



**NATIONAL PRODUCTIVITY COUNCIL  
HQ, Delhi**

**Advertisement for  
Request for Quotation  
for**

**Instrument and technical support services for conducting safety audit study**

**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 stake holders through generation & application of advanced knowledge for inclusive Growth. For further details, please visit our web site: [www.npcindia.gov.in](http://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.
- Safety audit/Balance study in all types of industries.
- 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 Programmers 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.

## **SECTION-1 Invitation of Techno-Commercial Proposals**

1. Agency/Vendors are advised to study the document carefully. Online Submission 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 RFQ shall be submitted by one bidder or bidders having business relationship. Under no circumstance will father and his son(s) or other 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. Agency/vendors that have downloaded the tender from the NPC website [www.npcindia.gov.in](http://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 tender is liable to be banned from doing business with NPC.
4. Soft Copy of calibration certificates of the instruments should also be provided.
5. Bids will be opened as per date/time as mentioned in the Clause 6 C. After online opening of Technical-Bid the results of their qualification as well Price-Bid opening will be intimated.
6. Schedule for Invitation to Bid
  - a) Addressee and Address:

**Shri K.D. Bhardwaj, Director & Group Head (EM)**  
**National Productivity Council**  
**Utpadakta Bhavan**  
**5-6 Institutional Area**  
**Lodhi Road, New Delhi – 110003**

- b) Name of the Contact Person for any clarification:

1. **Shri Prashant Srivastava**  
**Deputy Director, Energy Management Group (HQ Delhi)**  
**Email: - [emgroup.hq@npcindia.gov.in](mailto:emgroup.hq@npcindia.gov.in)**  
**Ph: - 011-24607315**
2. **Shri Anand Verma**  
**Deputy Director, Energy Management Group (HQ Delhi)**  
**Email: - [emgroup.hq@npcindia.gov.in](mailto:emgroup.hq@npcindia.gov.in)**  
**Ph: - 011-24607315**

**c) Important Dates:**

The following table provides information regarding the important dates of the Bid process:

**CRITICAL DATE SHEET**

<b>Published Date</b>	<b>12<sup>th</sup> June 2023</b>
<b>Submission Start Date &amp; Time</b>	<b>12<sup>th</sup> June 2023 from 14:00 Hrs.</b>
<b>Submission End Date &amp; Time</b>	<b>19<sup>th</sup> June 2023 up to 14:00 Hrs.</b>
<b>Technical Bid Opening Date &amp; time</b>	<b>19<sup>th</sup> June 2023 at 15:00 Hrs.</b>
<b>Financial Bid Opening Date &amp; Time</b>	<b>20<sup>th</sup> June 2023 from 14:00 Hrs.</b>

7. Proposal Submission Process

- i. Agency/vendor needs to submit the technical detail and financial quotation for below mentioned scope of 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 and signed supporting documents.
- iii. **The Financial quotation to contain only the Annexure-II. Please note that Agency/vendor need to submit the financial quotation (in PDF file format) with password protection.**
- iv. **Both the documents should be submitted via mail to [emgroup.hq@npcindia.gov.in](mailto:emgroup.hq@npcindia.gov.in) on or before the specified date and time.**
- v. **After Bid Submission end date and time on successful qualifying the technical evaluation process, NPC will request (vide email: [emgroup.hq@npcindia.gov.in](mailto:emgroup.hq@npcindia.gov.in)) to share the password of financial bid for evaluation. The password to be share through return email. **Only technically qualified bidders shall be asked to share the password to open the encrypted financial bids received through return email.****
- vi. **No email to share the financial bid password will be sent from NPC if the vendor doesnot meet the technical criteria(s).**

8. Important Instructions

- i. The financial quote to be as per the **annexure-II** and should clearly mention the professional fees and applicable taxes separately.
- ii. **All Travel (To & Fro), Boarding & lodging charges etc. are in the scope of Vendor/agency.**
- iii. Even though proposal may satisfy the above requirements, the same may be disqualified for 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 agency/vendor or unsatisfactory performance in any of their previous engagement.

- iv. All agencies must follow the project monitoring and quality review guidelines as decided by 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. All the information collected during the process of study is strictly confidential and no part of the work to be reported anywhere.

## Section-2 Support to be provided to NPC

1. Energy Management Group, NPC HQ Delhi intends to conduct safety audit study in an industry near Delhi NCR. The location and requirement are as follows:

SL NO.	Plant Description	Main Product	Requirements
1	M/S ....Aviation lubricant company in Delhi NCR Plant area 6.5 acre	Aviation Lubricant, Capacity 2200MT	Process safety audit, Fire Safety audit, Electrical Safety audit, Mechanical Safety audit

The Agency is expected to provide instrumentation support (as mentioned at Clause 3 of this section) and skilled manpower for measurement and data collection as per the scope of work.

### 2. Objective of the study

- The objective of conducting Safety Audit is to review the condition of the existing installation and to recommend measures for further strengthening the system in order to eliminate/reduce the electrical/fire hazards and to improve the safety of the personnel.
- The audit shall mainly focus on: Identifying the potential electrical, Mechanical and fire hazards.
- Boosting employee morale by providing safe working environment.
- Smoothing the operation and maintenance of electrical and equipment installation.
- Avoiding loss of properties, human life and costly equipment.
- Ensuring the compliance with relevant codes and practice, statutory rules and regulations.
- Establishing procedures and process of safe working in electrical installation.

### 3. Scope of Study

Detail scope of study includes the following but not limited;

#### ***Process Safety Audit***

- Review all aspects of the organization's occupational health and process safety management systems and associated arrangements against the legal requirement.
- During the audit process, management, staff and other stakeholders required to be interviewed and the operational practices to be studied to confidentially discuss aspects of occupational health and safety and catastrophic risk management relevant to their roles and responsibilities.
- Assessment of existing safety control involved in process and development of maintenance plan for existing control along with documentation.
- Hazard Area Classification.

- Process assessment through HIRA to identify risk involved in Process.
- Ranking of Risk involved in process and mitigation plan for risk involved in process.
- Identification of PPEs required for safe operation based HIRA assessment and JSA of each process.
- Recommendation to correct unsafe acts or conditions through the regular line of authority, although the Safety Officer may exercise emergency authority to prevent or stop unsafe acts.

#### *Mechanical/Equipment Safety Audit*

- Assessment of Existing Machine Guarding of Rotary Equipments.
- Design and Development of Machine Guarding for Rotary Equipments to ensure smooth operation and Maintenance.
- Interlocking of Machine Operations with Machine Guarding to avoid operation of Machine without Guarding.
- Assessment of all Rotary Equipments for identification of Risk involved in operation of equipments.
- JSA (Job Safety Assessment) of each process to identify risk level and development of Risk mitigation plan through Engineering Control, Administrative Control or PPEs.
- Assessment of Each Pressure vessels for Pressure Relieving Mechanism.
- Design of Pressure relieving Mechanism for Pressure Vessels to minimize damage to Factory Assets i.e. Manpower, Equipments and Facility.
- Design and Development Safe Roof Maintenance procedure.
- Review of the operation condition of the moving utilities, called a lift truck, chain pulley and crane etc.
- Review of the testing procedure of these equipments.
- Development of Training Program and Inspection Program for upkeep of Mechanical Safety System.

#### *Fire Safety Audit*

- Assessment of Fire Risk across factory and categorization in to zones (High Risk Zone, Medium Risk Zone and Low Risk Zone).
- Development of Mitigation plan for each Fire risk zone in compliance with NFPA.
- Development of Maintenance program for existing Fire Control System including Inspection Program, Refilling and Hydro Testing of Fire Extinguisher.
- Development of evacuation route and plan in case of any emergency.
- Development of Emergency Response Plan to be activated in case of emergency.
- Development of Communication plan for Emergency Situation.
- Development and training of Safe Work Permit System.
- Review of Documentation for each program.
- Training for Fire and Safety i.e. classroom training and demo training (if plant team permits).

#### *Electrical Safety Audit*

- **Visual inspection of Electrical installation** in the premises including, but not to limited to-Electrical room (s), Low tension switch gear panel (s), Distribution board (s), Lighting installations, Power receptacle installations, UPS & Battery room, Earthing arrangements.
- **Checking compliance of the Electrical installation** w.r.t. Latest standards/best practices/codes (NBC 2016/other international – BS/IEEE/NFPA/others as required by the client/1956 IE Rules) and reporting non-conformances/recommendations.
- **Checking the availability of approvals** from appropriate authorities pertaining to electrical preventive maintenance schedule at location and to examine the documentation, check list, work permit, test records, etc.

- **Review of updated Single Line Diagram (SLD)** and inspection of installation accordingly. Evaluation and assessment of installation as per compliance and approved design/SLD and pre installation documentation. Checking that the correctness/actualities at premises (if any changes, corrections should be done in SLD and then should be approved)
- **Identification of Electrical hazards:** The Electrical Hazards such as loose wire hanging, cables not dressed properly, broken switches, plugs and sockets, cable terminations, hot spot, overheating, under rated installations, insulation test, inspection for cable for insulation damages etc. shall be done.
- **Identification of any unbalancing of loads:** The unbalancing/overloading, if any, in the electrical installation viz. transformers, Main LT panel etc. shall be identified with the help of measuring equipment.
- **Checking the provision of firefighting equipment** and fire alarm system detectors near all the electrical installations. It is to be ensured that Fire buckets filled with free flowing sand and DCP/CO2 fire extinguishers are provided near electrical substation and electrical panel locations.
- **Checking the availability of Safety equipments** and reporting its presence/operating condition (Fire extinguishers/rubber mats/Fire buckets/First aid box etc.)
- **Earthing Testing** shall be carried out to measure:
  - The earth resistance on all the earth pits and its compliance with respect to Indian Electricity Rules may be verified.
  - Assessment of present condition of Earthing System for comparing with resistance values with standards and provide corrective measures for compliance.
  - The continuity of earth strip/conductor from the earth pit the earth terminal of the respective electrical equipment shall be checked and verified.
- **Power Quality Study**  
To determine the impact of the power quality disruption on the electrical distribution system.
  - Identify various Types of harmonics present at different locations (Voltage harmonics and current harmonics (3rd, 5th, 7th, 9th, 11th).
  - Quantify the harmonics effect on the system.
  - Measurement of Total Harmonic Distortion at different locations.
  - Comparison of measured values with norms.
  - Identify the possible reason for different types of harmonics.
  - Recommendation of remedial action to mitigate the Harmonics effect at different Transformers and make system healthier based upon the Harmonics study.
- **Improvement measures** which will be identified based upon the measurements, data collections and calculations can be implemented by reasonable and economical method along with payback calculations.

### Section-3 Eligibility Criteria and Selection Criteria

#### 1. Eligibility Criteria

- The firm should have valid PAN and GST Number. The copy of the same need to be submitted as technical qualification documents.
- The annual average turnover for last three financial (2019-20, 2020-21 and 2021-22) from service should be more than 20.0Lakh.
- The firm should have registration with Employees' Provident Fund Organization, India.
- The bidder must have carried out minimum five number of safety audit of similar kind in last five years. A documentary proof of the same to be submitted.

- The firm should have minimum of 5 years of experience in the similar field. A documentary proof of the same to be submitted.
- Agency should provide the complete detail about instruments with calibration report and information about their technical manpower.
- Proof of Valid Class 1 Contractor License and Electrical Supervisor license.
- Proof of expertise in Occupational Health & Safety Management System to be attached.
- Preference will be given to agencies who have already worked previously with NPC. A documentary proof of the same to be submitted.
- Preference will be given to agency who have experienced in oil/lubricant sector. A documentary proof of the same to be submitted.
- The agency will depute minimum three qualified staff from different domain (Electrical, Mechanical and Chemical) to cover the entire scope of work. The additional and appropriate qualified Engineer whenever and wherever required will be provided by agency at site without any additional cost. CVs of the qualified staff to be submitted.
- The agency should ensure all safety precautions for its workers.
- All Tools & tackles, Plants, machineries, equipments and materials required to carry out the Electrical work at site shall be provided by the Agency at his own cost.
- All documents as a part of Annexure-I Technical bid should be signed and stamped on each page.
- The Agency/vendor shall also require submitting the field measurement, calculation sheet and other data taken during the field study. Specific format if required shall be provided by NPC after commencement of study.
- The Agency/vendor shall also assist NPC team in compilation, analysis and formulation of report. Format for the same shall be provided on site.
- In case least amount is quoted by more than one agency/vendor, the priority will be given to the vendor having longer experience.

## **2. Selection criteria**

NPC would assess the technical detail first and after qualification in technical, the financial quotation would be considered. Final Selection among the shortlisted vendor would be based on L1 (Least Cost System) criteria.

## **3. Payment & Other Terms:**

100 % payment only after on completion of study and payment received from client organization.

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**ANNEXURE-I**

**Format of Application for submission of technical Proposal**

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/Tele fax 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.	GSTNo. (Attach supporting documents)	
8.	Company or Firm PAN Number (attach supporting documents)	
9.	Details of Applicant's Account 1. Bank Name & Branch 2. Account Name 3. Account Number 4. 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)	
11.	List the business association / work executed /Any empanelment of Similar Nature. Provide Supporting Documents.	



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)	
15.	Have you been blacklisted /debarred by any of the Government Undertakings/ Companies /Organizations, and if so, name of the  i. Company as well as period of debarring and reasons thereof	

(Authorized Signature & Seal)

**ANNEXURE-II**

**Format of Application for submission of Financial Proposal**

SL NO.	DESCRIPTION	QUOTED AMOUNT
<b>PROFESSIONAL FEE FOR INSTRUMENTATION &amp; SUPPORT SERVICES FOR CONDUCTING SAFETY AUDIT STUDY</b>		
<b>1</b>	Indicate plant name as mentioned in section -2 of this document	
<b>Total Value</b> <b>In figures:</b> <b>In Words:</b>		
<b>Applicable Taxes (GST):</b>		
<b>Gross Total Value</b> <b>In figures:</b> <b>In Words:</b>		

*Send password protected file for plant mentioned in section 2*

(Authorized Signature & Seal)