

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION 100-01

ENGINEERING AND MATERIAL ADMINISTRATION

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION 100-01

Approval Date: 07/03/1979

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SUBJECT: ENGINEERING AND MATERIAL ADMINISTRATION

I. PURPOSE

This instruction sets forth responsibilities for the administration of functions relating to engineering and material.

II. GENERAL

All functions relating to engineering and material for RE(Rural Electric) systems of PBS shall be administered by the following Office/ Directorates within the Engineering and Material Department under the Member (D&O) and Member (P&O). The detail function of all of these office and directorate are elaborately described in BREB Instruction 800-01 and 800-02. Apart from that, some specific functions and responsibilities are mentioned related to engineering and material used in RE system under respective areas and responsibilities of two Chief Engineers with their associated Offices and respective areas of responsibility are as follows:

A. Chief Engineer (Projects)

1. Supervision of civil works, electrical substation, switching station and distribution line construction of BREB & PBSs in accordance with Annual Development Program(ADP).
2. Co-ordination between BREB and PBS in respect of construction.
3. Supervision of works between all the Superintending Engineers & Executive Engineers.
4. Fixation of yearly construction target of each approved project in respect of each PBS and supervision of implementation of the approved target.

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 1 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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5. Monitoring of construction progress and resolving problems arising if any in order to maintain steady progress.
6. Preparation of monthly construction progress report of sub-station, switching station and electric line construction and forward such progress report to relevant official of BREB.
7. Works relating to appointment of A&E consultant and contractor and administration.
8. Works relating to evaluation of performance of construction contractors and renewal of prequalification.
9. Preparation of development and revenue budget in respect of projects and expenditure control.
10. Supervision or Works relating to taking over of substation, switching station and electric line from BPDB/ DPDC/ DESCO/ WZPDCO/ NZPDCO/ PGCB and other organization/company/utility.
11. Works relating to personnel administration of officers and employees of subordinate Directorates.
12. Participation in different committees of BREB Board.

B. Chief-Engineers (Planning & Operation)

1. Supervision relating to Electric System design.
2. Coordination of relating to takeover of BPDB/ DPDC/ DESCO/ WZPDCO/ NZPDCO/ PGCB electric sub-stations and lines.
3. Supervision relating to preparation of BREB/Imported/locally purchased material specifications procurement, PSI (Pre-Shipment Inspection)/ FAT (Factory Acceptance Test)/ PLI (Post Landing Inspection), issuing of materials.
4. Supervision relating to clearance, remittance of taxes and duties, insurance claim and transportation of materials.
5. Supervision relating to storing, clearing and movement of materials, security of material of annual inventory of materials as well as warehouse and store management.

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 2 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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6. Supervision relating to co-ordination between BREB sub-station/ switching station and BPDB/ DPDC/ DESCO/ WZPDCO/ NZPDCO/ PGCB Sub-station/ switching station and system protection.
7. Supervision relating to works on renewable energy technology.
8. Supervision of works relating to tender evaluation of imported/locally purchased materials.
9. Monitoring of system planning and development program of RE system.

C. Additional Chief-Engineer

1. Planning and implementation of construction and up-gradation of electrical and civil infrastructures of BREB and PBS.
2. Material and warehouse/ store management, inventory control;
3. Study report examine and strategic planning for future projects and their cost effective material specification develop.
4. Load management and system loss study. Material planning to reduce system loss;
5. Periodic inspection of consumer meters to protect pilferage and to reduce system loss;
6. Carry out study to finding out problematic area of frequent outage and lock out;
7. Development of digital information system of RE system and material planning for this purpose.

D. Directorate of Material Planning and Specification Standardization:

1. Determination of material and equipment requirement and cooperation to Project Directors for preparing such requirement and preparation of plan for procurement of such material and equipment for timely and planned implementation of Rural Electrification Programme with the.
2. Preparation of Bill of Materials, bill of Quantity, bid document and cooperation to Project Directors for preparing such Bill of Materials, bill of Quantities, bid document for invitation of tender for procurement of materials.

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 3 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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3. Technical evaluation of tender (if nominated) prior to awarding work order for procurement of materials.
4. Allocation of materials procured against project to different PBSs in accordance with Annual Development program (ADP).
5. Preparation of material shortage list in different projects/ PBS stores and taking of appropriate measure to resolve the issue.
6. Adopting appropriate measure for use of slow moving and dead stock items.
7. Assist Program Planning Directorate to prepare project proposal.
8. Responding to various questions raised by various suppliers in respect of technical information incorporated in tender document.
9. Provide assistance to Procurement Directorate and other Procuring Entity (PE) for preparing of international and local tenders.
10. Co-ordination of works of sub-ordinate officers & staffs.

E. Directorate of Inspection and Testing:

1. Pre-Shipment/delivery Inspection (PSI), Factory Acceptance Test (FAT), Post Landing Inspection (PLI) and preparation inspection report in case of locally procured materials for rural electrification program. As well as makes comment regarding the quality of the materials on the basis of inspection/test for the acceptability by BREB.
2. Post Landing Inspection is made and prepared inspection report for the materials imported from outside of the country and assesses the quality of the materials according to the specifications and standards.
3. Pre-award factory inspection is done in order to assess the capability of the new manufacturers as per BREB requirements.
4. Directorate of I&T helps the Directorate of Procurement and other PE of BREB and PBS to appoint Pre-Shipment Inspection (PSI) Agent.
5. Evaluates the inspection report of PSI Agencies and recommends the shipment clearance on the basis of inspection report.

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 4 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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6. Test the samples submitted along with tender for the procurement of the materials by BREB/ PBS and accordingly report to the competent authority.
7. Directorate of I&T helps the Directorate of MP&SS to develop new specification and amends the existing specification according to the requirement of BREB.

F. Directorate of System Operation

1. Supervision of works relating to electric line, sub-station operation and switching station and maintenance under its jurisdiction.
2. Works relating to determination of requirement, procurement and allocation of material and equipment for operation and maintenance purpose.
3. Works relating to safe and appropriate operation of various equipment used in RE system like transformer, OCR/ ACR/ Breaker, voltage regulator, CRP, SAS etc.
4. Monitoring of metering of PBSs in order to remove pilferage and reduce system loss.
5. Preparation and updating of Manual and Safety Procedures for each activity of PBS electric system, ensuring practice of such manual and procedure.
6. Preparation of regular maintenance schedule of electric network system, substation and switching station and implementation thereof and responding to emergency situation arising in respect to operation and maintenance of such network system, substation and switching station.
7. Ensure and implement technical aspects of substation appropriately before energization.
8. Adaptation of appropriate measures to resolve problems relating to load shading by contracting BPDB, DPDC, DESCO, WZPDCO, NZPDCO, PGCB etc..
9. Adaptation of plan and program for development of professional skill of officers and employees of BREB and PBS engaged in operation and maintenance activities of RE system and implement such program thereof.
10. Other works assigned by BREB higher officials.

G. Directorate of System Engineering and Design:


1. Establishing Electrical and Mechanical Design Criteria and Standards.


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PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 5 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				


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2. Establishing Substation and Switching station Design Standards.
4. Establishing Construction Standards.
5. Engineering Services Contract for Electric Network System Design, Staking, Supervision and Inspection of Construction.
6. Advice and Assistance to PBS and Consultants on Project Planning.
7. Feasibility Study and Standards for Proposed PBS Projects.
8. Authorization for periodic payments to the Engineers for performance of preconstruction services.

H. Directorate of Clearance, Storage and Movement (CS&M):

1. Customs Clearance and storage and transportation of Material;
2. Receiving of materials;
3. Inspection of materials and provide cooperation to perform PLI;
4. Control and management of Transit Store (if any) and central warehouse;
5. Maintain Stock and Inventory Records;
7. Issuing of materials as per approved allocation;
8. Organize Perpetual Inventory;
9. Movement to and from Warehouses;
10. Ensuring Security and safety of materials as well as warehouse and Store;
11. Maintenance of Warehouses;
12. Repair and Service Facilities;
13. Maintenance of warehouse transport and material lifting vehicle;

I. Directorate of Renewable Energy:

1. Development of specification of materials and equipment in the field of solar and renewable energy;
2. Preliminary development of solar related project proposal in cooperation with Program Planning Directorate of BREB;
3. Cooperation to authority for tariff fixation of SHS (Solar Home System);
4. Trouble shooting of SHS;

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 6 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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5. Human resource development in the field of solar system;
6. Research for other type of renewable energy available in Bangladesh.

J. Superintending Engineer, Office of the Geographic Information System (GIS):

1. Study, development and update Geographic Information System (GIS) database;
2. Develop specification of material and equipment needed for GIS work;
3. Develop and updating electronic/digital database of RE network system and its equipment;
4. Develop and update of GIS development and updating rate schedule;
5. Procurement of GIS development and updating consultant for RE system;
7. Preparation of GIS progress report;
8. Carry out software based load flow study of RE system to reduce system loss;
9. Develop human resource in the field of GIS and software based system study.

K. Superintending Engineer, Office of the Generation

1. Development of Draft IPP Contract and procurement of IPP;
2. Monitoring of construction of generation plant under IPP contract;
3. Metering of generating plant from where power will be purchased;
4. Provide clearance of spare as per contract need to be imported for IPP;
5. Develop specification for generation related materials, spares and equipment;

L. Superintending Engineer (Zonal):

1. Management of Procurement of Electrical and Civil Works;
2. Evaluation of Tenders/ Bids for Construction
3. Issue Notification of Award of Construction Contract obtaining approval from HOPE;
4. Inspection of Construction, Operation, and Maintenance of Civil, Electrical & Others;
5. Construction contracts administration for Electrical & Civil works;
6. Monitoring of Engineering Consultant Performance in the field;
7. Authorizations for Periodic Payments to Engineers for Performances of Contract in the field;

BANGLADESH RURAL ELECTRIFICATION BOARD				
PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 7 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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8. Authorizations for Periodic Payments to Contractor for Completed Construction.
9. Final Inspection and approval of close-out document of Construction Contract;
10. Works relating to appointment of mini contractor in the PBS and administration thereof in accordance with 100-41 and 100-42.
11. Monitoring of electrical metering, system improvement.
12. Reduce pilferage and system loss.
13. Maintain and maintain safety procedures.
14. Coordination with other utilities.

M. Superintending Engineer, Office of the Environment and Social Management

1. Development and update of the technical specifications for wooden pole, cross arms, anchor logs and stabilizer logs, treated timber etc.
2. Training of the inspectors and laboratory technicians in the basics of wood technology, inspection of timber products and laboratory analysis.
3. Periodically inspection of treating and other plants of the manufacturers/suppliers and PBS and BREB Warehouses.
4. Periodically inspection of the installed timber products and takes data and report to the authority for their proper maintenance.
5. To carry out research for introducing new wood species for various products needed by the BREB in collaboration with the BFIDC, Forest Research Institute and the manufacturers and suppliers.
7. To look after records are properly maintained. To disseminates knowledge gathered and technical know-how of processes.

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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PBS Instruction 100-01: ENGINEERING AND MATERIAL ADMINISTRATION				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
07/03/1979	BREB	BREB Board	Page 8 of 8	4
Revision Date: 30/07/1995, 14/11/1996, 01/09/2013, 19/02/2020				

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