

### **Expression of Interest (EOI)**

Mahanadi Coalfields Limited (MCL), a subsidiary of Coal India Limited (CIL). MCL intends to invite Expression of Interest (EOI) for the following work through e-procurement portal of CIL (<https://coalindiatenders.nic.in>) details as under:

<b>Description of work</b>	<b>Location</b>
INVITATION FOR EXPRESSION OF INTEREST FOR EXECUTION OF THE FOLLOWING WORKS ON OPEX (OPERATIONAL EXPENDITURE) MODE:  (I) INPUT FEEDING OF COAL (25MTY) INTO TRANSFER HOUSES TH-1 AND TH-2 OF CHP UNDER CONSTRUCTION AT BHUBANESWARI OCP. (II) EVACUATION OF 15MTY COAL FROM TH-7 & TH-8 OF CHP UNDER CONSTRUCTION AT BHUBANESWARI OCP THROUGH PRE-WEIGH TRUCK LOADING SYSTEM(3MTY) AND RAPID TRAIN LOADING SYSTEM (12MTY) AT SIDING V AND VI OF ANANTA OCP, JAGANNATH AREA.	BHUBANESWARI OCP, JAGANNATH AREA, TALCHER COALFIELDS OF MCL

The brief details are available on the e-Procurement portal of CIL (<https://coalindiatenders.nic.in>) with effect from Dt.08.01.2020 (10:00 A.M)

The information shall also be available on Central Public Procurement Portal (<https://eprocure.gov.in>)

MCL intends to invite feedback/suggestion from the prospective bidders on the subject work. Following is the Time Schedule of EOI:

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Time</b>
a.	EOI e-Publication date	08.01.2020	10:00 A.M
b.	Document download start date	08.01.2020	10:00 A.M
c.	Document download end date	29.01.2020	05:00 P.M
d.	Suggestion/Feedback submission start date	20.01.2020	10:00 A.M
e.	Suggestion/Feedback submission end date	29.01.2020	05:00 P.M
f.	Start date for seeking Clarification on-line	08.01.2020	10:00 A.M
g.	Last date for seeking Clarification on-line	23.01.2020	05:00 P.M
h.	Date of Introductory Meeting at the office of G.M.(Jagannath Area), MCL	16.01.2020	11:00 A.M
i.	Bid Opening date	31.01.2020	11:00 A.M
j.	Demonstration by prospective bidders at MCL HQ	12.02.2020	11:30 A.M

The dates indicated for different activities like document download, Bid submission start/End date, bid opening dates are only indicative to fulfill the tender portal requirements and not for bidding. However, the prospective bidders can upload their feedback/suggestions online with their DSC on the e-Procurement portal of CIL (<https://coalindiatenders.nic.in>) after getting themselves registered/enrolled on the portal from Dt.20.01.2020 (10.00 A.M) up to Dt.29.01.2020(5.00P.M). Further, the prospective bidders may also email their feedback/suggestions to [gm-enm.mcl@coalindia.in](mailto:gm-enm.mcl@coalindia.in)

An introductory meeting with the prospective bidders followed by site visit is scheduled to be held on Dt.16.01.2020 & Dt.17.01.2020 (11.00 A.M) in the office of the General Manager, Jagannath Area, MCL, Talcher, Dist-Angul, Odisha, wherein the detail discussions will be held regarding the proposed system. Further, prospective bidders have to give their demonstration on Dt.12.02.2020(11:30A.M) in the D.T's Conference Hall of MCL HQ, Jagruti Vihar, Burla, Sambalpur, Odisha-768020.

Prospective bidders are requested to depute their authorized representatives (who are competent to discuss on the technical specification and other terms & conditions) on the scheduled date & time. All prospective Bidders are advised to make a field visit of the Bhubaneswari OCP of Jagannath Area located in Talcher Coalfields of MCL before submission of suggestions/feedback on the EOI. They may contact G.M.(Jagannath Area), MCL for any further field related data/clarifications.

The feedback/suggestions received from prospective bidders will be deliberated and suggestions acceptable to MCL may be incorporated in the final NIT.

**Note:**

Submission of feedback/suggestions or attending the meeting is not mandatory for participation in the bidding process. However, this is to facilitate the deliberations for the preparation of tender document.

**Sd/-**

General Manager(E&M)/HOD,  
(Sri.B.C.Mishra),  
Ph.No.: 0663-2542973  
e-Mail: [gm-enm.mcl@coalindia.in](mailto:gm-enm.mcl@coalindia.in)

**Distribution:**

1. TS to CMD/TS to D(T/OP)/TS to D(T/P&P)/TS to D(F)/TS to D(P), MCL
2. GM(E&M)/HODs of CIL HQ/CCL/ECL/BCCL/NCL/SECL/WCL/CMPDI by e-Mail.
3. All CGMs/GMs – Jagannath, Bharatpur, Lingaraj, Hingula, Kaniha, Talcher, Ib-Valley, Lakhanpur, Basundhara, Orient, Subhadra, Mahalaxmi Areas of MCL- For display on Notice Board
4. G.M.(Civil)/HOD, GM(Fin/C&B), Dy.GM(Min/HOD), Innovation Cell, MCL HQ, G.M.(Jagannath Area), MCL
5. GM(System)/HOD, MCL HQ - For publication of EOI in MCL website
6. GM(P&P), G.M.(CMC), MCL HQ
7. Chamber of Commerce at Bhubaneswar by e-Mail (Indian Chamber of Commerce, Utkal Chamber of Commerce & Industry Ltd., ASSOCHAM & FICCI)
8. Notice Board

## **INVITATION FOR EXPRESSION OF INTEREST FOR EXECUTION OF THE FOLLOWING WORKS ON OPEX MODE:**

**(I) INPUT FEEDING OF COAL (25MTY) INTO TRANSFER HOUSES TH-1 & TH-2 OF CHP UNDER CONSTRUCTION AT BHUBANESWARI OCP.**

**(II) EVACUATION OF 15MTY COAL FROM TH-7 & TH-8 OF CHP UNDER CONSTRUCTION AT BHUBANESWARI OCP THROUGH PRE-WEIGH TRUCK LOADING SYSTEM(3MTY) AND RAPID TRAIN LOADING SYSTEM (12MTY) AT SIDING V AND VI OF ANANTA OCP, JAGANNATH AREA.**

### **Need for the Expression of Interest (EOI):**

Bhubaneswari OCP is one of the highest coal producing mine of MCL located in Angul district of the state of Odisha. It is an open surface mine having annual capacity of 28 MT; with a future plan of expansion up to 40 MTY.

Presently CHP with SILO loading arrangement is under construction which can handle 25 MTY coal wherein the coal receiving arrangement is through Transfer Houses at a height of about 25mtrs from ground level. The input coal feeding arrangement from mine upto the transfer houses is not included in the scope of the CHP under construction.

Further although the CHP under construction is designed to handle 25 MTY coal, there is a provision of only evacuation of 10MTY through SILO near spur siding III & IV of Jagannath Area. The evacuation facilities for remaining 15MTY of coal is not included in the scope of the CHP under construction.

The construction of CHP with SILO loading arrangement is expected to be completed by December-2020. Therefore the input coal feeding arrangement (25Mty) up to the Transfer Houses TH-1 & TH-2 of CHP under construction and evacuation of 15MTY coal through Pre-weigh Truck Loading System(3Mty) and Rapid Train loading System(12Mty) at Siding V and VI of Jagannath Area is to be taken up urgently for synchronization with the construction of CHP.

In this context, MCL invites EOI for seeking innovative solutions/technology from industry experts having expertise in bulk material handling and experienced equipment manufacturers for taking up the subject job on OPEX Mode.

### **1. GENERAL DESCRIPTION/INTRODUCTION**

Bhubaneswari OCP is one of the highest coal producing mine of MCL located in Angul district of the state of Odisha. It is an open surface mine having annual capacity of 28 MT; with a future plan of expansion up to 40 MTY. The coal meets the energy requirement of many industries who by means of mechanized transportation receive the coal at train and truck terminals (currently through pay loaders). In pursuance of a more efficient, effective and eco-friendly coal evacuation arrangement, a SILO/Belt/Pipe conveyor system is under construction; whereas the transportation is currently being done by trucks/tippers. Additionally, this is also a policy directive under "FIRST MILE CONNECTIVITY" with due consideration of environmental compliances.

Drawing-1 may be referred, wherein; the current system (under construction) is designed for 25 MT annual capacity, of which 10 MTY is to be dispatched vide spur siding III and IV through a 4000T capacity SILO arrangement fed through pipe conveyor (via Transfer Houses TH-5 and then TH-6) from Ground Bunker- 1 having capacity of 15000 T (fed by conveyor C1 from Transfer Houses TH-1 and TH-2). The remaining 15MTY has to be dispatched to miscellaneous customers (12 MTY via Rapid Train loading system and 3 MTY via a Pre-weigh Truck loading system) via TH-7 and TH-8 from Ground Bunker-2 having capacity of 15000T (fed by conveyor C1A from TH-3 and TH-4). The SILO/Belt/Pipe Conveyor arrangement under construction is expected to be completed by December'2020.

Considering the scheduled completion of the intermediate coal handling system comprising of ground bunkers, pipe conveyors and SILO for 10 MTY, Coal feeding arrangement of 25MTY to the Transfer Houses TH-1 and TH-2 and evacuation of 15Mty Coal (12Mty via Rapid Train loading system and 3Mty via a Pre-weigh Truck loading system) from Transfer Houses TH-7 & TH-8 of the CHP under construction at Bhubaneswari OCP needs to be carried out in a fast-track mode.

Therefore, this document has been prepared to seek innovative solutions from industry experts having expertise in bulk material handling and experienced equipment manufacturers for integrating a Coal Input/Feeding arrangement to Transfer Houses TH-1 and TH-2 with the existing system along with arrangement to evacuate 15 MTY from Transfer Houses TH-7 and TH-8 via a Rapid Train Loading System and a Pre-weigh Truck Loading System for 12 MT and 3 MT respectively. There is no bar in exploring any technology/system that shall be required to achieve the objectives. However, it must conform to all the design requirements and regulatory norms especially environmental compliances. Technical solution may be provided so as to complete construction & commissioning of proposed system within shortest possible time in order to synchronize with the completion of the CHP under construction.

Interested parties shall be given a detailed presentation of the requirement along with site visit for comprehensive aspects of the issues and concerns associated with execution of the system.

**Siding V & VI of Jagannath Area:** This siding is situated near Ananta OCP in Jagannath Area connected to Talcher Railway line. Tentative dispatch of coal will be 12 Million Tonne per year through Rapid Train Loading System. Minimum quantity of coal to be offered for the proposed system will be 25MT per year @ around 10 rakes per day and maximum it may go up to 12 to 15 rakes per day.

Presently, Siding V &VI of Jagannath Area is having facility for loading of (-) 100mm sized coal to rail wagons by use of pay loaders.

## 2. OBJECTIVE

The objective of this EoI is to explore the State of Art Technology, market and prospective bidders for adoption of complete Pre-weigh Truck Loading System & Rapid Train Loading System with an effective and eco-friendly manner. There are 3 objectives of this exercise:

- I. It seeks advice/ideation/consultancy for transportation of sized coal (-)100 mm from mine pit/stockyard to Transfer Houses TH-1 and TH-2 of the CHP with SILO/Belt Conveyor System (currently under construction) via a mechanized system with due consideration of environmental compliance requirements (troughed conveyor system or similar arrangement) at a gross normative rate of 6000TPH to meet the annual evacuation of 25 MT.
- II. Out of the 25 MTY coal received at TH-1 and TH-2, 15 MT from Ground Bunker-2 has to be evacuated via linkages from TH-7 and TH-8 (12MTY via a Pre-weighed train load out system at spur sidings V & VI and 3MTY via Pre-weighed truck loading system).
- III. The entire processes explained in I and II above shall be undertaken in **OPEX (Operational Expenditure)** model by a **Service Provider** wherein; MCL shall pay '**Per Tonne Cost of Operation**' of the system to the awarded service provider on a pre-decided long term basis. The technology and corresponding cost of operation will be decided by MCL through competitive bidding.

## 3. RELATIVE POSITION OF EXISTING KEY LOCATIONS/TERMINALS

### a. Transfer House 1, 2, 3 and 4

Transfer House (TH) 1, 2, 3, 4, 7 and 8 are the cluster of coal receiving and onward dispatch points of the entire proposed system. THs 1, 2, 3 and 4 will facilitate coal transfer to Ground Bunkers- 1 and 2 via conveyor lines C1 and C1A. There is linkage between TH-1 and TH-3 via conveyor line L1 and also between TH-2 and TH-4 via conveyor line L2. These linkages are provision to switch the coal feeding between Ground Bunkers-1 and 2. The coal will be received in these **Transfer Houses** by the system installed by service provider. Coal thus received is transferred onwards to Ground Bunkers- 1 and 2. The integration of coal feeding system with the TH-1, 2 will be included in the scope of the work.

### b. Ground Bunkers- 1 and 2

There are two ground bunkers having capacity of 15000 Tonne each. Both GB-1 and GB-2 receive coal from TH-2 and TH-4. These bunkers will act as storage and the coal received will be transported to TH-5 from GB-1 and to TH-7 and 8 from GB-2. This is not in the scope of the proposal.

### **c. Transfer House 5 and 6**

TH-5 will receive coal from GB-1 and will facilitate onward transportation of 10 MTY coal to SILO via TH-6 and pipe conveyor under construction. This is not in the scope of this proposal.

### **d. Transfer House 7 and 8**

TH-7 and TH-8 will receive coal from GB-2 via conveyor line C3 and C4, respectively, for onward transportation. Either transfer houses shall be dedicated for 3 MTY (for Pre-weigh Truck loading system) and 12 MTY (for Rapid Train loading system). The truck loading system, the train loading system and the integration with TH-7 and TH-8 will be included in the scope of this proposal.

### **e. The Pipe Conveyor Line for 10 MTY**

The pipe conveyor line for 10 MT will receive coal from GB-1 via TH-5 and TH-6 and terminate at SILO under construction (length of approximately 2.2 KM) at spur siding III and IV. This is not in the scope of this proposal.

### **f. The SILO Loading Arrangement for 10 MTY**

The SILO under construction at spur siding III and IV is having a capacity of 10MTY dispatch with storage capacity of 4000T. This is not in scope of proposal.

### **g. Miscellaneous**

As shown in plan layout, the auxiliary structures are located schematically near the major structures viz. drive house, substation, offices, control room, approach, pump houses, etc. The system under construction includes arrangement for dust suppression, power line provision and associated systems required for smooth functioning of the coal transportation cum loading system. This is not in the scope of proposal.

## **4. DRAWINGS (ILLUSTRATIVE ONLY)**

- **Drawing-1:** Coal flow diagram with feeding and loading terminals.
- **Drawing-2:** Plant layout of CHP under construction
- **Drawing-3:** Layout of the coal receiving/feeding and distribution Complex

## **5. SCOPE**

The scope of work shall include:

### **I. Design and Engineering**

The service provider shall design and undertake associated engineering analysis of the entire system covered under objectives stated in section-2. The design shall be approved and vetted by competent authority of MCL. The indicative requirements are described in section-6. The specifications are indicative and are for illustrative purposes only. Detailed technical specification shall be subsequently provided by MCL.

## **II. Procurement and Installation**

The equipment, manpower, structural construction and any other activity required for successful execution of the project shall be the responsibility of service provider after site handover.

## **III. Commissioning and Operation**

The service provider shall undertake commissioning of the entire system and operate the entire system for a pre-decided time period along with its annual maintenance.

## **IV. Miscellaneous**

The design, engineering, procurement, installation, commissioning and operation shall require multiple regulatory (DGMS, CEAR, legal metrology, railway, environment, labour laws and any other statutory requirement as per law of land), quality (ISO, OHSAS, etc.) and commercial (rake loading time, system availability, etc.) compliances. The service provider shall be responsible for the same including obtaining, renewal, timely inspection and any other associated activity required for smooth operation of the entire system.

## **6. INDICATIVE REQUIREMENT WITH SPECIFICATIONS**

The requirements listed below are indicative and are meant for illustration only. The parameters are tentative.

### **a. Coal Feeding Arrangement**

- 25 MTY from mine pit/stockyard(s) to TH- 1 and 2. The exact location shall be decided by MCL management after due consideration of design proposals of all tentative locations.
- Gross Handling Rate (in single or multiple arrangement) : 6000 TPH
- Technology – Not limited to barrel/bucket/drum/plough re-claimers, truck-receiving hoppers, belt conveyors, etc. subject to environment compliances, design suitability and objective fulfilment.
- Minimum Availability – 7 hours per shift
- Gross height (from pit base to TH-1&2) : (100m to surface and additional 30 m structural height)
- Structural dimension of Transfer House: Diagram-2 may be referred
- Stockyard(s) size and location: East of Ground Bunkers : (200 m × 100 m)
- North of 33 KV electrical substation : (250 m × 250 m)
- Multiple elevations and terrain in course of coal carrying via conveyor or other similar arrangement.
- Intertwined roads on which existing coal transportation is being done including Coal Corridor and internal transportation. The arrangement shall be designed with due consideration of the same for minimum delay during shifting/diversion or any other modification to accommodate the proposed system.

**b. Coal**

- Type of Coal : Bituminous, non-coking
- Ash Content : 22.9–48.2 %
- Inherent Moisture : ~ 8%
- Abrasiveness : Slightly abrasive
- Lump Size : (-)100 mm (Maximum)
- Surface Moisture : Rain/Dust Suppression/Seasons
- Specific Gravity : 1.65 (in situ)
- Bulk Density (t/m<sup>3</sup>) : 0.8 for volumetric calculations
- Grade/Quality : G-12/G-13

**c. Coal Loading Arrangement (Truck for 3 MTY)**

- Capacity of system : 10000 TPD (3 MTY)
- Location : Linkage from TH-7/8 via a suitable arrangement
- Weighing system : 02 nos. of pre-weigh surge bin 150T each
- Target load accuracy : +/- 0.5%
- Weighing Accuracy : +/- 0.05%
- Pre-weigh hopper : 01 for each surge bin with capacity of 40 T each
- Loading system : Telescopic chute at 350–400 TPH from each hopper
- Operation : Pre-casted cabin for operator with PLC system

**d. Coal Loading Arrangement (Train for 12 MTY)**

- Loading System : Train load out system
- Rail : On existing otherwise modification required
- Location : Near spur siding V and VI of Ananta OCP
- Capacity/loading rate : 4000T with loading rate of 5000–6000 TPH
- Weighing system : Pre-weigh system
- Wagon loading gates : 02 nos. (over 2 tracks each)
- Loading gate : Electro-mechanical/hydraulic telescopic chute
- Hauling of rake (loco) : Electric/Diesel (Creep speed as per requirement)
- Loading time : 1 min/wagon
- Rake size : 58 Box N/Equivalent Wagons
- Coal Receipt : From TH-7&8 via conveyor or similar arrangement

**e. Mode of Operation:** The project will be undertaken in OPEX Mode, in which the bidder has to set-up complete Truck Loading System (3Mty) and Rapid Train loading system (12Mty) & Input Coal feeding arrangement (25Mty) to Transfer Houses TH-1 & TH-2 of the CHP under construction with their own capital investment and has to operate & maintain the system for which payment will be made by MCL for the quantity of coal dispatched through the proposed system on per Tonne basis.

**f. Coal receiving terminal:** The ROM or (-)100 mm sized coal of different grades from Bhubaneswari OCP will be supplied by MCL to the proposed system. The same will be considered as raw coal supply to the executing agency or contractor. However, Monthly Scheduled Quantity (MSQ) will be determined at the beginning of each year and receipt the same by executing agency or contractor. The size of coal supply will be (-)100mm with occasional oversized lumps.



- g. Coal processing/sizing:** MCL will provide mostly (-)100mm sized coal but the system shall have in built facility to re-screening and over size crushing of complete coal.
- h. Miscellaneous:** Auxiliary arrangement like Power supply, sub-station, dust suppression, Illumination, Communication, fire fighting & plant cleaning system etc. will be in the scope of proposed system.

### **7. Safeguards to be ensured by executing agency**

- The successful bidder or contractor shall take all necessary measures to operate the system throughout the year including rainy season.
- The proposed system shall have accurate pre-weigh loading system in compliance with under loading/overloading norms of Indian Railways. Any penalty charged by Indian Railways on account of over loading or under loading, will be borne by the executing agency or contractor.
- The system should be in compliance with the regulations of state electricity board, Indian Railways and any other Govt. agency.
- The technology selected should be environment friendly in all respect along with zero effluent discharge from the system.
- The executing agency or contractor should provide sufficient, suitable, reliable and adequate arrangements for prevention of fire/spontaneous heating for the coal at their disposal. The complete system should have adequate fire fighting system having fire fighting hydrant points at strategic locations as per prevalent norms. In addition to this, fire extinguishers of different types suitable for industrial use shall be provided at all the required vulnerable locations.
- All allied facilities such as stores, workshop, etc shall be considered for establishment as per requirement.
- The design of the system will be such that it can be operated 24 hours a day and 365 days a year. The surroundings may be quite dusty and surface temperature may vary from 4<sup>0</sup>C to 50<sup>0</sup>C.

## **8. MCL Scope:**

- Assured quantity of raw coal of ROM size or (-)100mm size from Bhubaneswari OCP will be provided by MCL.
- Indenting of railway wagons shall be the responsibility of the MCL for onward dispatch of products to the customers of MCL. Indenting shall be done in consultation with executing agency or contractor.
- MCL will provide electric power at the site (at one point) on chargeable basis as per prevailing rates of State Electricity Board (SEB). The quantity will be monitored with energy meters on primary side of the firm's circuit. Internal power distribution within the plant is the responsibility of successful bidder.
- Water, if required will be made available by MCL at single point on payment basis at mutually agreed rate.

## **9. The interested experienced agencies, those are willing to take-up this project on OPEX mode are requested to submit the following details:**

- i) The Technical details for feeding of coal to the Transfer Houses TH-1 & TH-2 of the CHP under Construction and Pre-weigh Truck Loading System & Rapid Loading Systems or any other high speed Train loading system for faster evacuation of coal/any other minerals, installed/ongoing projects undertaken by them in India and abroad with their performance.
- ii) Technical parameters and flow process for proposed Input Coal feeding arrangement, Pre-Weigh Truck Loading System and Rapid Train Loading Systems or any other high speed Train loading system for faster evacuation of coal along with coal receiving, conveying and loading.
- iii) Capital requirements for establishing the complete Input Coal feeding arrangement, Pre-Weigh Truck Loading System and Rapid Train Loading system along with coal receiving, conveying and loading.
- iv) Tentative cost per tonne of coal dispatch for the proposed system with detailed cost estimate and price revisions for future payments.
- v) Time required for complete installation and functioning of the system.
- vi) Area of land required along with layout for proposed system.
- vii) Electrical power requirements for operation of the entire system.
- viii) Any other infrastructure facilities required for installation and operation of entire system.
- ix) Any other relevant data/information deemed fit.

## **10. Submission of EOI:**

- i) Feedback/Suggestions on the EOI should reach the Office of General Manager(E&M), Mahanadi Coalfields Limited, Sambalpur, Burla, Odisha-768020 by 05:00 PM on Dt.11.02.2020 with necessary supporting relevant documents and credentials. The details of contact person, address of correspondence, phone details and email id is also to be furnished along with the EOI documents.
- ii) Feedback/Suggestions on the EOI may be submitted either in person or through post; any other mode (e-Mail, e-portal) shall also be accepted.
- iii) Interested agencies are requested to display visual presentation of their proposed system on 12.02.2020 (11.30 A.M) at D.T. conference hall 1<sup>st</sup> floor, MCL HQ.
- iv) In case of any clarification, the interested agencies may contact following officials on behalf of MCL.
  - Sri. S.K.Shukla, G.M.(E&M), MCL HQ (Ph.No.9438494451)
  - Shri. A.K.Pandey, Dy.GM/HOD(Innovation Cell), MCL HQ (Ph.No.9438493466)
  - Shri. S.K.Mohanty, Chief Manager(E&M), Jagannath Area, MCL (Ph.No.9438493625)

## **11. DISCLAIMER:**

All information contained in this, Expression of Interest (EOI) subsequently provided/clarified are in good interest and faith. This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party. Each bidder/contractor should conduct its own investigation and analysis & should check the accuracy, reliability and completeness of the information in this Expression of Interest.

Interested parties should make their own independent investigation to enter into an agreement of any kind with any party.

**Sd/-**  
General Manager(E&M)/HOD,  
Mahanadi Coalfields Limited,  
Sambalpur