

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION: 100-61

**GUIDELINE FOR ENGINEERING ASSESSMENT OF
TAKEN-OVER FACILITIES FROM OTHER UTILITIES/
COMPANIES/ ORGANIZATIONS**

**RURAL ELECTRIFICATION BOARD
PBS INSTRUCTION 100-61**

Approval Date: 14/06/2005
Revision Date : 19/02/2020

**SUBJECT: GUIDELINE FOR ENGINEERING ASSESSMENT OF TAKEN-
OVER FACILITIES FROM OTHER UTILITIES/ COMPANIES/
ORGANIZATIONS**

1. GENERAL

1.1. Scope


To develop a set of guidelines that identify and prioritize the work needed to renovate power lines and substations taken over by the Palli Bidyut Samity's (PBSs) from other electrical entities in Bangladesh. This PBS Instruction 100-61 will supplement PBS Instruction 100-37 (BREB Instruction 500-09), "Electrical System Take Over Policy and Procedure".

1.2. Purpose

Power lines and substations are being taken over by the PBS systems in rural, municipal and metropolitan areas. The purpose of this instruction is to document the best practices being done at PBS systems now and to develop new procedures that will improve the process so that the takeover of Bangladesh Power Development Board (BPDB) and other entities/ utilities' facilities will go as smoothly and consistently as possible from one PBS to another.


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1.3. Background

The facilities transferred over are often in very poor condition after many years of substandard or deferred maintenance. In addition, the taken-over electric network systems are European standard three-phase systems with three-phase delta-wye (Δ -Y) transformers feeding large secondary sections. The secondary is usually three-phase 230/400 voltage, though the extreme ends commonly reduce to single phase. Substations are also European style, with two 3-Phase 33/11 kV transformers, typically of 10 MVA each, feeding 11 kV switchgear located in a separate control building.

It is desirable to eventually convert most of the taken-over systems to the PBS standard four-wire system.

2. ELECTRIC NETWORK SYSTEM RENOVATION PROCEDURES

2.1. General

While some PBS systems have been renovating taken-over systems for several years and there is some consistency in the process from one PBS to another, the documentation of the procedure needs to be improved. It is desirable to have a consistent, documented procedure so that evaluations can be made by the Bangladesh Rural Electrification Board (BREB) and others in a uniform manner from one takeover section to another.

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2.2. Field Inventory

The first step in the process is a field inventory. An accurate field inventory is essential to evaluate the renovation that may be needed. The following items should be recorded for each structure during this initial process:

- Pole dimensions (height/class), type, and condition of material;
- Primary (HT) construction units and condition of materials;
- Secondary (LT) construction units and condition of materials;
- Number, direction, length, and wire size of service drops, including condition of materials;
- Location and names of existing and potential customers if known (load included for three-phase customers);
- Secondary wire designation, sketch, span length, number of jumper, twist, splices, and condition;
- Primary wire designation, sketch, span length, number of splices, jumper, twist, and condition;
- Transformer units, phase connection, rating, serial number, and other available important nameplate data and condition.

See section 3 for guidance and criteria in determining whether to reuse or retire equipment and material when renovating a takeover area. This first assessment of the taken-over system and condition is important in determining the renovations needed and priority of making required changes.

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2.3. Inventory Sheet

The inventory should be documented on a form similar to that of a staking sheet that organizes the units in a logical manner so that the makeup of the structure can easily be determined (Figure-1). Since construction of taken-over lines is different from new BREB construction, taken-over construction unit designations should be used and referenced in all taken-over documents. A uniform list of typical taken-over construction units and unit designations, along with appropriate drawings, is in a separate publication titled, "Taken-Over Design Unit Drawings" as approved by the Chief Engineer (Project). Inventory sheets should be grouped by area that encompasses a lateral or small section of the main feeder so that renovation priority decisions can be made for the entire group. A sketch of the inventory section group should be included for geographical reference. On the cover page a tabular summary of the types of line should be noted in a format shown in Table-1.

In addition, tabulation of total legal and illegal consumer counts should be included in the format shown in Table 2 on the cover sheet to the inventory staking sheet group.

Tabulations of totals for conductor sizes and lengths for LT, HT, service wire and non-standard conductors should be included in a format shown in Table-3.

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PBS INVENTORY SHEET

PSS **NETKALIA**

POST OFFICE STATION: **BAKHATTA** REGION: **BAUSHI** NAME: **CHALI-KURA WAP REVENUE**

POST OFFICE REF: _____ PRIMARY WIRE NO. & SIZE: **3XR** PRIMARY WIRE CODE: _____

DATE: _____

Sl. No.	Post No.	Post Name	Post Type	Post Status	Post Category	Post Sub-Category	Post Code	Post Group	Post Section	Post Sub-Section	Post Code	Post Group	Post Section	Post Sub-Section	Post Code	Post Group	Post Section	Post Sub-Section	
26	90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

(Handwritten notes and signatures are present on the form, including a signature at the bottom right.)

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