

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION 100-29

SUBSTATION OPERATION, INSPECTION AND MAINTENANCE

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION 100-29

Approval Date: 18/08/1983

Revision Date : 19/02/2020

SUBJECT: SUBSTATION OPERATION, INSPECTION AND MAINTENANCE

1.0 GENERAL

1.1 SCOPE

This part of the substation manual presents guidance in operation of PBS distribution substations on all PBS systems. It is intended to provide guidance to operating personnel for the continuous, reliable and safe operation of substations and their component parts.

1.2 OPERATING RESPONSIBILITIES

Responsibility for operation of the distribution substations will be assigned to the Senior General Manager/ General Manager of each PBS area. Some of this responsibility can be delegated to the Assistant General Manager (Operation and Maintenance) and his/ her subordinates provided these subordinates have adequate training before they are allowed to operate equipment in a substation. Responsibility for the inspection and maintenance of the substations will also be assigned to the Senior General Manager/ General Manager who will delegate some responsibility to the Assistant General Manager (Operation and Maintenance). But the overall responsibility must be maintained by the General Manager and the Deputy General Managers of the concerned zonal offices. The position of AGM(O&M) must be staffed by adequate manpower, vehicles, tools, and test equipment.

1.3 OPERATION PLANNING

All operations in a substation must be carefully planned to avoid accidents and equipment damage. If careful planning is not done, problems can develop which may cause increased outage time and equipment failure or damage. In switching operations in a substation, "think then switch". All non-emergency switching operations must have a written approved switching order.

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1.4 SUBSTATION LOGBOOK

A logbook shall be maintained at each substation. This logbook constitutes a record of all activities that take place at the substation. It should include entries regarding:

- Any switching operation at the substation
- Visits to the substation by personnel (give reason for the visit)
- Inspection and maintenance activities
- Other activities of note at the substation

The recommended column headings for the logbook are as follows:

Date	Time		Personnel Name, Designation & Office	Activity or Reason for Visit	Signature
	Arrived	Departed			

1.5 SUBSTATION RECORDS

Each PBS Headquarters shall maintain a file for each substation. This file shall contain all pertinent information regarding the substation and the equipment installed therein. See the Substation Equipment Forms and Substation Testing and Commissioning Forms in this section.

At each PBS Headquarters, a record system shall be established to properly maintain and permit analysis of the data obtained from the substation inspection reports. Information from each inspection report shall be recorded to show pertinent data on:

- Transformer Banks
- Regulators
- Three Phase ACR/ OCR/ Breaker
- Single phase ACR/ OCR/ Breaker
- Feeder Loads
- Any additional data of note

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Records of substation inspections should include readings of all indicated and recorded electrical quantities, times and dates, ambient weather conditions and reference to work orders or job orders showing remedial work performed as a result of each inspection.

Files for each substation should include up-to-date drawings of substation wiring, structures, equipment, manufacturer's descriptive literature, instruction books, part lists and locations. Section 23 - "Reference Material" may be seen.

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BREB Form No. 100-29-01 (Version-1)

Name of PBS _____

METER RECORD CARD

METER DATA - (By Meter Department)

Manufacturer _____ Type _____ Serial No. _____

Test Amps _____ Volts _____ Kh _____ Full Scale Demand - KW _____ Multiplier _____

INSTALLATION AND REMOVAL DATA - (By Finance Dept. - From Customer Meter Order)					
CUSTOMER NAME	LOCATION/ ACCOUNTS NO.	INSTALLATION		REMOVAL	
		Date	Reading	Date	Reading

Date Retired _____ Reason _____ Reference _____

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Master Test Data - (From Meter Dept.)

Test Date	Reason for Test	As Found				As Left				Type of Repairs	Tested By
		KWH Reading	FL	LL	50% PF	KWH Reading	FL	LL	50% PF		

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BREB Form No. 100-29-02 (Version-1)

Name of PBS _____

ACR/ OCR/ BREAKER RECORD CARD

MANUFACTURER _____ TYPE _____ YEAR _____ SERIAL NO. _____

PHASES _____ VOLTS _____ CAT NO. _____

CONTINUOUS RATING AMPS _____ INTER RATING AMPS _____

DELIVERY DATE _____

INITIAL INSTALLATION DATE _____

Date Installed	Location	ACR OCR/ Breaker Number	Date Removed	Reason

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