

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION: 100-62

PROCUREMENT OF GIS DEVELOPER CONSULTANT

BANGLADESH RURAL ELECTRIFICATION BOARD
PBS INSTRUCTION 100-62

Approval Date: 19/02/2020

Revision Date : -

SUBJECT: PROCUREMENT OF GIS DEVELOPER CONSULTANT

I. PURPOSE

To set forth BREB Policy and prescribe procedures with respect to procure GIS (Geographic Information System) Developer Consultants for rural electrical network system of PBS.

II. GENERAL

It is essential that PBS has the services of competent GIS Developer Consulting Firms (as defined in PBS Instruction 100-60) so that their GIS systems will be developed to achieve the maximum technological benefit according to the high standards established by BREB for electrical network service for RE (Rural Electric) supply systems. To achieve the goal BREB/ PBS will procure consultancy service from GIS Developer Consulting Firm.

GIS developer Consultants are special purpose consulting firms fully trained to develop GIS database. They are understood to have a level of expertise wherein GIS experts have all the tools and knowledge necessary to develop a fully functioning Geographic Information System given the required satellite imagery, geographically-referenced electrical network system data, and other base map data (such as roads, rivers, and other

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geographically-referenced physical attribute data sets) necessary to develop the GIS database.

III. SERVICES TO BE PROVIDED

A firm with expert capabilities in processing satellite imagery, integrating data sets, and developing an integrated base map will be engaged and retained by the PBS to support the GIS program of BREB and PBS. The firm will have a mastery of all functions related to GIS database development and analysis, including a mastery of satellite imagery analysis, data base integration, geo-processing of integrated data sets, and revision and updating ArcGIS Desktop 10x or latest, ArcGIS Enterprise, ArcGIS Pro (or similar type software, such as NetCAD) programs designed to analyze data sets. The specific duties of the GIS Developer Consultant during the GIS database development phase will include:

1. Procure and rectify satellite images using precision GPS with differential correctional capability, such as RTK GPS or DGPS with (\pm) 0.5 meter accuracy;
2. Process satellite imagery to define base map layers that will include structure, rivers, roads, rail track, settlement clusters, other bodies of water and other important features or landmark;
3. Integrate existing physical and/ or electronic databases to develop base map layers that include political boundaries and secondary roads;
4. Integrate transformer and other equipment record databases with electrical network system map of PBS. Integrate resulting map into base map;

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5. Correct geographically referenced electrical network system to close errors created during field data collection. Check each line segment for closure and continuity.
6. As necessary, update GIS analysis macros when changes in parameters occur, such as tariffs, materials costs, operating costs, among others.
7. Provide training to concern personnel of BREB, PBSs, RE consultant of PBSs and GIS Updating Consulting Firm personnel to "Expert User" level (as defined in PBS Instruction 100-60).

The GIS Developer Firm will finalize the GIS product for PBS once all required data layers have been integrated, reviewed for data accuracy, and corrected. The product will consist of a master electronic file that will be archived by themselves, Office of the Superintending Engineer, GIS of, Concern PBS and by the GIS Updating Consulting Firm. It will also consist of a complete set of maps formatted and printed by the GIS Development Firm, that will be delivered to the concern PBS and to the RE consulting firm. In addition, the final product delivered will include a report on the economic viability analysis of each feeder, and projects identified that would improve the economic viability of the feeder. Soft copy of all the above final products will be delivered to Office of the Superintending Engineer, GIS of BREB and concern PBS on CD/DVD or on any other developed suitable devise.

IV. PROCEDURE FOR SELECTION OF GIS DEVELOPER CONSULTANT

1. GIS Developer consultant shall be selected as per PBS instruction 100-62. The following steps shall be maintained to select GIS Developer Consultant-

Step-1: Preparing Terms of Reference (TOR) & Estimate shall be prepared by PBS and approve by concern BREB Authority through Office of the Superintending

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Engineer, GIS, BREB. In case of BREB Project it will be done by Office of the Superintending Engineer, GIS;

Step-2: Invitation for EOI by the Office of the Superintending Engineer, GIS of BREB or PBS through one Bangla and one English daily national newspaper. For necessary case as per PPR same invitation may be required to publish on web site of CPTU. PE will ensure that PPR clauses are followed;

Step-3: Formation of POC (Proposal Opening Committee) & PEC (Proposal Evaluation Committee) will be approved before EOI receiving;

Step-4: Submitted EOI shall be opened by Proposal Opening Committee (POC);

Step-5: EOI will be evaluated by Proposal Evaluation Committee (PEC);

Step-6: PEC (Proposal Evaluation Committee) will make a short list on the basis of evaluation;

Step-7: RFP document should be issued among the short listed GIS Developer Consultants;

Step-8: Submitted Proposal shall have two parts (Technical Proposal and Financial Proposal);

Step-9: Technical Proposal will be evaluated first by the Proposal Evaluation Committee. Number of short listed qualified applicant will be as per PPR. Evaluation report of EOI and short list must be approved by HOPE of BREB.

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Step-10: A letter will be issued to technically qualified and short listed consultants to attain financial proposal opening. Then Financial Proposal only of short listed technically qualified consultant will be opened in presence of Consultant (if any);

Step-11: Financial Proposal of Technically responsive consultants shall be evaluated by PEC (Proposal Evaluation Committee). Evaluation Form (Annexure-1) is enclosed herewith. Invitation letter shall be issued to technically and financially lowest evaluated consultant for negotiation with PEC;

Step-12: Financial Proposal of non-qualified consultant shall be returned to the concern consultant/ applicant without open.

Step-13: After successful negotiation, selected GIS Developer Consultant shall be invited for Contract Agreement.

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EOI Evaluation Form

Project Name: -----

Package No.----- Sub-Package No. -----

Main Heading	Sub-Head	Description	Evaluation of Consulting Firm (Excellent/Very Good/Good/Poor)			
			Excellent	Very Good	Good	Poor
A) Brochures submitted by applicants summing their facilities and areas of expertise	(a) Firm Capability	1) Age of Firm: 2) Size of Farm: (i) Graduate in URP/ Geography (ii) Graduate in Electrical Engineering (iii) CAD Operator				
	(b) Firm Logistics Support Capability	1) Office and Establishment Size 2) Computer, GPS Receiver, Plotter, Scanner				
B) Description of Similar assignments	Experience of the Firm in similar and other works	Work completed in last 10 years: 1) GIS Development Work in any utility 2) GIS Development Work in other than utility				
C) Experience in similar Operating Condition	Present Work Load of the Firm	Work completed in last 10 years: 1) GIS Development Work in any utility 2) GIS Development Work in other than				

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		Utility 3) Other Works				
D) Availability of appropriate experience and professional qualifications among applicants' staff and resources to carry out the assignment	a) Professional qualification and experience of the principal firm	1) Managing Director/ Chairperson (Graduate) with 20/15/10/5 years experience 2) Director (Graduate in Engineering/ URP) with 15/10/5/3 years experience in GIS				
	b) Professional qualification and experience of employees and other associates of the firm	1) GIS Specialist (Graduate in URP/ Geography/CE/EEE/E E/CSE) with 12/10/7 years experience 2) Assistant GIS Specialist (Graduate in URP/ CE/ EEE/ EE/ Geography/ CSE) with 5/4/3 years experience 3) CAD Operator (Civil/Architecture Diploma)/ HSC with AutoCAD expertise with 8/6/4/3				
E) Administrative Strength and financial capability	a) Administrative Strength	1) No. Board of Directors/ Organogram 2) Up to date Trade License & Income Tax, VAT Registration, TIN				
	b) Financial Capability	Yearly average yearly annual turnover considering last five years				

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2. PROPOSAL OPENING & PROPOSAL EVALUATION COMMITTEE

Proposal Opening Committee (POC) and Proposal Evaluation Committee (PEC) shall be formed before EOI receive. PEC will evaluate EOI and RFP (Request For Proposal) document.

V. SELECTION OF CONSULTANT

After EOI evaluation, a short list will be prepared according to PPR. The short listed consultant will be notified that the firm has been short listed by BREB/ PBS. After that RFP document will be issued only to the short listed consultants, requesting to submit the same within specified date and time. After receiving RFP from short listed consultants, technical proposal will be evaluated by PEC. For better understanding an evaluation form is given below as Appendix-2. After completion technical proposal evaluation, PE (Procuring Entity) will obtain approval from HOPE. Then a letter will be issued to only technically qualified consultants to attain their financial proposal opening. On specified date and time financial proposal of technically qualified consultants will be opened by PEC, in presence of consultants (if any). After evaluation financial proposal, a letter will be issued to technically and financially lowest responsive consultant for negation with PEC. After successful negotiation, selected GIS Developer Consultant shall be invited for contract agreement.

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Sl No.	Topic	Points Allocation		Points Obtained
		Total Point	Distribution	
1	Specific Experience of the Consultant relevant to the assignment.	Max 10.00		
	GIS Development Work in any utility, such as Gas, Water, Electricity or Road, Railway Line etc.		Max 6.00	
	GIS Development Work other than utility.		Max 4.00	
2	Adequacy of the proposed methodology and work plan in responding to the Terms of Reference	Max 40.00		
	(a) Technical Approach and Methodology			
	i) Understanding of the objectives		Max 12.00	
	ii) Quality of Methodology		Max 8.00	
	(b) Work Plan			
	i) Key Personnel Schedule		Max 5.00	
	ii) Work Plan Bar Chart		Max 5.00	
	(c) Organization and Staffing			
	i) Organization		Max 5.00	
	ii) Staffing Schedule		Max 5.00	
3	Professional Staff qualifications and competence for the assignment.			
A	Team Leader (01 No.)	Max 12.00		
	i) General Qualification (Graduate in URP/Geography/).		Max 2.50	
	ii) Adequacy for the assignment.		Max 1.00	
	a) No. of similar service (According to		Max	

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	TOR) performed in last 10 years.		4.00	
	b) Year of relevant experience in proposed position (Up to two years for the said position 2.00 points and above two years full points.		Max 3.50	
	iii) Experience in region and language			
	For Bangladeshi and work experience in Bangladesh full points, otherwise 50% points		Max 1.00	
B	Project Manager (01 No.)			
	i) General Qualification (Graduate in URP/GIS/Geography).		Max 2.00	
	ii) Adequacy for the assignment.		Max 1.00	
	a) No. of similar service (According to TOR) performed in last 6 years.	Max 10.00	Max 2.00	
	b) Year of relevant experience in proposed position (Up to two years for the said position 2.00 points and above two years full points.		Max 4.00	
	iii) Experience in region and language			
	For Bangladeshi and work experience in Bangladesh full points, otherwise 50% points		Max 1.00	
C	GIS Specialist (02 Nos.)			
	i) General Qualification (Graduate in URP/GIS/Geography).		Max 3.50	
	ii) Adequacy for the assignment.		Max 1.50	
	a) No. of similar service (According to TOR) performed in last 6 years.	Max 7.5 × 2 = 15.00	Max 2.50	
	b) Year of relevant experience in proposed position (Up to two years for the said position 2.00 points and above two years full points).		Max 6.00	
	iii) Experience in region and language			
	For Bangladeshi and work experience in Bangladesh full points, otherwise 50% points		1.50	
D	Inspector (02 Nos.)	Max		
	i) General Qualification (Diploma in	4 × 2 =	Max	

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	Electrical/ Power).	8.00	2.00	
	ii) Adequacy for the assignment.		Max 1.00	
	a) No. of similar service (According to TOR) performed in last 2 years.		Max 1.50	
	b) Year of relevant experience in proposed position (Up to two years for the said position 2.00 points and above two years full points.		Max 2.50	
	iii) Experience in region and language			
	For Bangladeshi and work experience in Bangladesh full points, otherwise 50% points		Max 1.00	
	CAD Operator (02 Nos.)	Max		
	i) General Qualification (Diploma in Civil/ Architecture/Mechanical)/HSC.	5.00	Max 1.50	
	ii) Adequacy for the assignment.		Max 0.50	
	a) No. of similar service (According to TOR) performed in last 2 years.		Max 0.50	
E	b) Year of relevant experience in proposed position (Up to two years for the said position 2.00 points and above two years full points.		Max 2.00	
	iii) Experience in region and language			
	For Bangladeshi and work experience in Bangladesh full points, otherwise 50% points		Max 0.50	

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VI. LIST OF GIS DEVELOPMENT ITEMS TO BE DONE BY GIS DEVELOPER CONSULTANT

Sl No	Item No.	Items Description	Quantity	Unit	Unit Rate (BDT)	Total Price
1	GD-1(a)	Satellite Image: Supply of IRS Panchromatic image, Spatial resolution: 0.3 to 0.5 M, Frame size: 70 km x 70km for	As Required for a PBS (1-4 Frame)	Each Frame		
	GD-1(b)	Satellite Image: Supply of IRS Panchromatic image, Spatial resolution: 0.3 to 0.5 M, Frame size: 70 km x 70 km for whole/entire Bangladesh (Approximate 40 frames)	1	Set		
2	GD-2	Preparation of base Map:- a) Rectify satellite images using precision GPS with differential correction capability. b) Process satellite imagery to define base map layers that will include rivers, roads, settlement clusters and other		Sq. Km		

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		bodies of water. c) Integrate existing databases to develop base map layers that include political area and boundaries up to mouza level including division, district, upazila, union and mouza level and secondary roads. d) Develop mouza wise population database with the help of latest Bangladesh Bureau of Statistics (BBS) census report and integrate it with political area map.			
3	GD-3(a)	Verify existing electric system data before starting field survey: Collect the latest updated single line diagram from PBS and verify with the field to ensure at least 90% of accuracy (On an average checking at 10 spots per 100 km of electric line).		Per 100 Km	
	GD-	Collect updated		Per 100	

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	3(b)	transformer and other electric equipment record database from PBS and verify with the field to ensure at least 90% of accuracy (On an average checking at 10 equipment per 100 equipment poles).		Equip poles		
4	GD-4	Field survey: a) Collection of all pole data for 132 kV (if any of PBS), 33 kV, 11 kV, and 6.35 kV and low voltage line of PBS electric system by extensive GIS field survey and noting poles location in GPS receiver (If above 33 kV line of PBS exist, that will be treated as 33 kV). Structure/ Tower will be treated as Pole. b) On site processing of GPS data and convert them into ArcGIS data format. c) Daily field verification of a minimum of 10% of key poles for		Km		

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		accuracy of field data and geographical location, keeping record as per format and correction of defective data on the following day. d) Daily upload the field data collected in computer.			
5	GD-5	Preparation & Printing of Electric System Maps:- a) Correct geographically referenced electric distribution/ network system to close errors created during field data collection. Check each line segment for closure and continuity. b) Integrate transformer and other equipment record databases with electric distribution/ network system map. Integrate resulting map in to base map. c) Map printing: One set of detail map in minimum 4- colors		Km	

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		on A3 size 80 gsm offset paper with scale 4" = 1 mile, spiral bound with laminated meaningful cover & two nos. of key map set in minimum 4 colors on A0 size 80 gsm offset paper covering at least 90% map area with lamination.			
6	GD-6(a)	Printing of Additional Map copy:- Printing of additional detail map copy in minimum 4- colors on A3 size 80 gsm offset paper with scale 4" = 1 mile, spiral bound with laminated meaningful cover.		Map sheet No	
	GD-6(b)	Printing of additional key map copy in minimum 4- colors on A0 size 80 gsm offset paper covering at least 90% map area with lamination.		No	
7	GD-7	Perform Financial Analysis:- a) Develop macros in ArcGIS and incorporate the		Km	


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		<p>parameters such as tariff, material costs, operating costs & others to perform followings 7(b), 7(c) & 7(d) tasks.</p> <p>b) Feeder Wise evaluation of existing rural electric system with respect to financial viability.</p> <p>c) Feeder-wise intensification analysis.</p> <p>d) Feeder wise new electric line extension project analysis to identify financially viable projects.</p>			
8	GD-8	<p>Developing Data Files for Engineering Analysis:-</p> <p>a) Develop macros in ArcGIS to perform following 8(b) task.</p> <p>b) Develop STD (Straight Line Data), MPT (Mid Point Data) & SLD (Single Line Data) data files in required formats from GIS database for using in windMil software (Engineering Analysis</p>		Km	

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		Software for Electric Distribution Network). c) Import STD, MPT & SLD data files into WindMil software to identify errors & correct/ rectify accordingly.				
9	9(a)	Technology Transfer:- Training: Provide training to the concerned GIS personnel. Class size minimum 10, maximum 15 participants. Cost of providing all necessary facilities/ items shall be included in this items.				
	GD-9(a)(i)	First training class with training course development cost.	1	Trainee hour		
	GD-9(a)(ii)	Additional training class.	1	Trainee hour		
	GD-9(b)	Seminar/ Workshop: For a group of 50 people per seminar/ workshop to be arranged at BREB auditorium or at a place arranged by BREB or PBS.		Day		

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		Facilities in BREB auditorium will be available at free of charge. All others required facilities/items shall be included with this item.				
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NB: List of deliverables is included herewith below.

VII. SCOPE OF WORKS AND DELIVERABLES

1. Supply of IRS Panchromatic Image, Spatial resolution: 0.3 to 0.5 M, Frame size: 70 Km×70 Km, should not be older than twelve months from the date of work order (This Item may be supplied by BREB as per condition of RFP).
2. Rectify satellite images precision GPS with differential correction capability.
3. Process satellite imagery to define base map layers that will include structures, rivers, roads, rail track, settlement clusters, other bodies of water and any other important features and landmarks;
4. Integrate existing database to develop base map layers that include political area, boundaries and secondary roads.

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5. Develop mouza map wise population database with the help of latest Bangladesh Bureau of Statistics (BBS) census report and integrate it with political area map.
6. Verify existing electric network system database before starting field survey. Collect the latest updated single line diagram and electrical equipment record database from PBS and verify with the field, to ensure at least 90% of accuracy for every feeder separately.
7. Collection of all pole data for 33 (if above 33 kV line of PBS exist that will be treated as 33 kV) kV, 11 kV and 6.35 kV and low voltage line of rural electric system using prescribed format. Global position of pole and other objects needed for GIS database will be recorded by RTK GPS or DGPS receiver with (\pm) 0.5 meter accuracy. On site processing of GPS data format. Daily field verification of a minimum 10% of poles for verifying accuracy of field data and geographical locations, keeping record as per format and correction of defective data and following day. Daily upload the field data collected in computer.
8. Correct geographically referenced RE network system to close errors created during field data collection. Check each line segment for closure and continuity.
9. Integrate transformer and other equipment record databases with RE network system map. Integrate resulting map into base map and print one set of detail map and two nos, Key map.

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10. Develop GIS analysis macros and incorporate cost & revenue parameters of the PBS for feeder-wise financial evaluation, intensification and electrical line expansion projects and perform those analysis.
11. Develop macros in GIS software to prepare data files (STD, MPT & SLD) from GIS database for using of Engineering analysis by BREB, PBS of Consultant by WindMil, Cyme, ETAP (Engineering analysis software for electric network system) or similar type software using pre-designee macro. Correct/ rectify errors to export those data files into the said Engineering Analysis Software for Rural Electric Network System.
12. Provide training and organize seminar and/ or workshop for concerned personnel of BREB, & PBS people, and GIS Consulting Engineering Firm for transferring knowledge/ knowhow on GIS development and its use.
13. **Deliverables:** Following items are to be delivered at no extra cost as the price is included in respective items in rate schedule.

a) Soft copy (3 copies in different CDs/DVDS):

- i) Surveyed GPS data;
- ii) Data in field data form;
- iii) Completed GIS database;
- iv) Financial analysis results;
- v) Converted WindMil data files (STD, MPT and SLD);
- vi) Detail map and key map layouts;

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vii) All developed macros including source code.

b) Printed copy:

- i) Financial analysis results in a report;
- ii) One set of detail map;
- iii) Two copies of key maps.

VIII. LIST OF MAIN ITEMS TO BE INCLUDED IN THE RFP DOCUMENT

The following main items should be included but not limited to the RFP document-

- (1) **Anexture-2** included in section-V of this PBS Instruction 100-62 (Allocated points/ marks must not be distributed. It is secret for Procuring Entity);
- (2) List of GIS development items to be done by the GIS Development Consultant, included section-VI of this PBS Instruction 100-62 (Estimated unit price must not be included in RFP document);
- (3) Scope of works and deliverables by the GIS Development Consultant, included section-VII of this PBS Instruction 100-62.
- (4) GIS database can be developed including "ALL POLE DATA". Inclusion of all pole data is required, for detail GIS database. However this matter be clarified and written in RFP document and serial number-7 of section **VII (SCOPE OF WORKS AND DELIVERABLES)** of this PBS Instruction 100-62 may need to be corrected accordingly.
- (5) GIS Inventory Work Sheet **BREB Form No. 100-60-01/100-62-01/100-63-01 (Version-1)** (enclosed)

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BREB Form No. 100-60-01 (Version-1)

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**GIS Inventory Work Sheet for 33/11/6.35/0.400/0.230 KV Electrical Line
(RTK/DGPS/GPS Receiver Serial No.)**

PBS Name:
S/S Name:
S/S ID:
Village:
Sheet No.:

Grid Name & Capacity:
Capacity:
Date:
Area:
Supervisor:

Sl No.	Items	Way Point							
		Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.
01	Way Point								
02	Feeder Name/ ID								
03	Pole Number								
04	Latitude								
05	Longitude								
06	Pole Size								
07	Pole Materials								
08	Pole Species ^{1*} (For Wood only)								
09	Pole Type ^{2*}								
10	Pole Fitting								
11	Pole Environment ^{3*}								
12	Pole Location ^{4*}								
13	Conductor Size/Type								
14	Conductor Phase								
15	Conductor Line Voltage (KV)								

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Sl No.	Items	Way Point							
		Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.	Sl No.
16	SS Name and Transformer Capacity (KVA)								
17	Transformer Serial No.								
18	Transformer Connection Phase								
19	Transformer Manufacturer								
20	Transformer Manufacture Year								
21	Name of Consumer								
22	Consumer A/C No.								
23	Category/ Type of Consumer								
24	Load of Consumer								
25	Guy Unit								
26	Jumper Size								
27	Devices-1 ^{5*}								
28	Devices-2 ^{5*}								
29	Landmarks ^{6*}								
30	Remarks								

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BANGLADESH RURAL ELECTRIFICATION BOARD

BREB Form No. 100-60-01 (Version-1)

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Note: For simplification of writing, during filling up the form the following table shall be followed-

1* Pole Species	1 = Yellow Pine, 2 = White Pine, 3 = Red Pine, 4 = Garzon, 5 = Sunduri, 6 = Other Bangladeshi wood
2* Pole Type	1 = Tangent, 2 = Angle, 3 = Tap 4 = Equipment, 5 = Dead End, 6 = Section Pole, 7 = Crossing 8 = Push Pole, 9 = H Pole, 10 = Service Pole, 11 = Others
3* Pole Environment (At bottom part of pole)	1 = 12 Months dry and 0 months under water or wet, 2 = 9 Months dry and 3 months under water or wet, 3 = 6 Months dry and 6 months under water or wet, 4 = 3 Months dry and 9 months under water or wet, 5 = 0 Months dry and 12 Months under water or wet.
4* Pole Erected On	1 = Cannel, 2 = Farm Land, 3 = Water Bodies, 4 = Dry Land, 5 = High Land, 6 = Residential Land, 7 = Social Forest, 8 = Natural Forest
5* Devices	1 = ACR/OCR/Breaker, 2 = Voltage Regulator, 3 = Isolator, 4 = ABS, 5 = Disconnect Switch, 6 = Oil Switch, 7 = Lightning Arrester, 8 = Fuse Cut-Out, 9 = Capacitor
6* Land Mark	Name of Grid Sub-Station, Name of PBS Sub-Station, Name of Switching Station, Name of Zonal Office, Name of Other BREB/ PBS Office, Name of Monument, Name of Educational Institute, Name of Government Office, Name of NGO, Name of Religious Institute, Name of Other Important Infrastructure
Pole Materials	Wood, Steel, SPC, Concrete etc.

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**Guideline, how to fill up the BREB Form No.
100-60-01(Versoin-1)**

**GIS Inventory Work Sheet for 33/11/6.35/0.400/0.230 KV Electrical Line
(RTK/DGPS/GPS Receiver/Total Station Serial No.)**

PBS Name: *Name of concern PBS*, Grid Name & Capacity: *Grid name with capacity*
 PBS S/S, ID & Capacity: *Name with ID & capacity*, Date: *Survey date (dd/mm/yyyy)*
 Village: *Name of village* Area: *Moholla*
 Sheet No.: *Number of sheet* Surveyor: *Name of person, who performed survey*

ক্রঃ	আইটেম	ছক পূরণ করার নিয়মাবলী
01	Way Point	এখানে GPS Receiver এ দেখানো Way Point Serial নাম্বার লিখতে হবে। যেমনঃ GPS Receiver এর 03 Serial No. এর অনুকূলে তথ্য নিলে ঐ Serial No. লিখতে হবে।
02	Feeder Name/ ID	এখানে ফিডার নাম/নাম্বার লিখতে হবে। যেমনঃ 33KV লাইনের ক্ষেত্রে ফিডারের পূর্ণ নাম লিখতে হবে অর্থাৎ ৩৩ কেভি Feeder এর নাম Ashulia হলে এ ক্ষেত্রে Ashulia লিখতে হবে এবং উপকেন্দ্রর ফিডারের জন্য বরাদ্দকৃত আইডি নম্বর লিখতে হবে। 11KV লাইনের ক্ষেত্রে ফিডারের নাম্বার অনুসারে অবশ্যই একটি নাম্বার ও একটি অক্ষর দিয়ে ফিডার এর নামকরণ করতে হবে অর্থাৎ ফিডারের নাম্বার অনুসারে যথাক্রমে 1A, 2B, 3C ইত্যাদি লিখতে হবে।
03	Pole Number	ক) ৩৩ কেভি সোর্স লাইনের ক্ষেত্রে প্রথমে গ্রীড এর জন্য G এবং পাওয়ার প্লান্ট এর জন্য P লিখতে হবে এর পর গ্রীড/পাওয়ার প্ল্যান্টের নামের প্রথম ০৩টি অক্ষর, হাইপেন (-) দিয়ে প্রধান প্রকৌশলী (প্রকল্প) এর দপ্তর কর্তৃক জারীকৃত সার্কুলার অনুযায়ী পবিস কোড ক্যারেক্টার, হাইপেন (-) দিয়ে ফিডারের নামের প্রথম তিন অক্ষর, তারপর হাইপেন (-) দিয়ে পোল নাম্বার লিখতে হবে। যেমনঃ-৩৩ কেভি সোর্স যদি গ্রীড হয় এবং গ্রীডের নাম SAVAR, সমিতির নাম Dhaka PBS-1 এবং ফিডারের নাম BISMILE হয়, সে ক্ষেত্রে সম্পূর্ণ Pole Number হবে- GSAV-DH1-BIS-1, GSAV-DH1-BIS-2, GSAV-DH1-BIS-3 ইত্যাদি। আবার ৩৩ কেভি সোর্স যদি পাওয়ার প্ল্যান্ট হয় এবং পাওয়ার প্ল্যান্টের নাম Ashulia Power Plant, সমিতির নাম Dhaka PBS-1 এবং ফিডারের নাম JIRABO হয়, সেক্ষেত্রে সম্পূর্ণ Pole Number হবে- PASH-DH1-JIR-1, PASH-DH1-JIR-2, PASH-DH1-JIR-3 ইত্যাদি। এছাড়া এতদসংক্রান্ত এসইএন্ডডি পরিদপ্তর কর্তৃক সর্বশেষ জারীকৃত সার্কুলার (স্মারক নং-১৭৪৫, তারিখঃ ৩১/০১/২০১৭ খ্রিঃ) অনুসরণ যোগ্য।
		খ) ১১ কেভি লাইন ও ৬.৩৫ কেভি লাইনের ক্ষেত্রে ১১ কেভি লাইন ও ৬.৩৫ কেভি লাইনের পোল নাম্বারিং এসইএন্ডডি পরিদপ্তর কর্তৃক সর্বশেষ সার্কুলারের স্মারক নং-১৭৪৫, তারিখঃ ৩১/০১/২০১৭ খ্রিঃ মোতাবেক উপকেন্দ্রের নামকরণ ও ফিডার নাম্বারিং করতে Microsoft Excel Sheet এবং As Built Staking Sheet এ নিম্নলিখিতভাবে পোল নাম্বারিং করতে হবে। যেমনঃ উপকেন্দ্রের নাম SAVAR, পবিসের নাম Dhaka-1 এবং ফিডার নাম্বার 2B হলে, এক্ষেত্রে পোল নাম্বারিং হবেঃ SA-DH1-2B-1,

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		SA-DH1-2B-2, SA-DH1-2B-3 ও SA-DH1-2B-4 ইত্যাদি। এ ছাড়া উক্ত S/S হতে যতগুলো ফিডার বের হবে ঠিক ততগুলোতে অনুরূপভাবে পোল নাম্বারিং করতে হবে। উল্লেখ্য যে, S/S এর ফিডার নাম্বারিং করতে ৩৩কেভি সোর্স লাইনকে পিছনের দিকে রেখে লোডের দিকে মুখ করে ঘড়ির কাঁটার বিপরীতে (এ্যান্টি ক্লকওয়াইজ) অর্থাৎ ডান দিক হতে ফিডার নাম্বার করতে হবে।
04	Latitude	GPS Receiver এ দেখানো Latitude লিখতে হবে। যেমনঃ 23.45605 অর্থাৎ দশমিকের পর কমপক্ষে ৫ (পাঁচ)টি সংখ্যা লিখতে হবে।
05	Longitude	GPS Receiver এ দেখানো Longitude লিখতে হবে। যেমনঃ 90.36737 অর্থাৎ দশমিকের পর কমপক্ষে ৫ (পাঁচ)টি সংখ্যা লিখতে হবে।
06	Pole Size	Pole এর সাইজ বলতে Pole টি কত লম্বা ও উহার ক্লাস কত তা লিখতে হবে। যেমন 35'-5, 40'-5 ইত্যাদি লিখতে হবে।
07	Pole Materials	পালের ধরণ অনুযায়ী Wooden/SPC/Steel ইত্যাদি লিখতে হবে।
08	Pole Species ^{1*} (For Wood only)	পোল কাঠের হলে উহা কি কাঠ তা লিখতে হবে।
09	Pole Type ^{2*}	এসইএন্ডডি পরিদপ্তর কর্তৃক সর্বশেষ জারীকৃত সার্কুলার নং- ১৭৪৫, তারিখঃ ৩১/০১/২০১৭ খ্রিঃ অনুসরণযোগ্য। উক্ত সার্কুলারে ১৩(তেরো) ধরণের পোলকে কন্ট্রোল/কী পোল হিসেবে চিহ্নিত করা হয়েছে। যেমনঃ ফিডারের/লাইনের প্রথম পোল (Starting Pole), ট্যাপ পোল (Tap Pole), ক্রস সেকশন পোল, এ্যাংগেল পোল, রোড/রেল/নদী/গভীর ও বড় জলাশয়/হ্রদ ইত্যাদি ক্রসিং এর উভয় পাশের পোল অথবা দৃশ্যমান হলে যে কোন এক পাশের পোল, সেকশনলাইজিং পোল, ডেড-এন্ড পোল, ইকুইপমেন্ট পোল এবং পুশ পোল ইত্যাদি। এ ছাড়াও Tangent Pole, H Pole, Structure Pole & Service Pole ইত্যাদি লিখতে হবে।
10	Pole Fitting	Pole এর Fittings এর নাম লিখতে হবে। যেমনঃ T1, T2, C1, A1, A5 ইত্যাদি।
11	Pole Environment ^{3*}	Pole এর অবস্থান কেমন স্থানে যেমন- বৎসরে কত মাস শুকনো বা কত মাস জলমগ্ন অথবা আর্দ্র থাকে তা লিখতে হবে। খাল (Canal)/ জলাভূমি (Wet Land)/ শুকনো স্থান (Dry Area,)/ কৃষি মাঠ (Farm Land) ইত্যাদি লিখতে হবে।
12	Pole Location ^{4*}	পোল কি ধরনের ভূমিতে স্থাপন করা আছে তা এই ঘরে লিখতে হবে। যেমন- কৃষি জমি, জলাভূমি, সামাজিক বনভূমি, প্রাকৃতিক বনভূমি, আবাসিক এলাকা, উঁচু বা পাহারী ভূমি ইত্যাদি
13	Conductor Size/Type	Conductor Size/Type লিখতে হবে। যেমনঃ #477MCM, #4/0 ACSR, #1/0 ACSR, Dog, Marlin, Rabbit ইত্যাদি।
14	Conductor Phase	Single Phase Conductor হলে R অথবা Y অথবা B, Three Phase Conductor হলে R-Y-B (Horizontal Line এর ক্ষেত্রে) বা Y-R-B (Vertical Line এর ক্ষেত্রে) লিখতে হবে।
15	Conductor Line	Conductor Line Voltage এর ক্ষেত্রে কত KV এর Line তা লিখতে হবে। যেমনঃ

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	Voltage (KV)	33/11/6.35/0.400/0.230 ইত্যাদি লিখতে হবে।
16	Transformer Capacity (KVA)	সিঙ্গেল ফেজ Transformer এর ক্ষেত্রে 5, 10, 15, 25, 37.5, 50, 75, 100, 200 KVA ইত্যাদি এবং Transformer Bank এর ক্ষেত্রে 10-10-10, 37.5-10-75 KVA ইত্যাদি লিখতে হবে।
17	Transformer Serial No.	Transformer এর গায়ে লিখিত Serial No. লিখতে হবে।
18	Transformer Connection Phase	Single Phase হলে R অথবা Y অথবা B, Transformer Bank হলে Bank লিখতে হবে এবং Three Phase (PDB Type) হলে R-Y-B।
19	Transformer Manufacturer	নেম প্লেট ডাটা থেকে Transformer এর গায়ে লিখিত Manufacturer এর নাম লিখতে হবে লিখতে হবে।
20	Transformer Manufacture Year	নেম প্লেট ডাটা থেকে Transformer এর গায়ে লিখিত Manufacture Year লিখতে হবে লিখতে হবে।
21	Name of Consumer	গ্রাহকের নাম পবিসে ব্যবহৃত Billing Software থেকে সংগ্রহ করতঃ লিখতে হবে। [প্রযোজ্য ক্ষেত্রে]
22	Consumer A/C No.	গ্রাহকের Account No. পবিসে ব্যবহৃত Billing Software থেকে সংগ্রহ করতঃ লিখতে হবে। [প্রযোজ্য ক্ষেত্রে]
23	Category/ Type of Consumer	গ্রাহকের Category/Type পবিসে ব্যবহৃত Billing Software থেকে সংগ্রহ করতঃ লিখতে হবে। যেমন- Domestic/Commercial/Char. Inst./Irrigation/GP/LP/St. Light/Solar etc [প্রযোজ্য ক্ষেত্রে]
24	Load of Consumer	গ্রাহকের Load পবিসে ব্যবহৃত Billing Software থেকে সংগ্রহ করতঃ লিখতে হবে। [প্রযোজ্য ক্ষেত্রে]
25	Guy Unit	Guy Unit এর ক্ষেত্রে E1-1, E1-2, E1-3, E2-1, E2-2, E2-3, E5-1, E5-2, E6-2, E6-3 ইত্যাদি লিখতে হবে।
26	Jumper Size	Jumper Size অর্থাৎ Jumper এর কি Size এর Conductor ব্যবহৃত হয়েছে তা লিখতে হবে। যেমনঃ #477 MCM, #4/0 ACSR, #1/0 ACSR, #3/0 ACSR, Dog, Marlin, Rabbit ইত্যাদি।
27	Devices-1 ^{5*}	Transformer বাদে অন্যান্য যে কোন Device থাকলে তার নাম লিখতে হবে। যেমনঃ ACR/OCR, Voltage Regulator, Isolator, ABS, DS, CT, PT, Fuse-Cutout, L.A., Capacitor ইত্যাদি।
28	Devices-2 ^{5*}	একাধিক Device হলে অবশিষ্ট আইটেমগুলো কমা (,) দিয়ে লিখতে হবে।
29	Landmarks ^{6*}	কোন গুরুত্বপূর্ণ স্থাপনা থাকলে তার নাম লিখতে হবে। যেমনঃ Grid S/S, S/S, Switching Station, PBS HQ, BREB Office, School, College, Hospital, Govt./Private Office, NGOs,

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৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০৩০

		Important Infrastructure, Monuments, Religious structure ইত্যাদি। এক্ষেত্রে সংশ্লিষ্ট কলামটির শুধু ০৪, ০৫ ও ২৫ নং Row পূরণ করে বাকি Row গুলো ফাঁকা রাখতে হবে।
30	Remarks	ডাটা সংগ্রহের ক্ষেত্রে প্রয়োজনীয় কোন তথ্য থাকলে, তা এখানে উল্লেখ করতে হবে।
GPS Receiver Serial No.: পবিস-এ একাধিক GPS Receiver ব্যবহৃত হলে, সেক্ষেত্রে বর্ণিত Inventory Sheet এ ব্যবহৃত GPS Receiver এর Serial No. লিখতে হবে।		

বিঃ দ্রঃ- আলোচ্য Inventory Sheet এ মাঠ পর্যায়ে কাজ করার সময় কোন সমস্যা দেখা দিলে তা তত্ত্বাবধায়ক প্রকৌশলী (জিআই) এর কার্যালয়কে অবহিত করতে হবে।

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