

BHEL-ISG BANGALORE	Enquiry specification for material handling and stores management at NSPCL 1X250 MW TPS, ROURKELA	Specification Number :IS-1-16-2003/015
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## TECHNICAL SPECIFICATIONS & SCOPE OF WORK

Customer : M/s NSPCL-ROURKELA

Project: 1 X 250 MW, PP-II Thermal Power Station at ROURKELA, ODISHA .

Work : Material Handling and stores management at ROURKELA 1x250 MW TPP  
Project Site

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**SECTION -I**  
**GENERAL SITE INFORMATION**

1.0	Owner	M/s NTPC – SAIL Power Company Private Limited (NSPCL)
2.0	Consultant	M/s. MECON-RANCHI
3.0	Project Title	1x 250 MW NSPCL-ROURKELA TPP, PP-II
4.0	Site Location	Rourkela Steel Plant (RSP)-ORISSA NTPC SAIL Power Company Private Ltd., District-Sundargarh, Odisha, India
5.0	Nearest Railway	ROURKELA
6.0	Nearest Airport	RANCHI
7.0	Nearest Highway	NH-23 through a link road from a road junction at Panposh located approx. 10 KM from proposed site.
8.0	Elevation above mean sea level	219m
9.0	Design flood level	69.92 m
10.0	Finished grade level of existing plant	219m
11.0	Site/Climatic conditions Average elevation above mean sea level: 194m 2. Barometric pressure : 983 mb 3. Ambient temperature a. Absolute maximum : 48°C b. Absolute minimum : 6°C 4. Relative humidity (Maximum) : 65 % 5. Annual Average Rainfall : 2656.6 mm 6. Heaviest in 24 Hrs. : 257.8 mm 7. Seismic Zone : Zone-II (As per latest Revision of IS 1893 /2002) Part-I	

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## SECTION-II

### SCOPE OF WORK

**A) Description :-** This scope of work includes receipt ,unloading, loading, verification, stacking, re-stacking, storage ,security & store management of BHEL/ Vendor supplied material including issuance of material to erection agency of BHEL and providing services of office maintenance to BHEL . Material to be handled in this contract are Mechanical & electrical / C&I equipment & accessories, steel structural/ pipe , cable , cable tray, panel , motor etc including office furniture & misc items of CHP &AHP Package .

**B) Time Period :**

01	<b>Time Period of the Contract</b>	<u>24 Months from the date of the Work Order</u>	Period mentioned is tentative and likely to extend / short close.
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**C) Site visit:** The bidder should visit project site and acquire full knowledge & information about the conditions prevailing at site and in & around the plant premises, together with all statutory, obligatory, mandatory requirements of various authorities before submission of offer.

**D) Scope of work:-**

1) **Receipt and Loading /Unloading:-** Materials to be handled under this contract are project material such as mechanical/electrical equipment & accessories including BHEL office furniture & misc equipment used for CHP and AHP Package . For storage of these materials, open store yard, covered and semi-covered store shed will be provided by BHEL. Total weight of material is 7000 MT Approx. It covers following activity.

- 1.1 Receipt ,Unloading , Stacking , Storage of the materials/ equipment received and loading on truck /trailer during issuing the material to vendor/contractor. at site in line with BHEL storage manual and as per the instruction of BHEL site engineer.
- 1.2 Organizing weighing of material and weighing slip, arranging gate pass/permission for the entry/exit inside the project premises.
- 1.3 Loading /unloading of all types of consignment including heavy /Over Dimensional Consignments(ODC), electrical panels, box/ packages/ crates material from Trucks, Trailers, Carriers, Vans.
- 1.4 Stacking and storing of material on RCC sleepers wherever required with proper marking and identification. RCC sleepers required shall be supplied by the bidder.
- 1.5 Verifying the materials as per the packing list, preparing the Material Receipt Certificate (MRC) and issue to vendor through BHEL.
- 1.6 The contractor shall maintain computerized records for receipt of materials, issued to BHEL's vendors and return by BHEL's vendors in BHEL standard format/BHEL computerized system. Monthly report shall be produced by contractor and Suitable soft & hard copy be maintained as a backup.

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1.7 The contractor shall raise insurance claim in case of damage, short supply, theft or any other cause in consultation with BHEL engineers and assist during survey work by the surveyor of insurance company.

1.8 The contractor shall stack the materials as per grid plan of BHEL, maintain proper 'house keeping', maintain and upkeep entire storage area and passage for smooth material handling as per BHEL instructions.

2) **Security:** Deployment of 24 hrs round the clock security personal for safety and security of material. Minimum three guard per shift to be deployed.

3) **Store management :** It covers and includes the following

3.1 Maintenance of the store records like -Day Book Register, Stock Register, Issue Register, Issue pass, MRC as per the approved formats.

3.2 Issuing the materials to BHEL -ISG's various erection agencies, retrieving & shifting/relocation of the stored materials to any other location inside or outside the plant.

3.3 Monthly reconciliation and final Reconciliation of all the received materials and handing over of balance material to the customer/BHEL at the end of the contract.

3.4 Office with necessary equipments like computers, printers, accessories, data entry operator for maintaining the records.

3.5 Organizing necessary tools and tackles, machinery and man power to carry out the loading /unloading, security and storage work.

4. **Providing office maintenance services to BHEL such as**

- Data entry and computer operation (one number)
- Providing office house keeping services etc by (two numbers)

Above is required for miscellaneous service for BHEL's use at site for reconciliation, progress review & day-to-day planning purpose, documentations.

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### SECTION -III

#### TECHNICAL SPECIFICATION

1. Bidder to coordinate with BHEL/ Customer / Transporter to find out the arrival of the consignment and for organizing E-WAY BILL, and receipt of materials lorry way bill/truck way bill receipt for the consignment dispatched for the Project.
2. Bidder shall arrange for crane / hydra and other material handling equipment & material loading/unloading services / materials from trailer / truck etc. Any demurrage charged by road transporter shall be paid and settled by the bidder directly to the respective agency on back-to-back basis. The bidder shall pay all the hire charges directly to the hiring agency whenever any material handling equipment/services is hired.
3. The material shall be received and stacked /stored properly on RCC sleepers of size 150x200x1500 mm as and when it arrives to site. supply of necessary concrete/wooden sleepers is in the Scope of Bidder .Equipment stacked should be kept in such a way that easy accessibility should be there for issuing of materials and taking out from the open yard store /go down / stores. Labeling / tagging the materials / equipment for easy identification shall be done. All the entries/ records should be made in the daybook format issued by BHEL in the Day Book Register as well as in the computer.
4. Bidder shall arrange the weighment of each trailer/truck consignment at the nearest weigh bridge before and after unloading at his own cost. The weigh bridge slip shall be produced along with the RA bill.
5. The bidder shall examine the packages, consignments etc, on arrival and bring to the notice of the transport and BHEL-ISG authority regarding loss/damages, if any observed in the consignment proposed to be taken delivery of, before, taking delivery, particularly of consignments in "smalls" and "loose items" the weight of the packages and any other discrepancies shall be reported immediately to BHEL-ISG/transporter authority. In case it becomes necessary to take open delivery from the authorities, bidder should make all arrangements for taking open delivery. All expenses connected therewith shall be to the account of the bidder. Any loss that occurs to BHEL-ISG on account of this will be recovered from his progress bills.
6. Preparing inspection report for the materials/equipments received. Keeping record of the materials and submit them to BHEL regularly (Weekly & Monthly). Arrange issue of materials to erection agency, handing over of spares and other materials to customer stores. Many time parts required, for more than one assembly might have been packed in one case/box and in such a case, the bidder should take the required part only and then re-pack the case/box properly. The carpenters should do the opening and closing of wooden boxes carefully. The package materials should be provided with the tag and stored carefully as directed by BHEL –ISG engineers.
7. Bidders have to arrange for tarpaulin / Polythene for covering the materials/equipments as suggested by BHEL. Storage place should be kept clean and provide regular maintenance. Adequate quantity of portable fire extinguishers as directed by customer / BHEL should be provided both at open yard and covered storage place. Bidder shall provide concrete/wooden sleepers as suggested by BHEL. Required tarpaulin / Polythene cover, Fire extinguishers, sleepers to be supplied by the bidder.

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8. Bidder shall examine all the shipment and notify BHEL-ISG engineer immediately for the purpose of engineer's information. The bidder shall submit a report every week detailing in this regard.
9. Any discrepancy/shortages/damage found in the consignment after taking delivery from the carriers after giving clear receipt would be the responsibility of the bidder. The amount liable to be lost by BHEL-ISG on such account shall be recoverable from the bidder.
10. Under the scope of this contract, it shall be the responsibility of the Bidder to provide facilities to open the package in the presence of BHEL Engineer, verifying the same, re-packing wherever and whenever required, properly stacking them as may be directed by BHEL-ISG, so as to facilitate proper handling, receipt, position, stock taking etc. The rate quoted by the bidder shall be deemed to have included such provisions.
11. Detailed verification of materials with reference of to packing list / Loading advise slip / etc., after unpacking of boxes & crates; repacking where called for, after detailed verification; preparation of receipt inspection reports etc shall be done within 30 days of the unloading. If the verification is not carried out within 30 days for reasons attributable to the contractor, then BHEL is having right to carry out the verification at the risk and cost of the contractor.
12. The Bidder shall execute the work in the most substantial and workman like manner. The store shall be, handled with care and diligence. Any loss to BHEL due to contractor's lapses shall have to be made good by the contractor. All surplus, damaged, unused materials, package materials/ containers, gunny bags etc. shall be returned to BHEL-ISG.
13. Bidder to store the materials in safe and secured way till handing over to erection agency and up to the completion of the contract. If any pilferage / theft happen, bidder has to report to police and BHEL. Lodging FIR on behalf of BHEL and arrange inspection by concerned officials.
14. Store management should be done diligently and professionally with the basic knowledge for keeping the records up to date. Reports about the receipt of materials/equipments as demanded by BHEL should be submitted.
15. List of stores records to be maintained by the bidder:-
  - i) Day Book Register
  - (ii) Stock Register
  - iii) Issue Register
  - iv) Weekly and Monthly Reconciliation Statement.
16. Bidder shall take note of the type/nature of equipment, volume, weight, to decide the methodology of unloading, type of arrangement required, precautions/care required during unloading/shifting/stacking. Approximately 7000 MTons of materials may have to be stored and single consignment/package may be as heavy as 01 to 25 tons .
17. Bidder should take all necessary care to make safe unloading /shifting/stacking of equipment without damaging it and injury to the working persons and surrounding property. Equipment/Boxes to be lifted, slings should be put at the prescribed locations/lifting lugs.
18. While unloading the material, using crane, hoists bidder shall ensure usage of proper size of clamps/slings/tools/tackles depending upon volume and weight of the item.

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19. Bidder shall give all necessary assistance to BHEL engineer to lodge, settle insurance claim in case equipment/boxes received in damaged conditions and also as per packing list. Comprehensive **Insurance** policy is in BHEL scope.
20. The bidder shall use suitably skilled with desired experience and knowledge for equipment handling. All the local/state/central rules/regulations for engagement of such services are binding on bidder.
21. While working near/under live power line, the bidder shall take all required care for safe working including use of PPEs, If power shut down is essential, proper procedure to be adopted / followed to obtain shut down by Proper authorities in writing and shall ensure such shut down before working. After completion of work, authority to be informed for restoration of power in writing through BHEL.
22. All local safety rules and regulations to carry out work inside / outside plant are to be adhered strictly and binding on the bidder.
23. All necessary required tools and tackles including slings, shackles, crane, trailer, trucks etc. are to be arranged by the bidder.
24. All the lifting tools and tackles shall be tested and should have valid certificate of calibration for prescribed load. At no circumstance under sized / damaged slings, shall be used. Damaged tools shall not be used.
25. Entry to project site shall be with Rourkela gate passes only. The bidder has to arrange and renew the gate passes for their service personnels, vehicles and mobile equipment. Any relevant details/information of worker to obtain such pass to be furnished in advance to BHEL before expiry of gate pass, request to be made for revalidation well in advance.
26. At no circumstances the material received through truck/trailer shall wait and kept pending for unloading. Soon after the receipt of material/arrival of consignment all the necessary arrangement including necessary tools and tackles, manpower, crane, if any to be made ready for unloading. If for any reason the material is not unloaded within the reasonable time. which is on account of bidder's coordination delay etc. any demurrage required to be paid to the transporter shall be recovered from the bidders bills by BHEL.
- 27. Unloading during night if essential to be made with enough illumination in the surrounding area.**
- 28. The contractor shall strictly abide by the state and central laws, statutory rules, regulations etc. as indicated in GCC booklet. In addition, the contractor shall have to comply with the PF/ESI regulations etc. for all his employees/workmen as per the local authorities/Governing bodies instructions. Compliance with statutory obligations as well as any other requirements/provisions with respect to contractor's deployment of service personnels, equipment including insurance, medical facilities, Minimum Wages, safety requirements, accommodations etc., are the responsibility of the contractor.**
29. Bidder shall maintain all statutory requirements like muster roll, wages register etc for the service personnels deployed for providing services as required under this tender Bidder shall monitor their deployment and other duties from time to time.
30. Material taking out of BHEL store/office should have the proper gate pass as described by BHEL. Bidder should ensure the full control of material moving out of BHEL store/office with such authentic document only.
31. Bidder shall receive unused materials for other erection agencies and proper record shall be maintained. All the leftover materials after completion of the project shall be properly packed and shall be loaded in to truck/trolley as directed by BHEL. Bidder shall coordinate with authorities in arranging necessary OUT gate passes for these materials. NO separate payment shall be made against this activity.

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32. All expenses incurred towards liaisoning for obtaining necessary IN/OUT gate passes for the materials and the persons engaged by the bidder for the above job shall be born by the bidder.
33. Weight indicated in shipping list is final for purpose of progressive payment of weight. In case of weight not indicated in the shipping list, then, weigh bridge slip shall be taken as final.
34. For shifting purpose the bidder has to arrange the weighment at the nearest weighbridge.
35. BHEL-ISG reserves the right to recover from the bidder any loss which arises out of undue delay /discrepancy, shortage /damage or any other causes during unloading/stacking/shifting or any time in the custody of bidder.
36. The materials/components at stores shall be handled with care and diligence. Any loss or damage to BHEL-ISG due to contractor's lapses will have to be made good by the bidder. Otherwise BHEL-ISG will arrange for repair/replacement and recover the expenses incurred therein from the bidder's bills.
37. On completion of work, all the temporary buildings, structures, pipelines, cables etc shall be dismantled and leveled and debris shall be removed as per the instruction of BHEL-ISG by the bidder at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the bidder's bills. Decision of BHEL-ISG engineer shall be final in this regard..
38. The bidder is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates , pipes/tubes, cable trays and handrails etc for any temporary work. The bidder shall arrange himself all such materials. In case of such misuse of BHEL's materials, a sum as determined by BHEL engineer will be recovered from bidder's bills. Decision of BHEL-ISG engineer shall be final & binding in this regard.
39. If the bidder or his workmen or employees shall break, deface, injure or destroy any part of a building, road, kerbs .enclosures, water pipes, fencing, cables, drains, electric or telephone posts or wires, trees the bidder shall make good the same at his own expense or in case of default, the site engineer may make good of the same by the other agency or any other means and deduct the expenses from any sums that may be then or at any time thereafter become due to the bidder or from his security deposit or any money due to him. Decision of BHEL-ISG engineer shall be final & binding in this regard.
40. All electrical/ C&I panels, motor bearings, slip rings, commentators and other exposed parts shall be protected against moisture ingress and corrosion during storage and inspected periodically.
41. Bidder to ensure proper cleaning and house maintenance of stores (both covered and open yard) and BHEL office regularly.
42. Bidder shall provide plastic, weatherproof & fireproof covering materials for stacking & storing of materials as required. If Bidder fail to provide as above for a continuous period of 15 days or more, BHEL shall arrange the same. The cost with over head charges @15% will be deducted from Bidder RA bills.
43. Bidder shall provide adequate nos of RCC sleepers of standard size for stacking & storing of materials within the accepted rates. If Bidder fail to provide as above for a continuous period of 15 days or more, BHEL shall arrange the same and the cost with over head @30% will be deducted from Bidder R.A.bill or any other dues.
44. The required number of service personals to be deployed to take care of the scope of work under this contract in addition to proper supervision of the same by competent person. The service personals to be deployed shall process the following minimum qualification

(i)

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Diploma holder with at least 3 years of relevant experience (as detailed) in the next column and as per schedule of deployment.	a. 1 (one) person as site in charge for the overall coordination and monitoring of the activities as per this schedule.
	b. 1 (one) person with material management experience and insurance claim lodging & Settlement experience within 15 days of LOI. This person shall be the 'planning & project coordinator". Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc to bidder own team during the complete execution period of contract. This person shall coordinate for insurance claim lodging and follow up.
	c. 1 (one) person with experience in materials handling/ stacking / verification /etc . within 30 days of LOI to carryout the work promptly
	d. 1 (one) person with experience in computerized material management system and record keeping and updation and reporting within 30 days of LOI.

45. Up-keepment and preservation: For upkeepment and preservation using required tools and tackles, other site expenses and incidentals including consumables/preservatives (for carrying out up-keepment), maintenance and preservation /conservation work as per instruction of BHEL and as per scope given in tender specification.

46. In the event of non deputation of supervisor by Bidder, BHEL shall reserve the right to deduct Rs. 20,000.00 per man-month for the supervisor from the date of deputation as indicated above from RA bills. Further induction of manpower regarding site supervisor & working staff will be decided at site as per requirement.

47. BHEL reserves the right to reject the list of personnel proposed by Bidder based on the criteria as mentioned in the contract.

48. WORK & SAFETY REGULATIONS

(i) Bidder shall ensure the safety of all service personals deployed under this contract, materials and equipment either belonging to him or to others working at site. Bidder shall observe safety rules and codes applied by the BHEL/customer at site without exception.

(ii) Non-conformity of safety rules and safety appliances will be viewed seriously and BHEL has right to impose fines on Bidder on each incident/ each non-conformity as per details given below.

SL NO	Safety measure	Fine (Rs.)
1	Not wearing safety helmet & safety shoe	Will not be permitted to enter the plant.
2	Not wearing safety belt	Will not be permitted to work at heights.
3	Not removing scrap from work place.	Actual cost for removal plus 30%
4	Electrical winches having no guards earthed	500/ case

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	properly etc.	
5	Improper earthing of electrical T&P.	200/ Equipment

#### 49. HEALTH SAFETY & ENVIRONMENT

- (i) Bidder to arrange own staff quarter for their employee .No staff quarter shall be provided by BHEL.
- (ii) No borrow area for earth shall be arranged/ provided by BHEL.

#### 50. OTHER POINTS

- I. The bidder is required to submit with his offer in the relevant schedule/ format without any ambiguity. Any assumptions, presumptions, deviations etc indicated or implied anywhere by the bidder except those indicated in the deviation schedule/ format will not be recognized and will not form a part of consideration/ offer. In the absence of such filled-up schedule/ format it will be understood and agreed that the bidder's offer is based on strict conformance to the specification and no negotiation would be allowed in this regard. BHEL reserve the right not to recognize any/ all deviations submitted after opening of the bid.
- II. All individual site erection, temporary approaches required 'for movement of cranes, trailers, trucks, etc shall be arranged by Bidder at Bidder's own cost. Bidder shall solely be responsible for the safety, quality & quantity of material after it is handed over and issued to Bidder by the BHEL.
- III. Material taking out of BHEL store/office should have the proper gate pass as described by BHEL. Bidder should ensure the full control of material moving out of BHEL store/office with such authentic document only .
- IV. All expenses incurred towards liaisoning for obtaining necessary IN/OUT gate passes for the materials and the persons engaged by the bidder for the above job shall be born by the bidder.
- V. Bidder shall comply with all statutory requirements, applicable for this tender, including PF registration and shall produce requisite documents to BHEL site as & when required by BHEL.
- VI. Bidder shall render necessary assistance to BHEL in lodging insurance claims.

#### 51. **PROCEDURE TO BE ADOPTED BY BIDDER IN CASE OF SHORT/ DAMAGED NONDELIVERED CONSIGNMENTS FOR DESPATCHED BY ROAD**

##### (i) **NON- DELIVERED CONSIGNMENTS PROCEDURE**

- a) Apply for and obtain a certificate of non-delivery from the road carriers.
- b) File a notice of claim on the carriers sending the same to their registered office by registered Post address and forwarding a copy to their delivery office, immediately or within 6 months from the date of Lorry Way Bill.
- c) Following documents should be obtained and submitted to BHEL in charge at site.
- d) Original Non-delivery Certificates.
- e) Copy of claim notice filed on the Carriers.
- f) Postal acknowledgement card or reply received for the claim notice.
- g) If the package originally non-delivered is traced and offered or delivery at a later date Apply for obtaining open delivery in respect of the same before clearance.

##### (ii) **SHORT DELIVERY (NON-DELIVERY OF A FEW PACKAGES IN CONSIGNMENT) PROCEDURE**

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- a) Obtain a certificate of short delivery from the road carriers.
- b) File a notice of claim on the carriers sending the same to their registered office by Registered Post with AD and forwarding a copy to their delivery office immediately or Within 6months from the date of Lorry Way Bill.
- c) Documents to be submitted to BHEL site engineer.
- d) Original short delivery certificate.
- e) Copy of claim notice filed on the carriers.
- f) Postal acknowledgement or reply received, for the claim notice.
- g) If the package originally short delivered is traced out and offered for delivery at a later date, apply for & obtain open delivery in respect of the same before clearance.

**(iii) SHORT/ DAMAGE IN PACKAGES DELIVERED FROM THE ROAD CARRIERS**

- a) Apply for and obtain open delivery from the road carriers.
- b) If boxes are found opened, delivery is refused.
- c) Arrange for survey at the carrier's godown by a licensed insurance surveyor after giving notice in writing.
- d) Take delivery under protest in writing against acknowledgement or by Registered Post with AD.
- e) Make necessary endorsement regarding the loss/ damage on the reverse of the consignee copy of the lorry way bills before surrendering it to the carriers.
- f) File a notice of claim on the carriers sending the same to their registered office by Registered Post with AD and forwarding a copy to the delivery office immediately or within 6 months from the date of lorry way bill.
- g) Documents to be submitted to BHEL site in charge :
  - Claim form.
  - Insurance policy/ certificate in Original (If specific document is issued).
  - Original open delivery certificate and report of Insurance survey if any conducted to the final destination.

**(iv) Following additional documents required in the event of refusal of open delivery by carriers.**

- a) Copy of notice given to the carriers advising about the survey at their godown before clearance.
- b) Survey report of the licensed insurance surveyor with the bill/ receipt for payment of Survey fee and expenses.
- c) Copy of letter of protest extended to the carriers with the postal acknowledgement received thereto.
- d) Photocopy of the lorry waybill with the endorsement of the discrepancies made thereon.

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SECTION –IV

List of Man and Machinery

Sl No	Description	Qty	Tentative Deployment schedule
<b>A</b>	<b>Machinery</b>		
1	10/12/14/18 T pick & carry tyre mounted mobile crane /hydra .	2	As per requirement
2	High capacity crane (more than 18 tons capacity)	1	As per requirement for an aggregate of 30 days which will be operated as per rate schedule.
3	Tractor/trollies.	As per requirement	As per Requirement
4	Winches.	As per Requirement	As per Requirement
5	D-shackles.	4	Do
6	Slings.	4	Do
7	Max puller.	4	Do
8	Pulleve blocks.	4	Do
	Jacks.	4	Do
<b>B</b>	<b>Service personals</b>		
1	Store Management which involves supervision comprising of material management, insurance claim, material handling/stacking/verification, computerized material management, record keeping and updation etc	4	This rate shall be included in SI No 4b of BOQ/price format
2	Loading /unloading team		
a	with special skill, knowledge, and ability in loading and unloading of material	3	This rate shall be included in SI No 1 of BOQ/price format
b	With limited skill set for loading and unloading material	6	This rate shall be included in SI No 1 of BOQ/price format
3	<u>Security services</u>	<u>9</u>	<u>3 person per shift . This rate shall be included in the SI No.3 of BOQ/price format</u>
4	To BHEL for office work,	3	This rate shall be included in the SI no 5 of

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	reconciliation, progress review & documentations		BOQ/price format
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**Note:**

The above list is not exhaustive but indicative only. Any other tools, plants, machinery, equipment, manpower etc required to complete the work must be arranged by the bidder at his own cost and must be made available at site

SECTION-V: ENCLOSURES

- a) Plot plan
- b) Vol-I- EPC Specification
- c) Coal flow diagram
- d) DBR for CHP
- e) Flow diagram for AHP
- f) DBR for AHP