

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION: 100-49

PBS HOT LINE WORK ADMINISTRATION

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SUBJECT: PBS HOT LINE WORK ADMINISTRATION

I. PURPOSE:

The purpose of this instruction is to define hot line work and establish the administrative provisions that are required for its successful implementation in a PBS. PBS Instruction 100-50, "PBS Hot Line Work Operations" should be referred to for detailed technical information concerning the requirements for different kinds of hot line work.

II. DEFINITION OF HOT LINE WORK

Briefly stated hot line work is "**WORK ON ELECTRICAL LINES WITHOUT DE-ENERGIZING**". For the purposes of this policy instruction this refers to any kind of maintenance, construction or operations on energized lines beyond simple energization or de-energization. This work may be performed on 33 KV, 11 KV, and 0.4 KV & 0.23 KV lines that are owned and operated by a PBS.

III. THE ADVANTAGES OF HOT LINE WORK

Hot line work involves the performance of required additions and modifications to PBS lines without interrupting service to consumers. Normally such work involves lengthy outages as linemen travel to and from work sites and perform their duties. By avoiding these outages the PBS will realize greater and continuous revenue. A typical substation feeder, for example carries 1,000 kilowatt-hours of energy per hour. De-energizing such a feeder for several hours costs the PBS the difference between the wholesale and average retail costs of the energy that would have been delivered.

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In addition to obvious economic benefits to the PBS, implementation of hot line work results in greater CUSTOMER SATISFACTION. The owners of industrial and irrigation loads, in particular are extremely sensitive to power interruptions.

In conjunction with the above it can be shown that hot line work will result in **STRONGER INDUSTRIES AND ECONOMIES IN THE PBS AREAS**. Reliable power supply is a key factor in load building and attracting industrial loads. Once those loads are established reliable power is a key factor in helping them to operate successfully.

IV. THE PERFORMANCE OF HOT LINE WORK

For the purposes of this policy instruction it is sufficient to state that hot line work is safely carried out by making safe the structures to be worked on through the following techniques:

1. **COVERING UP ENERGIZED COMPONENTS**
AND/OR
2. **MOVING ENERGIZED COMPONENTS AWAY FROM WORK**
AND
3. **USE INSULATED TOOLS TO MANIPULATE ENERGIZED COMPONENTS**
AND
4. **WHEN REQUIRED USE RUBBER GLOVES**

MANY SPECIAL TECHNIQUES, SKILLS AND TOOLS ARE REQUIRED for proper hot line work. PBS Instruction 100-50, "PBS Hot Line Work Operations"

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specifies the exact tools and personnel required to carry out various jobs. Virtually all work required in a PBS can be performed safely by hot line crews **IF THE PROPER TOOLS AND TRAINED PERSONNEL ARE AVAILABLE**. If the required tools and personnel are not available when and where work must be performed, that work must be done by the traditional "de-energize and temporary ground" method. If these simple principles are adhered to, hot line work can be carried out safely. If these principles are not adhered to, a dangerous situation may arise and any personnel making decisions contrary to these principles will be held responsible for that situation.

V. PROVISION OF PERSONNEL AND TOOLS FOR HOT LINE WORK

It is the aim of BREB to arrange for the training of hot line personnel and the acquisition of hot line tools for PBS systems in an orderly and thorough manner. In general, efforts will be made to train linemen as tools become available for transformer work and for general work. Constraints on training facilities and the inherent nature of this training are appropriate to result in a significant time requirement for this program to be completely implemented. Details of courses for hot line training will be maintained and updated periodically by the Training Directorate as reflected in the BREB Curriculum Plan.

Linemen and other O&M department personnel are to receive all vital information and skill development for successful hot line work in training courses arranged by the Training Directorate. Selection of candidates for Hot Line Training will be made from linemen who have successfully completed at least Lineman Part II training. In addition, preference will be given to linemen who demonstrate higher degree of the following qualities:

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- (a) Discipline, (b) Ability to Communicate, (c) Ability to Cooperate with Others, (d) Ability to Concentrate, and (e) Practical Working Skills.

Certification shall be made to linemen on successful completion hot line training. **ONLY LINEMEN WHO HAVE BEEN CERTIFIED BY BREB UPON SUCCESSFUL COMPLETION OF HOT LINE TRAINING SHALL BE CONSIDERED HOT STICK LINEMEN.**

It has been determined that one of the most costly types of PBS work in terms of outages is transformer work - installations, change outs and retirements. For this reason, special training will be arranged for qualified linemen on transformer work only. Industry based PBSs may operate transformer hot line works for better benefit of customers as well as for PBS itself also. These PBSs require procuring hot line tools for transformer work only. Training for "Transformer Hot Stick Linemen" shall be carried out in a manner similar to the full "Hot Line Training". Certification of Transformer Hot Stick Linemen shall be made by the same procedure described in the paragraph above. **ONLY LINEMEN WHO HAVE BEEN CERTIFIED BY BREB QUALIFY AS TRANSFORMER HOT STICK LINEMEN.** Eventually Transformer Hot Stick Linemen will be trained as Hot Stick Linemen. This intermediate stage will help a greater number of PBS systems to reap some of the benefits of hot line work earlier.

A PBS shall be considered qualified to carry out hot line work within its own territory when the tools and linemen are available to perform any of the jobs outlined in PBS Instruction 100-50.

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VI. STATUS AND COMPENSATION FOR HOT STICK LINEMEN

- (a) Any lineman who has been fully trained and certified by BREB as successfully completing hot line training shall be designated as "Hot Stick Lineman". This will be in addition to that lineman's ordinary designation as "Assistant Lineman" or "Lineman", etc. The bearer of the designation of "Hot Stick Lineman" shall be entitled to receive a monthly hot line work allowance. Amount of hot line work allowance for "Hot Stick Lineman" will be fixed up by BREB time to time.
- (b) Any lineman who has been trained and certified by BREB as successfully completing transformer hot line training shall be designated as "Transformer Hot Stick Lineman". This will be in addition to that lineman's ordinary designation as "Assistant Lineman" or "Lineman", etc. The bearer of the designation of "Transformer Hot Stick Lineman" shall be entitled to receive a monthly "Transformer Hot Stick Lineman" allowance, which will be fixed up by BREB time to time and of course, it will be higher than "Hot stick Lineman" allowance.
- (c) If BREB and/or PBS are decided that "Hot Line Maintenance Work" will never be done in future in PBS electrical system for various reasons, such as reduction of risk, elimination of risk compensation, extra ordinary development of electrical network system, provision of dual power supply source to serve consumers as alternate of Hot Line Maintenance Work, Hot Line allowance shall not be given from that day of such decision.

VII. PBS LINEMAN STAFFING PATTERN WITH HOT STICK LINEMEN

A PBS "Hot Stick Lineman Crew" shall consist of 6 qualified "Hot Stick Linemen". When a PBS crew obtains one "Hot Stick Lineman Crew" this crew shall be assigned together in the PBS headquarters. The number of linemen working in the PBS headquarters shall then be increased.

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The Hot Stick Lineman Crew shall be especially responsible for all types of line maintenance activities including line inspection patrolling, maintenance planning and actual maintenance work.

If there is no sufficient number of "Hot Stick Lineman" in a PBS to form a group, Director of System Operation, BREB will form group among the qualified "Hot Stick Lineman" and accordingly will propose to transfer them.

VIII. DRESS CODE OF HOT STICK LINEMEN

The Hot Stick Lineman Crew shall be given of especial color and quality dress. Their shirt will be of orange color and pant will be deep blue of jeans.

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