



**NATIONAL PRODUCTIVITY COUNCIL,
REGIONAL DIRECTORATE BHUBANESWAR
A/7, SURYA NAGAR, BHUBANESWAR-751003**
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Tender Advt No: BBSR / 22-23/17

Date: 15/02/2023

TENDER ADVERTISEMENT

INVITING PROPOSALS

FOR

**INSTRUMENTATION & SUPPORT SERVICES FOR CONDUCTING ENERGY
AUDIT**

AT

IRON ORE, CHROMITE & BAUXITE MINES LOCATED IN ODISHA

Published Date	February 15, 2023
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SECTION - I

1. INTRODUCTION

National Productivity Council (NPC) is national level organization to promote productivity culture in India. Established by the Ministry of Industry, Government of India in 1958, it is an autonomous, multipartite, non-profit organization with equal representation from employers' & workers' organizations and Government, apart from technical & professional institutions and other interests. NPC is a constituent of the Tokyo-based Asian Productivity Organization (APO), an Inter-Governmental Body, of which the Government of India is one of the founder members.

NPC teams up with its clients to work out solutions towards accelerating productivity, enhancing competitiveness, increasing profits, augmenting safety, and reliability, and ensuring better quality. It provides reliable database for decision-making, improved systems and procedures, work culture as well as customer satisfaction both internal & external. The solutions can be all-encompassing or specific depending on the nature of the problem. Promotional and catalytic in nature, NPC's services have bearings on economic growth and quality of life. The Council promotes a comprehensive view of productivity focused on improving triple bottom line – economic, environmental, and social and adds value for all the stakeholders through generation & application of advanced knowledge for inclusive Growth. For further details, please visit our website: www.npcindia.gov.in

Energy Management (EM) Division of NPC offers Consultancy / Training services since 1964. NPC has core strength of 30 EM professionals which include about 20 BEE certified Energy Auditors. The areas of expert services of this division are enlisted below:

- Energy Management and Audit in All Types of Industries, Commercial Buildings & Establishment, Power-Generating Plants, Distribution System.
- Demand Side Management Potential with Focus on The Industrial Sector.
- To Strengthen Policy Aspects and Increase Public Awareness of Energy Conservation Issues Through Modular Training Programmes for Senior, Middle and Shop Floor Level Executives.
- Technological Up-gradation and Resource Conservation in SME's Through Cluster Approach.
- Providing Technical Expertise Services to APO Member Countries in Energy Efficiency.
- Providing Hands on Training at Centre Excellence for Training in Energy Efficiency and Indo-Japan Project on Regional Energy Efficiency Centre at Dr. Ambedkar Institute Of Productivity, Chennai, Sponsored By DIPP, With Support From BEE & NEDO, Japan.
- NPC Has Been Conducting the Prestigious National Certification Examination for Energy Managers and Energy Auditors on Behalf of The Bureau of Energy Efficiency (BEE), Ministry Of Power, India, Since 2004.

2. SCOPE OF WORK : ENERGY AUDIT AT MINES (IRON ORE, CHROMITE & BAUXITE)

The primary objective of Energy Audit at Mines will be to determine ways to reduce Energy consumptions per metric ton of ore transported from mines. Audit team will study the complete electrical, thermal & material conveying system of mines & then identify the steps to be taken to reduce the use of energy and draw up proposals for the financially viable projects aimed at reduction of energy consumption at Mines. Scope of work also includes monitoring of active & reactive load curves at the incomers and recommendation of techniques aimed at improving the power load factor.

Reduction of losses in electrical equipment's like motors, transformer, overhead lines, distribution system, lighting etc. will be in the scope of the Audit team. Also, apart from electrical energy, performance of equipment's using fuel (Diesel) for electricity generation or for material transportation will be studied for accounting of total energy use.

Final recommendations will include economically viable short terms & long terms projects to be implemented for improving the specific energy consumption figure at Mines.

3 BROAD AREA OF COVERAGE FOR ENERGY AUDIT AT MINES

1. STUDY OF CRUSHING AND CONVEYING SYSTEM

1. Specific Crusher Consumption & Conveyor consumption
2. Loading of Crusher & Conveyors
3. Optimization of Belt Loading
4. Compressed Air System performance
- 5.

2. STUDY OF WATER PUMPING SYSTEM

1. Study of Water network
2. Water consumption quantity and optimization
3. Pump Performance
4. Water Balance of entire mine

3. STUDY OF LIGHTING SYSTEM OF MINES WHICH SHOULD INCLUDE

1. Standard lighting Level with respect to actual requirement
2. Optimizations of lighting in office buildings, roads, shop floor, conveyor corridor lights, security related lights.
3. Cost benefits
4. Efficiency of lighting fixtures
5. Maintenance Techniques
6. Lighting control

4. STUDY OF POWER SUPPLY SCHEME AT MINES & RECOMMENDATIONS FOR OPTIMIZATION OF POWER SUPPLY USE

1. Power factor
2. Distribution loss
3. Transformer loss

5. STUDY OF DIESEL GENERATORS,

1. Estimation for specific fuel consumption of DG Sets,
2. Estimation of load unbalance of DG sets.

6. STUDY OF ELECTRIC MOTOR, DRIVE SYSTEM & TRANSFORMER WHICH SHOULD INCLUDE:

1. Motor selection & sizing

2. Motor controller & its efficiency
3. Power analysis of critical motors/Feeders
4. Maintenance technique
5. Harmonic Analysis

7. OTHER AREAS

1. Energy accounting for earth mover equipment's.
2. Performance analysis of installed renewable energy systems.
3. Scope identification for renewable energy integration.

8. RECOMMENDATION SHOULD INCLUDE

1. Short term recommendations with details of execution method
2. Long term recommendations with details of execution method

4. ESTIMATED COST & COMPLETION OF WORK

SN	Name of Mine	District	Estimated Cost of Project in (Rs)	Estimated No. of Field days for measurement
1	Iron Ore Mine (A)	Keonjhar	52000.00	5
2	Iron Ore Mine (B)	Keonjhar	52000.00	5
3	Iron Ore Mine (C)	Keonjhar	41000.00	4
4	Iron Ore Mine (D)	Keonjhar	41000.00	4
5	Iron Ore Mine (E)	Keonjhar	41000.00	4
6	Iron Ore Mine (F)	Keonjhar	82000.00	8
7	Iron Ore Mine (G)	Sundargarh	60000.00	6
8	Iron Ore Mine (H)	Keonjhar	56000.00	6
9	Iron Ore Mine (I)	Keonjhar	56000.00	6
10	Iron Ore Mine (J)	Keonjhar	41000.00	4
11	<i>Chromite Ore Mine (A)</i>	Jajpur	74000.00	7
12	<i>Chromite Ore Mine (B)</i>	Jajpur	26000.00	3
13	<i>Chromite Ore Mine (C)</i>	Keonjhar	52000.00	5
14	Bauxite Ore Mines (A)	Rayagada	52000.00	5

Note : The work should be completed within three months from the date of issue of Work Order.

SECTION – II

INSTRUCTION TO BIDDERS

5. GENERAL

5.1 National Productivity Council (NPC), Regional Directorate : Bhubaneswar “Executing Agency” (in these documents) invites tender in two parts (Part- 1 : Technical and Part-2 : Price) bids for Instrumentation & Support Services for Conducting Energy Audit at Mines (referred as “Work”) at National Productivity Council, Regional Directorate : A/7, Surya Nagar, Bhubaneswar – 751003. Bidders must submit bids for the complete scope of work.

The successful bidder shall complete the work by the intended completion date as specified in the document.

6. ELIGIBLE BIDDERS

6.1 Past Experience of Similar Services: The Bidder must have successfully executed / completed similar service(s) minimum 5 nos. in last three years of any Central / State Govt. Organization / PSU / Public Listed Company. The data may be provided in the following format.

SN	Energy Audit details	Remarks if any
1		
2		
3		
4		
5		

6.2 Copies of contracts / work orders and documentary evidence of successful execution / completion in support of Past Experience of Similar Services along with names, address and contact details of clients shall be uploaded with the bid for verification by the Buyer.

6.3 The bidder must be equipped with the following :

SN	Equipment details	Remarks
1	3 Phase Power Analyser	With valid Calibration Certificates.
2	Clamp-on Ammeter	
3	Ultrasonic Flow Meter	
4	Lux Meter	
5	Hygro Meter	
6	Anemo Meter	

7. BIDDING DOCUMENTS

7.1 CLARIFICATION ON BIDDING DOCUMENTS

If the prospective bidder is in doubt as to the true meaning of any part of the bid document, he shall at once make a request in writing/e-mail for an interpretation/ clarification to NPC. NPC shall issue interpretation / clarification as it may think fit in writing and will not respond to any clarification sought by the bidders 3 days before the last date of submission of the bid.

7.2 INVITATION OF TECHNO-COMMERCIAL PROPOSALS :

Preparation of bid documents comprising the bid :

The bidder shall complete the bid form separately for Technical and Price bids, furnishing in the bid documents.

The bidders shall also submit documentary evidence to establish that the bidders meet the qualifying requirements as mentioned in clause **6 (Eligible Bidders), Section-II.**

1. Bidders/Tenderers are advised to study the document carefully. Submission of Bid shall be deemed to have been done after careful study and examination of the bid document with full understanding of its implications.
2. Not more than one tender shall be submitted by one bidder or bidders having business relationship. Under no circumstance close relations who have business relationship with one another (i.e. when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.
3. Tenderer who has downloaded the tender from the NPC website www.npcindia.gov.in shall not tamper/modify the tender form including downloaded price bid template in any manner. In case if the same is found to be tempered/modified in any manner, tender will be completely rejected, and tenderer is liable to be banned from doing business with NPC.
4. Bids will be opened as per date/time as mentioned above.

5. Schedule for Invitation to Bid

a) Addressee and Address:

The Regional Director National Productivity Council,
A/7, Surya Nagar, Bhubaneswar, PIN:751003
Email: bhubaneshwar@npcindia.gov.in

b) Name of the Contact Person for any clarification:

Shri K H Bhusal, Asst. Director
National Productivity Council (NPC),
A/7, Surya Nagar, Bhubaneswar, PIN:751003
Email: bhubaneshwar@npcindia.gov.in ,
kh.bhusal@npcindia.gov.in

8. BID SUBMISSION PROCESS :

- i. Agency/vendor needs to submit the technical detail and financial quotation for above mentioned work as separate attachments through email. (Separate attachments in PDF format).
- ii. Technical Bid Contains signed & scan copy of the advertisement inviting proposal, filled in Annexure-I with required supporting documents under Annexures (1a, 1b, 1c etc.).
- iii. The Financial Bid to contain only the Annexure-II.
- iv. Please note that Agency/vendor need to submit the financial quotation (in PDF file format) with password protection. Financial Bid without Password protection shall be rejected.
- v. **Both the documents should be submitted via mail to bhubaneshwar@npcindia.gov.in on or before the specified date and time. Subject may be filled with Advertisement number Advt No : BBSR / 22-23/17.**

vi. **After Bid Submission end date and time and completion of technical evaluation process, NPC will request over email to the technically qualified bidders only to share the password of financial bid for evaluation. The password to be shared through return email.**

vii. No email to share the financial bid password will be sent from NPC if the vendor doesnot meet the technical criteria(s).

9. BID VALIDITY

Bid shall remain valid for a period not less than **120 days** after the deadline date of bid submission as specified. A shorter bid validity period shall be rejected by the NPC as non-responsive.

10. BID OPENING AND EVALUATION

The Tender Committee set up by NPC will first open the **Part-1: Technical Bid** and will shortlist successful bidders who qualify in the Technical bid.

The Part-2: Price Bid of the successful Bidders, who are found qualified in the Technical Bid, will be opened subsequently on receipt of Password(s).

The bids will be evaluated on Least Cost basis. It is mandatory to quote for all mines by each firm/ agency. Accordingly, the lowest bid in each category will be awarded the contracts separately.

11. IMPORTANT INSTRUCTIONS

i. The financial quote to be as per the annexure should clearly mention the professional fees and applicable taxes separately.

ii. **NPC, Bhubaneswar will provide/ arrange Travel of consultants from Bhubaneswar to the Mines. Board & Lodge and Local Transport at site will also be arranged/ provided by NPC free of cost.**

iii. Even though proposal may satisfy the above requirements, the same may be disqualifiedfor the following reasons:

- If misleading or false representation of facts are made or deliberately suppressed in the information provided in the forms, statements, and enclosures of this document.
- If they have a record of poor performance such as abandoning work, not properly. completing the contract or financial failures/weaknesses.
- If confidential inquiry reveals facts contrary to the information provided by the bidder or unsatisfactory performance in any of their previous engagement.

iv. All agencies must follow the project monitoring and quality review guidelines as decidedby NPC on case-to-case basis.

v. Any agency can be debarred if the performance during the execution of project or compliance to the guidelines is found to be unsatisfactory.

vi. National Productivity Council reserves the right to accept or reject any or all the quotations either fully or partly at any stage without assigning any reason.

vii. **The bidder shall submit all data collected/ measured in a format decided by the Project Coordinator.**

viii. **Payment :** 100 % payment will be released only after on completion of study and acceptance of report by client (unit) /NPC.

12. DURATION OF STUDY

Energy audit field study with report submission to be completed within three months from issueof Lol / work order.

ANNEXURE-I

**FORMAT OF APPLICATION FOR SUBMISSION OF TECHNICAL PROPOSAL
(To be filled up by the Bidder with seal & signature)**

1.	Name of the Company	
2.	Type of Organization (Please provide copies of Memorandum & Articles of Association, etc.)	
3.	Year of Establishment	
4.	Address of Corporate Office, Telephone/Telefax Numbers, corporate email-ID and website URL name of the Applicant	
5.	Names, Address and Email IDs & mobile numbers of Authorized Representatives / contact persons	
6.	Name and addresses of Directors / Partners / Proprietors / Key Managerial Personnel	
7.	GST No. (attach supporting documents)	
8.	Company or Firm PAN Number (attach supporting documents)	
9.	Details of Applicant's Account Bank Name & Branch Account Name Account Number IFSC (attach supporting documents)	
10.	Nature of present or previous association with NPC (if any) for providing similar or any other nature of service (attach supporting documents)	(Annexure-1a) Work orders to be attached.

11.	List the business association / work executed of Similar Nature. Provide Supporting Documents.	Annexure-1b Work Orders/ supporting documents to be attached.
12.	Reference Name and contact details Persons in Client organizations for verification of credentials of the applying agency.	
13.	Details of Skilled Manpower for conducting the field Study: (Curriculum Vita of the team members to be attached)	
14.	List the instruments in possession as per the Scope: (Attach the calibration certificates of the instruments)	Annexure-1c : Valid Calibration certificates to be attached.
15.	Have you been blacklisted /debarred by any of the Government Undertakings/ Companies /Organizations, and if so, name of the Company as well as period of debarring and reasons thereof.	

ANNEXURE-II

Format of Application for submission of Financial Proposal
(To be neatly typed without any cutting and erasing)

ANNEXURE-II (FINANCIAL BID)

Sn	Name Of Mines	Estimated Cost of Project	Quoted Amount (Rs)	GST%	GST (Rs)	Total Amount (Rs)
1	Iron Ore Mine (A)	52000.00				
2	Iron Ore Mine (B)	52000.00				
3	Iron Ore Mine (C)	41000.00				
4	Iron Ore Mine (D)	41000.00				
5	Iron Ore Mine (E)	41000.00				
6	Iron Ore Mine (F)	82000.00				
7	Iron Ore Mine (G)	60000.00				
8	Iron Ore Mine (H)	56000.00				
9	Iron Ore Mine (I)	56000.00				
10	Iron Ore Mine (J)	41000.00				
11	<i>Chromite Ore Mine (A)</i>	74000.00				
12	<i>Chromite Ore Mine (B)</i>	26000.00				
13	<i>Chromite Ore Mine (C)</i>	52000.00				
14	Bauxite Ore Mines (A)	52000.00				

Note :

1. The Bidder should quote for all the Mines separately as per format given above. The Financial Bid should be submitted over email under Password protection.

2. The contract will be awarded to the L1 Bidder(s) for each unit(s) separately.

(Authorized Signature & Seal)