



BCPCL

Bangladesh-China Power Company Limited
A Joint Venture of CMC & NWPGL

**Terms of Reference
For
Appointment of a Consultancy Firm for Standardizing Coal Loss of
Payra 1320 MW TPP based on its entire Coal Supply Chain**

Address:

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Dhaka-1215, Bangladesh**

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1. Introduction

Bangladesh-China Power Company Limited (BCPCL), a Joint Venture Company (JVC) of NWPGL of Bangladesh and CMC of China, has implemented the coal-based Payra 1320 MW Thermal Power Plant (Phase I) at Dhankhali, Patuakhali, Bangladesh. The project consists of two (2) units of Ultra Super Critical Coal-Fired Power Plant each with a gross capacity of 660MW. Both Units have commenced commercial operation.

Coal loss is an inevitable issue power plants face, occurring at various stages from transportation to combustion. During loading and unloading at the ports, coal is often lost due to spillage. When there is insufficient draft, BCPCL employs lightering, transferring coal from OG vessels to smaller barges that can navigate the shallow waters which may result in more coal loss. Moreover, when the coal is transferred to the coal domes and boiler using conveyor belts, a small amount of coal is lost due to spillage which if accumulated becomes a huge amount. Besides that, coal left idle in the coal dome for several days may cause spontaneous combustion, a phenomenon where the coal self-ignites due to oxidation of its carbon content. This also results in the loss of valuable fuel.

To address this issue, it is essential to appoint a specialized coal auditing company to conduct in-depth research into the entire coal supply chain. This firm will analyze each step of the process – loading, transportation, unloading, storage, handling, etc. - to establish a standardized coal loss threshold for Payra 1320 MW TPP.

Overall, the firm should conduct thorough research on the coal supply chain by visiting each point of the supply chain to find the standard coal loss, make a report based on the findings, and provide recommendations to minimize losses, allowing the power plant to improve its efficiency and reduce coal losses.

Now, BCPCL would like to allocate its own funds to engage a consultancy firm to standardize its coal loss based upon its coal supply chain following QCBS, International.

2. Objective of the assignment

The ultimate objective of the assignment is to standardize the coal losses considering the overall coal supply chain of BCPCL through an audit of the coal supply chain. The coal supply chain of BCPCL includes the following:

- i. The loading port and loading of coal into the ocean-going vessels at Samarinda Anchorage or any other port in Indonesia.
- ii. The transfer of coal from OG vessels to smaller barges at Chittagong/Payra Port.
- iii. The unloading of coal at the coal jetty of Payra 1320 MW TPP, Payra, Patuakhali.
- iv. The transfer of coal from the coal jetty to the four coal domes inside the power plant area via conveyor belts.
- v. The transfer of coal from the domes to the bunkers where coal is crushed into fine powders.
- vi. Finally, the fine coal powders are transferred to the boiler where it is burned.



3. Scope of Service

The scope of services for the audit of the coal supply chain of BCPCL is structured according to each stage of the supply chain as follows:

- i. Loading of Coal at Samarinda Anchorage or any other port in Indonesia
 - Inspect storage practices at the port before loading onto vessels.
 - Identify and evaluate potential losses due to handling, weather exposure, and transportation inefficiencies at load port.
 - Inspect the loading process onto ocean-going vessels to assess coal loss risks.
 - Verify weight and quality measurement procedures before shipment.
 - Identify spillage, dust loss, and improper handling during loading.
 - Assess the effectiveness of mitigation measures to minimize losses.
- ii. Transfer of Coal from OG Vessels to Barges at Chittagong/Payra Port
 - Audit transshipment operations, including unloading and reloading onto barges.
 - Measure potential losses due to spillage, dust formation, and improper handling.
 - Verify weight and quality measurements at the intermediate transfer point.
 - Assess the efficiency of transfer operations in minimizing coal losses.
- iii. Unloading of Coal at Payra 1320 MW TPP Coal Jetty
 - Inspect unloading processes at the coal jetty to identify loss points.
 - Verify that weight and quality measurement systems are in place at the coal jetty.
 - Assess spillage control measures and coal loss minimization practices.
- iv. Transfer of Coal from the Jetty to Coal Domes via Conveyor Belts
 - Audit conveyor belt operations, including transfer efficiency and spillage.
 - Inspect coal storage practices in the domes and assess potential losses due to dust, weather exposure, or improper handling.
 - Verify measurement and monitoring systems for coal movement within the plant.
- v. Transfer of Coal from Domes to Bunkers for Pulverizing
 - Inspect coal handling during transfer to bunkers, identifying potential loss points.
 - Evaluate pulverizing efficiency and any coal loss occurring due to improper handling.
 - Verify measurement accuracy for coal quantity before and after crushing.
- vi. Transfer of Fine Coal Powder to the Boiler for Combustion
 - Audit coal powder transfer processes, assessing losses due to spillage, dust, or incomplete transfer.
 - Verify measurement methods for fine coal powder before combustion.
 - Assess any factors affecting coal quality before burning.
- vii. General Audit Responsibilities
 - Develop and document a comprehensive audit methodology for each stage of the supply chain.
 - Inspect vessels before and after shipments to measure potential coal losses.
 - Identify key factors influencing coal quality, including moisture content, contamination, or degradation.
 - Estimate coal loss magnitude through measurement, inspection, and calculations.
 - Provide root cause analysis and recommendations to improve coal handling, transportation, and storage to minimize losses.
 - Prepare a detailed audit report covering findings, methodology and recommendations.

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4. Location & Scope of Services

No. of Sites	Sites to visit	Scope
1	Samarinda Anchorage or any other port in Indonesia	Inspect the load port and loading process
2	Chittagong Port	Inspect the transfer of coal to smaller barges.
3	Payra Port	Inspect the transfer of coal to smaller barges.
4	Payra 1320 MW Thermal Power Plant – Dhankhali, Kalapara, Patuakhali, Bangladesh	Inspect the unloading process and other stages of the coal supply chain inside the power plant.

5. Reporting/ Auditing Requirements & Deliverables

The following reports in connection with Coal Loss Standardization of Coal Supply Chain of Payra 1320 MW TPP under BCPCL are required to be prepared by the Consultancy Firm and to be submitted to the Superintending Engineer (P&D), Bangladesh-China Power Company Limited.

- a) **Inception Report** covering methodology, approach and work plan shall have to be submitted to Bangladesh-China Power Company Ltd. **within 2 weeks from the signing of the Contract.**
- b) **Inspection Reports** for each location mentioned in 4. **Location & Scope of Services** shall have to be submitted to Bangladesh-China Power Company Ltd. **within 2 weeks after the completion of each visit.**
- c) **Draft Report** with evidence of completion of 3. **Scope of Services i-vi** duly signed by both parties shall have to be submitted to Bangladesh-China Power Company Ltd. **within 5 months from the signing of the Contract.**
- d) **Final Audit Report and Demonstration** covering findings, methodology and recommendations shall have to be submitted to Bangladesh-China Power Company Ltd. **within 4 weeks after submission of draft report.**

All reports shall have to be submitted in **02 (two) (printed hard copy) & 01 (one) soft copy.**

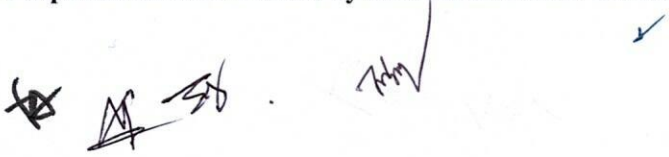
6. Support to be provided by the Employer

Bangladesh-China Power Company Limited will provide access to all information and locations to the coal loss auditing firm for all audits. The corporate representative of Bangladesh-China Power Company Limited is to be the main focal point of the auditing firm for planning, communication, and other issues in connection with the execution of the assignment.

A team from BCPCL will accompany the consultancy firm's team for the inspection of the load port and coal loading process to ensure that the consultants has proper access to the relevant sites for the assignment to finalize methodologies and approaches and undertake fieldwork.

The consultant will work independently with his/her team in Payra 1320 MW TPP site and surroundings for the assignment, to finalize methodologies and approaches, and undertake fieldwork. BCPCL will facilitate transport, office space, accommodation, and food for them inside the power plant.

Please note that BCPCL will not provide any support with regard to any transport, office space, accommodation, and food for the consultancy firm outside the areas of the Payra 1320 MW TPP site or leading up to the site for that assignment. In this regard, any support service, logistics, and miscellaneous expenses should be borne by the consultants for the said assignment.



7. Responsibilities of the Consultancy Firm

The firm shall carry out the audit as detailed in the "Scope of services" in the best interest of the client for the successful realization of the project with all reasonable care, skill sound engineering, administrative, and financial practices and shall be responsible to the Bangladesh-China Power Company Limited for discharge of responsibilities.

8. Staffing

Sl. No.	Position	Number of Persons
1	Principal Engineer/Project Manager	01
2	Coal Handling & Port Logistics Expert	01
3	Data Analyst	01
4	Support Staff	01

9. Qualification and Experience of the Key Experts:

- i. Principal Engineer/Project Manager:
 - a) Bachelor's degree in Mechanical/Electrical/Chemical/Mining/Industrial Engineering or equivalent from a recognized university. Master's degree or additional certifications in Project Management or relevant professional courses preferred.
 - b) Minimum 15 years of experience in large-scale industrial projects, preferably in coal handling or power plants.
 - c) Expertise in coal loss analysis, standardization, and process optimization.
 - d) Strong knowledge of coal mass balance, loss benchmarking and utility regulatory norms.
 - e) Excellent communication and people management skills and should have excellent English proficiency.
- ii. Coal Handling & Port Logistics Expert:
 - a) Bachelor's degree in Mechanical/Mining/Chemical Engineering or equivalent from a recognized university.
 - b) Minimum 10 years' experience in bulk material handling, preferably coal.
 - c) Experience in port bulk handling systems, coal stockyard operations, conveyor systems, stacker-reclaimer operations.
 - d) Experience with imported coal supply chains will be an advantage.
 - e) Excellent communication and people management skills and should have excellent English proficiency.
- iii. Data Analyst:
 - a) Bachelor's degree in Statistics, Data Science, Computer Science, or Engineering.
 - b) Minimum 10 years' experience in data analysis, preferably in industrial standardization.
 - c) Proficient in data collection, validation, analysis, and reporting.
 - d) Experience in standardizing operational data and supporting process optimization.
 - e) Excellent communication and people management skills and should have excellent English proficiency.



10. Mode of Payment:

- a) 10% of the Contract Price shall be paid after inception report is submitted.
- b) 40% of the Contract Price shall be paid after submission of the draft report with evidence of completion of **Scope of Services i-vi** duly signed by both parties.
- c) 50% of the Contract Price shall be paid after submission of the final detailed audit report covering findings, methodology and recommendations duly signed by both parties.

11. Ownership of Data, Documents, and Equipment

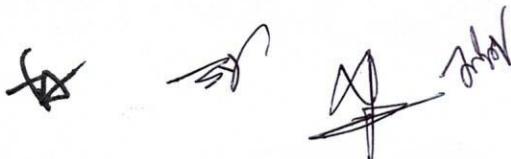
- BCPCL shall be the owner of all the data collected, data sets, reports, documents, etc. prepared by the firm under the assignment.
- All documents, reports, and information from this assignment will be regarded as BCPCL's property, so the mentioned outputs or part of it cannot be sold or used in any case without the prior permission of BCPCL.
- The firm shall maintain confidentiality strictly and shall not disclose any information to any other party unless advised by BCPCL.

12. Non-Disclosure Agreement

The parties agree and acknowledge that, as a result of negotiating, entering into and performing this Agreement, each party has and will have access to certain of the other party's Confidential Information. Each party also understands and agrees that misuse and/or disclosure of that information could adversely affect the other party's business. Accordingly, the parties agree that, during the Term of this Agreement and thereafter, each party shall use and reproduce the other party's Confidential Information solely for purposes of this Agreement and only to the extent necessary for such purpose and shall restrict disclosure of the other party's Confidential Information to its employees, consultants or independent contractors with a need to know and shall not disclose the other party's Confidential Information to any third party without the prior written approval of the other party. Notwithstanding the foregoing, it shall not be a breach of this Agreement for either party to disclose Confidential Information of the other party if required to do so under law (including compliance with any applicable federal or state securities laws) or in a judicial or other governmental investigation or proceeding, provided the other party has been given prior written notice and the disclosing party has sought all commercially reasonable safeguards against any further dissemination prior to such disclosure.

13. Duration of the Assignment & Termination

The total duration of the assignment will be primarily 6 (six) months and may be further renewed at fresh terms and conditions upon successful completion and satisfaction of BCPCL. Either party may terminate this contract during the period of the agreement serving 2 (two) months' prior notice.

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