equipment Pg: B4-21	Please provide the following parameters to enable us to select the screens proposed in Primary Screening House: 1. Quantity of Screens 2. Feeding arrangement to vibrating screens and its chute/hopper opening dimensions 3. Coal input feed Sieve analysis to Screens 4. Separation size / Cut size 5. Surface Moisture content including total moisture 6. Temperature of material 7. Type of liners 8. Thickness of liner 9. Input feed capacity in TPH	1. Refer the EOI for the quantity. 2. It will be furnished during detailed engineering. 3. Refer the attached coal data. 4. Refer the NIT specification. 5. Refer the attached coal data. 6. Refer the attached coal data. 7. Refer NIT specification. 8. Refer NIT specification. 9. Refer NIT Specification.
48		We request for below details on priority basis • Gypsum silo top level • Bottom Ash Silo top level	Tentative Gypsum Silo height shall be approx. 40 m. Tentative Bottom Ash Silo shall be approx. 50 m
49		Please furnish AutoCAD copy of Plot plan.	Attached along with the queries
50		Please provide Co-Ordinates of all transfer points	Refer the attached plot plan
51		Please furnish Complete finished ground level for CHP Area.	Refer the attached plot plan

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52	Material properties	Please provide the material properties (bulk density, lump size, moisture content etc.) of Limestone and gypsum material for designing the pipe conveyors	CHARACTERISTICS OF LIMESTONE AND GYPSUM: • The bulk density of limestone shall be taken as 1400kg/m³ for volumetric computations and density of limestone shall be taken as 1700kg/m³ for torque and drive requirements. • The bulk density of gypsum shall be taken as 1000 kg/m³ for volumetric computations and density of gypsum shall be taken as 1250kg/m³ for torque and drive requirements. A)Limestone composition: • CaCO₃-95.28 wt% • MgCO₃-0.9 wt% • SiO₂-<1.0 wt% • Moisture-<0.5 wt% • Lump Size:10-120mm • Temperature-31 deg C B)GYPSUM COMPOSITION • CaSO₄.2H₂O -95.00 wt% • Moisture -10.0 wt% • Maximum Temperature:60 deg C • pH: 5 To 8 • Maximum Solid particle size:43 microns • Hardness of particle: 5-7 Mho Scale

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53	The pipe conveyors lines shall be designed to transport from the intermediate silos at the boilers to the large bottom ash and gypsum storage silos at the jetty. Rated capacity of pipe conveyor shall be maximum feeding rate of bottom ash from intermediate silos of both unit simulteneously.	Bottom ash pipe conveyors BAPC-1 & BAPC-2 capacity is 45/50 tph each. If both the conveyor operates simultaneously, then the capacity of receiving pipe conveyor BAPC-3A/B should be 90/100 tph. Please confirm.	Bottom ash pipe conveyors BAPC-1 & BAPC-2 rated/designed capacity is 22.5/25 tph each. The capacity of receiving pipe conveyor BAPC-3A/B should be rated/designed capacity 45/50 tph each.
54	10. Gypsum trough belt conveyor from return side of Pipe conveyor LSPC-1 to bucket elevator including belting 11. Bucket elevator for Gypsum loading from conveyor to Silo near Jetty	We propose direct discharge of gypsum material from Pipe conveyor LSPC-1 to the gypsum silo at the jetty area through a trough belt conveyor. This will avoid the bucket elevator in the system.	Bidders proposal shall be taken up during detailed engineering subject to approval of Customer/Customer's Consultant. However, if bidders proposal is not approved, Bidder shall provide bucket elevator as per specification.
55	The pipe conveyor must be designed and manufactured based on internationally recognized standards.	The pipe conveyor shall be designed and manufactured as per bidder standards	The pipe conveyor must be designed and manufactured as per International standards.
56	Pipe conveyor speed < 1.5 m/s	Pipe conveyor speed shall be selected as per bidder standards	Bidder to follow specification

Project: 2X660 MW MAITREE STPP, BANGLADESH					
SI No	Page No	Clause No	Description	Bidders Query	BHEL Reply
1	B0-88	B0.6.2	Standards and codes	Indian Standards shall also be considered	Specific standards as applicable are mentioned in spec. bidder to follow the same.
2	B4-4	B4.2.2	one (1) slewing and luffing stacker , for longitudinal limestone storages for storing coarse limestone, fully equipped with water spray for dust suppression	Considering the width (30 m) of the Stockpile NON SLEWING LUFFING STACKER is recommended by bidder.	Bidder to follow spec.
3	B4-8	B4.3.1	Blending shall be either achieved on the coal yard itself, if vessels from different location will arrive in a staggered mode. The stacking equipment shall be able to use following stacking methods: Chevron, Strata (preferred) , Windrow, cone shell.	To finalise the Boom Length of the Stacker machine, kindly furnish the NUMBER OF COAL LAYERS (for blending requirement) to be cosidered to form the Stockpile by Strata method of Stacking.	It shall be furnsihed during detail engg.
4	B4-18	B4.3.1.2	The gearbox shall be designed for continuous operating and at least 80000 operating hours.	50000 hours as per Manufacturer Standard	Bidder to follow spec.
5	B4-20	B4.3.1.2	The accuracy of the weighing system shall be within $\pm 0.25\%$ at 20 to 120% of total belt conveyor capacity.	Since the belt weigher is mounted on the Boom of the Stacker Machine, the accuracy shall be +/-1% when boom is in horizontal position.	Bidder to follow spec.
6	B4-24	B4.3.1 .5	The reclaimr shall have in-machine coal hoppers and constant feeders to adjust the discharging coal flow for the coal blending operation.	This arrangement shall not be provided considering the configuration of the Portal Scrapper Machine . Kindly take care of the same in Reclaimer Conveyor Transfer Points.	Bidder may follow their standard design if such arrangement is not at all feasible.Same shall be discussed with FITCHNER during detail engg.
7	B4-24	B4.3.1 .5	manual operation from the operator's cab	E House cum Operator cabin is provided.	bidder to follow spec.
8	B4-24	B4.3.1 .5	These cabins shall be suitably equipped and shall provide an uninterrupted bird 's eye view of the stacking and/or reclaiming operations.	Location of Operator Canbin, 1. In Stacker - Tripper Platform. 2. In Portal Scrapper - Fixed Side of the Machine.	Bidder may follow their standard design meeting specification.Same shall be discussed with FITCHNER during detail engg.
9	B4-25	B4.3.1 .5	Three (3) meters distance shall be provided between the coal piles and foundations of coal yard machines to be provided for the use of bulldozers.	This shall be provided only on one side (between Portal Scrapper & Stacker) and not possible between the Portal Scrapper fixed side & the Reclaim Yard Conveyor.	Agreed. This shall be provided only on any one side .
10	B4-25	B4.3.1 .5	All necessary facilities including foundations and track rails shall be provided and installed.	Supply of Rails, Rail Fixtures Foundation Bolts and any kind of civil work - EXCLUDED FROM bidder SCOPE.	Not acceptable ,Bidder to follow spec.
11	B4-25	B4.3.1 .5	The coai yard machine boom limit shall be 0.3 meters above the ground level of the coal stockpiles. The boom lengths shall be designed to be capable of stacking the coal to the stockpiles.	1. Boom luffing angle shall be within +/-14 deg as specified in Clause No: B4.3.1.2 , Page No: B4-15. 2. To finalise the Boom Length of the Stacker machine, kindly furnish the NUMBER OF COAL LAYERS (for blending requirement) to be cosidered to form the Stockpile by Strata method of Stacking.	1. Bidder to follow spec. 2. No. of layers shall be finalised during detail engg.
12	B4-26	B4.3.1 .5	The discharge chutes shall rotate with the boom and direct material from the boom conveyors into the in-machine hoppers when reclaiming.	Specification is NOT CLEAR. Please clarify the requirement.	Bidder may follow their standard design if such arrangement is not at all feasible.Same shall be discussed with FITCHNER during detail engg.
13	B4-26	B4.3.1 .5	Each reclaimr shall be capable of reclaiming minimum 1200 tonnes per hour.	(Four 4) hrs. average capacity shall be 1200 tph.	Bidder to consider following Capacities for Portal reclaimr m/c. - 1250 MTPH (rated) - 1375 MTPH (design)

SI No	Page No	Clause No	Description	Bidders Query	BHEL Reply
14	B4-26	B4.3.1 .5	The reclaimer frame shall be fitted with dropping stops to limit the drop of a bogie to 20mm in the event of a wheel failure.	Dropping stop gap shall be approx. 25mm.	Not acceptable ,Bidder to follow spec.
15	-	Option - A		WE ARE NOT QUOTING FOR THIS OPTION since, 1. Stock pile hinders the Portal reclaimer Long Travel motion. 2. It is not feasible to provide the support structure for drive & bend sprockets.	its only a refernec sketch ,selection of option is bidder's prerogative , pl. refer the atatched sketch. What we wish to convey was reclaiming yard conveyor inside the travel rails of portal reclaimer. 
16	-	Option - B		We are quoting with this option but kindly note that the location of the bend sprocket shown in your sketch is NOT FEASIBLE, hence DSS nozzles along the stockyard to be removed. 	Its bidder's prerogative, its only pictorial represantation, Bidders bend sproket arrangment shown is accepatble ,but provsion/space shall be kept for installing plain water DS sprinklers