



Bangladesh Power Development Board
INTEGRATED MANAGEMENT SYSTEM
(BASED ON ISO 9001:2015, ISO 14001:2015 & ISO
45001:2018 STANDARDS)

PERMIT TO WORK



INTEGRATED MANAGEMENT SYSTEM

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1. Purpose

The purpose of the standard HOLD OFF (Permit to work) system is to give protection to employees when working on electrical, mechanical or other equipment.

The HOLD OFF (Permit to work) gives authority for definite work to be done on specified apparatus and guarantees that certain conditions will be maintained which this work is being carried out.

2. Scope

A HOLD OFF (Permit to work) may be issued in any one of the following forms: -

- a. Clearance for work: -
 - i. Written clearance for work
 - ii. Verbal clearance for work
- b. Permission for work: -
 - i. Written work and test permit,
 - ii. Verbal work and test permit,
 - iii. Verbal Permission for work on live lines
 - iv. Verbal Permission for work on live station equipment.
 - v. Verbal Permission for work on relay protections control, metering and communication circuits.

SPECIAL NOTE: The Permit to Work, When Applied to An Electrical System or Mechanical System, Of A Plant, Must Comply with Requirements Stated in Part – II, Section - 1 (Electrical) And Section – 2 (Mechanical) Of Safety Practices and Procedure for Generation, Transmission, And Distribution of The Power Development Board, As Revised and Enlarged in October 1992.

3. Terms and Definition

None

Abbreviations


PTW – Permit to Work

BPDB – Bangladesh Power Development Board

4. Roles and Responsibility

All types of HOLD OFF (Permit to work) may only be issued by the operator-in-charge.

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5. Procedure

BPDB has a set of documents which is mandatory to be complied with at all levels. There is a detailed Hold Off (Permit to Work) Procedure in it.


This procedure is a replica of the same with certain enhancement for improvement of the applicability.

No matter what is mentioned in this document, if there is a conflict between this document and any part of the “Part I, General Regulations and the Standard Operating Code”, “Part II, Safety Practices and Procedure for Generation, Transmission and Distribution” and “Part III, Appendices” documents, then the requirement of the documents mentioned above will prevail over this Permit to Work Procedure.

5.1 Regulations Concerning the HOLD OFF system (Permit to work system)

- No one is permitted to change, adjust, disturb or in any way interfere with apparatus which is in service or which is being held in reserve and ready for immediate service without the knowledge and permission of the **operator-in-charge**.
- Before any work is started on electrical lines, station, equipment or any apparatus including protection, control, metering, communication, fixed firefighting equipment and pressurized systems, whose shutdown or removal from service affects or might affect the operation of a station or a system, **the man in charge** must first obtain a HOLD OFF (Permit to work) from the **operator-in-charge**, irrespective of and in addition to any previous arrangements made or order issued by the operator's supervisors or any other person.
- No HOLD OFF (Permit to work) will be issued to anyone not directly associated with the station or Division unless special arrangement have been made with the Manager SE/Division Officer (Executive Engineer).
- The person who issues the permit to work (i.e., the permit authority or the representative of this authority) is responsible for:
 - (i) Confirming that the precautions on the permit to work are adequate to control the hazards associated with the work.
 - (ii) Reviewing the scope of work and ensuring that all hazards and precautions are fully described by the permit to work.
 - (iii) Ensuring there are no conflicting concurrent activities

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(iv) Confirming that all the relevant parties have been consulted and have been provided their input.

- The applicant for HOLD OFF (Permit to work) must advise the operator as to: -
 - To follow the safety instruction specified in this manual
 - The type of HOLD OFF (Permit to work) required.
 - The apparatus to be covered by the HOLD OFF (Permit to work).
 - The nature of the proposed work.
 - The estimated time of completion. In addition, the applicant must give any other information which is necessary for a complete understanding between himself and the operator.
- A verbal WORK AND TEST PERMIT must not be issued to an operator for subsequent reissue. **It must be issued directly to the man in charge of the work.**
- With the exception of a WORK AND TEST PERMIT it is permissible for an operator in charge to obtain a verbal HOLD OFF (permit to work) from the system operator and then to issue subsequent HOLD OFF (permit to work) to the men in his own station or jurisdiction.
- **Station or Divisional Officer must issue a list of men capable and authorized to receive each type of HOLD OFF (permit to work) on specified lines and equipment.** A copy of this list must be supplied to the operating headquarters having jurisdiction in that area. The operators will issue HOLD OFF (Permit to work) only to such authorized persons. **The list must be reviewed and if necessary, revised every six months.**
- The HOLD OFF issuer will specify the duration of the permit of the work. The period for completion of the work is not exceeding the maximum duration of the permit to work as defined by the start and end time.
- All personnel authorized to take verbal HOLD OFF (Permit to work) by telephone or radio must be supplied with a diagram of the line or apparatus involved, showing the clearance points. When issuing and returning verbal HOLD OFF (Permit to work) they must be repeated back to avoid any misunderstanding.
- The Manager/SE of the station or Divisional Officer must see that the operation personnel of customers or allied companies are made familiar

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with the Power Development Board's regulations, concerning the HOLD OFF (Permit to work) system. These regulations must be strictly adhered to at all times when HOLD OFF (Permit to work) are being issued on the Power Development Board's equipment.

- Only one WORK AND TEST PERMIT may be issued on any given place of equipment at one time. Special care must be exercised to ensure that the number of HOLD OFF (Permit to work) issued on any one specific place of apparatus is kept to a minimum. **No more than four HOLD OFF (Permit to work) are to be issued on a specific place of apparatus at the same time unless special arrangements have been made. All HOLD OFF (permit to work) issued on the same line or place of apparatus are to be grouped and recorded in sequence on the station log.** Also, appropriate separate operating diagram pins are to be used for each HOLD OFF (permit to work).
- At attended stations, the operator, before issuing any HOLD OFF (Permit to work), must accompany the applicant to the cleared apparatus pointing out the location of all protecting grounds and warn him of any features which area hazard to personnel or service and which should be guarded against, in the case of remote unattended stations or lines, the same warnings must be given verbally.
- In the case of a supervisory controlled station, verbal HOLD OFF (Permit to work) are to be used and some of the necessary switching may be required to be done by the applicant under orders of the operator in charge. In these instances, the applicant must be familiar with the equipment concerned, standard and/or Local Operating instructions and must adhere strictly to the rules regarding the use of Switching order Forms. The operator instructions must be followed explicitly.
- After a HOLD OFF (Permit to work) has been issued, the operating staff must not make use of the specified apparatus until all HOLD OFF (Permit to work) on that apparatus have been properly returned and accepted.
- Workmen are permitted to transfer from one type of HOLD OFF (Permit to work) to another as often as desired provided the proper procedures, especially the WORK AND TEST PERMIT limitations, are always followed and that the limitations and governing conditions of each type of HOLD OFF (Permit to work) are strictly observed.

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- The operator must register in red ink the issuing and return of all HOLD OFF (Permit to work) in the station or office log sheets and log books giving: -
 - a. Time.
 - b. Name of person to whom the HOLD OFF (Permit to work) was issued.
 - c. Designation of the apparatus or line and the limiting points between which the HOLD OFF (Permit to work) applies.

In addition, the operator must insert the appropriate pins on his pin diagram indicating the limits of the line or apparatus on which the HOLD OFF (Permit to work) has been given.

- The operator after issuing a HOLD OFF (Permit to work), may demand its return under urgent or unforeseen circumstances. If the man in charge, to whom the HOLD OFF (Permit to work) was issued, considers the apparatus unsafe for use or his work so advanced that the apparatus cannot be made available for service immediately, then he must refuse to return his HOLD OFF (Permit to work). The matter must then be referred to the station or Divisional Officer.
- If, after completion of the work on which a HOLD OFF (Permit to work) has been issued, the holder leaves without returning same to the operator, such holder will be personally responsible for returning the HOLD OFF (Permit to work) properly signed at whatever hour it may be required. If due to accident, sickness or any other reason it is impossible for the holder to return a HOLD OFF (Permit to work), the apparatus must not be placed in service by the operator, without the approval of the station or Division Officers concerned who will take immediate steps to advise the holder and all other persons concerned.
- After the work has been completed, the man in charge must notify each of the employees under his charge on that job to remain clear and that he intends to return his HOLD OFF (Permit to work). The man in charge must see that his own grounds and/or safeguards, if any, are removed but must not interfere with the grounds and/or safeguards, if any, installed by the operator or other parties. The HOLD OFF (Permit to work) must then be properly returned to the operator in charge stating the number of temporary


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grounds installed and removed. **No further work must be done unless a new HOLD OFF (Permit to work) is obtained.**

- While a HOLD OFF (Permit to work) is in force the holder of any type of HOLD OFF (Permit to work) must report frequently to headquarters. At least one report should be made every two hours unless other arrangements have been made, While a HOLD OFF (Permit to work) is in force, if the work is discontinued for more than 45 minutes, and always after meal periods, the holder, prior to restarting work, must report to the operator either in person, by telephone or by radio, in order to make certain that no changes have been made in his absence which would make conditions in the vicinity of his work more dangerous than before.
- With the expectation of live line work, a HOLD OFF (Permit to work) must not be issued to allow work to be carried out on an open disconnect or any other type of air break switch which has one side alive except when absolutely necessary and then only with the approval of the station or Divisional Officer.
- If, after all normal precautions have been taken, there still remains an element of danger which requires that the work be very carefully supervised, no HOLD OFF (Permit to work) is to be issued except with the approval of the station or district superintendent.
- When returning a HOLD OFF (Permit to work) on circuit breakers or disconnecting switches, they must be left in the open position, unless arrangements to the contrary have been made. In returning a HOLD OFF (Permit to work), the holder must specify the operation position of the apparatus involved.
- When returning any HOLD OFF (Permit to work) the workman must advise the operator of any changes which have been made which might affect the operation of the equipment. Such advice should be made in writing, if possible when necessary, with explanatory sketches. Such information must be recorded in the station log and the supervisor in charge advised.
- When all HOLD OFF (Permit to work) have been properly returned, the operator will remove all ground and safeguards installed by him or the operator on other shifts. He must then see that all tags and danger signs are collected and when possible, make a thorough visual inspection over

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the area covered by the HOLD OFF (Permit to work) and if desired, take the necessary steps to return the apparatus to normal service.

- Should the holder's part of a HOLD OFF (Permit to work) card be lost or spoiled so that it becomes unreadable, the holder must advise the operator who will take the corresponding operator's portion and write across it "Workman's stub lost cancelled - Replaced by Card NO "
- The holder must sign the operator's portion to indicate such was the case. The operator will then make out a new card identical to the original except for the new number. The new card will then govern the case.
- When a watchman is required in connection with a HOLD OFF (Permit to work), the operator and the man in charge are jointly and separately responsible for seeing that the watchman is appointed and the operator must give him the same warnings as to restrictions, limitations, and dangerous features as are given to the holder of the HOLD OFF (Permit to work). He must be supplied with and must wear an identification Badge during his appointment. **Manager/Superintendent Engineer/Divisional Officer must issue a list of men authorized to act as watchmen in their station or division.** HOLD OFF (Permit to work) will not be issued to men acting as watchmen except in the case when they are the PDB's representatives on a job being carried out by a contractor, customer or other than Department employees.
- When HOLD OFF (Permit to work) have been issued on a line feeding a particular area, no HOLD OFF (Permit to work) will be issued on other circuits feeding the same area if there is danger of jeopardizing services.

5.2 Regulations covering a written Clearance For work

- The written CLEARANCE FOR WORK is to be used at attended stations where the apparatus concerned is under the jurisdiction of the station operator and when the work to be done does not require that the apparatus be operated or energized during the course of the work and when the original safety precautions taken by the operator will be maintained.
- It gives authority to the holder to work on the specified apparatus. It is also a guarantee that the apparatus has been taken from service, will remain out of service, cleared for work and that the operator-in-charge has taken all precautions for the protection of men; equipment and service as

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required by this Code, In the case of apparatus at all stations the operator will be responsible for the closing of ground switches and/or having temporary grounds applied where required by this Code, in the case of, transmission lines, the operator will have the live terminations grounded where ground switches have been provided and will advise the applicant whether the line is or is no grounded.


It is the duty of the recipient to apply his own temporary grounds at the location of the work.

- The type of card to be employed for a written CLEARANCE FOR WORK is in place. It consists of two portions/body and stub, with certain printed instructions and space for definite entries by the operator and the applicant for the CLEARANCE FOR WORK, each of whom keeps his half of the card while the job is in progress. When issued, the body and stub must bear the same data, time and card number.
- It is permissible to issue more than one- written CLEARANCE FOR WORK at the same time on the same apparatus. When two or more foremen are to work independently on the same equipment, a separate CLEARANCE FOR WORK must be obtained by each foreman. If, however, one foreman is appointed to take complete responsibility for the supervision and safety of all parties, then for all practical purposes there is only one foreman and a single CLEARANCE FOR WORK can be employed.
- When one or more CLEARANCE FOR WORK are out on the same or related apparatus and it becomes necessary to make a test or a trial, such testing is only to be carried out after all CLEARANCE FOR WORK have been returned to the operator and cancelled.

5.3 Regulations Covering a Verbal CLEARANCE FOR WORK

- A verbal CLEARANCE FOR WORK is to be employed in connection with work on transmission lines or at unattended, or semi-attended stations where the operator has not been qualified to issue, HOLD-OFF (Permit to work) on equipment remote from an attended station where it is impractical for a written CLEARANCE FOR WORK card to be employed. A verbal CLEARANCE FOR WORK will in general be governed the regulation covering the issue of a written CLEARANCE FOR WORK.

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- To avoid overlooking any verbal CLEARANCE FOR WORK. the operator's section of a CLEARANCE. FOR WORK card must be filled in and the holder's stub marked to indicate that a verbal CLEARANCE FOR WORK has been issued to a specific employee. This CLEARANCE FOR WORK card must be retained until the verbal CLEARANCE FOR WORK has been returned.

5.4 Application of HOLD OFF (Permit to work) System to Lines and Line Equipment at Attended Stations when a Combination of Written and Verbal HOLD OFF (Permit to work) is employed

- When it is required to work on lines, line disconnecting switches, line entrances or other apparatus on the lines at an attended station, where the station operator has not completed jurisdiction as to the assuring of CLEARANCE FOR WORK on such equipment, the procedure outlined below will be employed.
- The employee in charge of the work must apply to the station operator for a written CLEARANCE FOR WORK.
- The station operator will then apply to the system operator or Divisional Officer/Operator, who has jurisdiction as to HOLD OFF (Permit to work) on that line, for verbal CLEARANCE FOR WORK.
- The system or district operator, after having the apparatus prepared for the CLEARANCE FOR WORK, will issue a verbal CLEARANCE FOR WORK to the station operator.
- The station operator will log the receipt of the verbal CLEARANCE FOR WORK. He will then follow in all respects the procedure with reference to the issuing of CLEARANCE FOR WORK, after which he will issue a written CLEARANCE FOR WORK to the applicant. In addition, the operator will write across the face of both sections of the card. "VERBAL CLEARANCE FOR WORK on..... received from at....."
- When the work is finished and CLEARANCE FOR WORK cards have been returned, the station operator will see. that all grounds and safeguards, other than those placed under instruction from the system or Divisional Officer/Operator and removed, and that as far as he is concerned, it is safe- guards, other than those placed under instruction from the system of

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Divisional Officer/Operator and removed, and that as far as he is concerned, it is safe to place the line back in service. The station operator must not interfere with any ground switches closed, or safeguards applied, under instructions from the system or district operator.

- The station operator will then return the verbal CLEARANCE FOR WORK to the operator from whom it was received and log the return of such CLEARANCE FOR WORK.
- When entering a verbal CLEARANCE FOR WORK, the station operator must always advise the system or Divisional Officer/Operator as to the position of all ground switches involved.

5.5 Regulations Covering a Written WORK AND TEST PERMIT

- The written WORK AND TEST PERMIT is to be used at attended stations where the apparatus concerned is under the jurisdiction of the station operator and when the work requires the apparatus to be operated or energized during the course of the work or when the nature of the work is such that the precautions taken by the operator cannot be maintained for the duration of the job.
- This WORK AND TEST PERMIT uses authority to the holder to carry out work and tests on specified equipment. It guarantees that the holder is the only party working on that equipment and that condition will not be changed by the operator except at the request of the holder.

5.6 Regulations Covering a Written WORK AND TEST PERMIT

- The written WORK AND TEST PERMIT is to be used at attended stations where the apparatus concerned is under the jurisdiction of the station operator and when the work requires the apparatus to be operated or energized during the course of the work or when the nature of the work is such that the precautions taken by the operator cannot be maintained for the duration of the job.
- This WORK AND TEST PERMIT gives authority to the holder to carry out work and tests on specified equipment. It guarantees that the holder is the only party working on that equipment and that condition will not be changed by the operator except at the request of the holder.

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- The type of card to be employed for a written WORK AND TEST PERMIT is shown in “WORK AND TEST PERMIT FORM”. It consists of two portion, body and stub, with certain printed instructions and space for definite entries by the operator and the applicant for the WORK AND PERMIT each of whom shall keep his half of the card which the job is in progress. When issued, the body and stub must bear the same date, time and card number.
- A WORK AND TEST PERMIT must always be issued by the system operator or operator in charge directly to the applicant.
- It is forbidden to issue a WORK AND TEST PERMIT if the apparatus concerned is already covered by another HOLD OFF (Permit to work). After a WORK AND TEST PERMIT has been issued on a place of apparatus, under no circumstances is any other HOLD OFF (Permit to work) to be issued on this same equipment or apparatus.
- When a WORK AND TEST PERMIT is issued, the apparatus must be handed over to the applicant with the same safeguards in place as would apply for a CLEARANCE FOR WORK. The applicant, after he has obtained the WORK AND TEST PERMIT grounds and other safeguards as placed by the operator as he considers necessary for the-progress of his work in so doing, he automatically relieves the operator of and personally assumes responsibility or any consequences resulting from the removal of such safeguards.
- The one exception to paragraph above is the case of maintenance of commutators and slip rings where it is permissible to remove apparatus from service and issue a WORK AND TEST PERMIT with clearing the apparatus prior to issue of the WORK AND TEST PERMIT.
- In connection with the actual work and tests to be carried out the following limitations will apply: -
 - a. The primary control devices of the apparatus, located in the control room, must be manipulated only by the operator or his delegate.
 - b. The apparatus worked upon must on no account be allowed to become connected to or in any way involved with other apparatus not covered by the WORK AND TEST PERMIT without the consent of the operator.

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- c. Request by the holder for changed conditions must be entered on the operator's portion of the WORK AND TEST PERMIT.
- d. At the request of the holder and at the operator's discretion, the latter will remove the ground and safeguards provide, if they interfere with the work. If the operator refuses the request the matter must be referred to the local superintendent.

5.7 Regulations Covering a Verbal WORK AND TEST PERMIT

- A Verbal WORK AND TEST PERMIT is to be employed in connection with work on transmission lines or at unattended, or semi-attended substations, where the operator has not been qualified to issue HOLD OFF (Permit to work), on equipment remote from an attended station, where it is impractical for a written WORK AND TEST PERMIT card to be employed. A verbal WORK AND TEST PERMIT will in general be governed by the regulations covering the issue of a written WORK AND TEST PERMIT.
- To avoid overlooking any verbal WORK AND TEST PERMIT, the operator's section of a WORK AND TEST PERMIT card must be filled in and the holder's stub marked to indicate that a verbal WORK AND TEST PERMIT has been issued to a specific employee. This WORK AND TEST PERMIT card must be retained until the verbal WORK AND TEST PERMIT has been returned.

5.8 Regulations Covering a Verbal Permission for Work on or Near Live Lines

- These regulations are drawn up to cover live line work on lines energized at 66 KV and above. Their express objective is to protect personnel while carrying out this work. If communication is lost with operating personnel during such work, a prolonged outage of an important circuit could easily result. All personnel involved in live line work must realize the importance of continuity of service.

It is imperative that while this work is being performed a channel of direct communication must be set up between the workman in charge and operating headquarters and this communication channel must be maintained throughout the duration of the work if at all possible. If it is impossible to maintain communication with headquarters then special arrangements must be made and the live line must be buzzed at intervals as requested by the operating staff.

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If a line being buzzed is found dead, an immediate report is to be made to the operator in charge so as not to delay the restoration of service.

- Live line work is defined as follows: -
 - Hot stick work such as changing insulators.
 - Pole top mirror inspection.
 - Buzzing insulators.
 - Live insulator washing.
 - Resetting poles with the line energized.
 - Inspection of tower tops.
 - Painting tower tops.
 - IR drop testing of conductor joints.
 - Work on overhead ground wires.

In brief, live line work includes all work of any kind on energized lines above a point one meter below the bottom cross arm in the case of structures with pin type insulators or work on any kind above the elevation of the bottom conductor in the case of structures with suspension type insulators. This does not apply to special structures such as river crossings where work may be permitted above the conductors at the discretion of the officer concerned.

- A verbal PERMISSION FOR LIVE LINE WORK is to be employed when it is desired to on or near an energized line.
- A verbal PERMISSION FOR LIVE LINE WORK gives authorization for specific work on a given line. When verbal PERMISSION FOR LIVE LINE WORK is issued for work on a double circuit tower, a PERMISSION FOR LIVE LINE WORK must be taken not only on the line being worked on but also on the adjacent line. When a HOLD OFF (Permit to work) has been taken to work on one circuit of a double circuit line, a PERMISSION FOR LIVE LINE WORK must also be taken on the adjacent line.
- For live line maintenance work involving the use of hot line sticks, only one PERMISSION FOR LIVE LINE WORK per line will be granted. Up to four PERMISSION FOR LIVE LINE WORK on the same line may be granted for buzzing and mirror inspections and the other types of live line work.
- Specific conditions for live line Work are: -
 - a. Automatic reclosing features must be blocked on a line which a verbal PERMISSION FOR LIVE LINE WORK is in force.

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- b. Relay protective features and device must be in service on a line which a verbal PERMISSION FOR LIVE LINE WORK is in force.
- c. Live Line Permit for Work tags must be attached to all circuit breaker controllers of the line before a verbal PERMISSION FOR LIVE LINE WORK is issued.
- d. Large green pins must be placed on the station and system operating pin diagrams.

Note: The operator issuing the verbal PERMISSION FOR LIVE LINE WORK -will notify all other operators concerned that unit further notice, the designated line is not to be tested in case of an automatic outage.

- e. While live line work is in progress every effort should be made to prevent an automatic outage of the line concerned. For this reason, which such work is in progress, permission should not be granted for work on the line relay protection, the line breaker automatic ground switch or other features or devices associated with the line protection.
- f. In the case of an automatic outage of a line on which a verbal PERMISSION FOR LIVE LINE WORK has been issued, the operator must not reclose the line until the man in charge of the live line work has been contacted and warned to have his men stand clear.
- g. During the progress of the work, should there be any evidence to indicate the loss or possible loss of normal potential on the lines or equipment concerned, the foreman or man-in-charge must report to the system operator or operator in charge as quickly as possible. This applies whether or not anything has occurred at the site of the work which might have caused an interruption on the equipment. Such reports are essential in order to avoid unnecessary delays in the restoration of normal service.
- h. When work is to be discontinued for any length of time, the verbal PERMISSION FOR LIVE LINE WORK must be returned and a new verbal PERMISSION FOR LIVE LINE WORK obtained before work is resumed. If the job site is left in an abnormal condition, special arrangements must be made to keep in contact with the operator.
- i. The holder of a verbal PERMISSION FOR LIVE LINE WORK, or his messenger, will keep in frequent contact with head-quarters as requested. In case where the, linemen are cut of contact with headquarters, the line must be buzzed at least once every hour and an immediate report made to headquarters if a line is found dead.

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5.9 Regulations Covering a Verbal Permission for work on or Near Live Station Equipment

- These regulations are drawn up to cover work on or near live station apparatus energized from its normal source and connected to the system network. Live station work is defined as follows: -
 - Mirror inspection with hot sticks.
 - Testing live bushings.
 - Washing live bushings and insulators.
 - Phasing checks.
 - Testing for voltage indication, exclusive of voltage testing prior to grounding.

In brief, live station work includes all cases where work is to be done on or near live apparatus operating at 600 volts or above.

- A verbal PERMISSION FOR LIVE STATION WORK is to be employed when it is desired to work on or near live station apparatus.
- A verbal PERMISSION FOR LIVE STATION WORK gives authorization for specific work on a given place of equipment. When a verbal PERMISSION FOR LIVE STATION WORK is issued, and there is the possibility of hazard from adjacent apparatus a PERMISSION must also be taken on the adjacent apparatus.
- Specific conditions for live station work are: -
 - a. Automatic reclosing and service restoring features must be blocked on the apparatus on which a verbal PERMISSION FOR LIVE STATION WORK has been issued.
 - b. Relay protective features and devices must be in service on the apparatus on which a verbal PERMISSION FOR LIVE STATION WORK has been issued.
 - c. "Live Line Permit for Work" tags must be attached to all circuit breaker controllers of the apparatus on which VERBAL PERMISSION FOR LIVE STATION WORK has been issued.
 - d. Large green pins must be placed on the station and system office operating pin diagrams.

Note: The operator issuing the verbal PERMISSION FOR LIVE STATION WORK will notify all other operators concerned that, until further notice, the designated apparatus is not to be tested in case of automatic outage.

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- e. While live station work is in progress, every effort should be made to prevent an automatic outage of the apparatus concerned. For this reason, while such work is in progress, permission should not be granted for work on the apparatus relay protection, its associated breakers; automatic ground switch or other features or devices associated with the protection of the apparatus.
 - f. In the case of an automatic of the apparatus on which is verbal PERMISSION FOR LIVE STATION WORK has been issued, the operator must not energize the apparatus until the man in charge of the live station work has been contacted and warned to have his men stand clear.
 - g. During the progress of the work, should there be any evidence to indicate the loss or possible loss of normal potential on the equipment concerned, the foreman or man in charge must report to the operator in charge as quickly as possible. This applies whether or not anything has occurred at the site of the work which might have caused an interruption on the equipment.
 - h. When such work is to be discontinued for any length of time, the verbal PERMISSION FOR LIVE STATION WORK must be returned and a new verbal PERMISSION FOR LIVE STATION WORK obtained before work is resumed, If the job site is left in an abnormal condition, special arrangements must be, made to keep in contact with the operator.
 - i. The holder of a verbal PERMISSION FOR LIVE STATION WORK, or his messenger will keep in frequent contact with the operation-in-charge.
- When high voltage testing is to be carried out the area or location of the test must be properly fenced or roped off and tagged and if in an area of ordinary thoroughfare, guards should be stationed to direct traffic and prevent, unauthorized persons from passing through the danger area.

Temporary high voltage test leads must be distinctly marked with "Danger" signs or other distinctive markers which are clearly visible.

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5.10 Regulation Covering a Verbal Permission for Work on Relay Protection, Controls, Metering and Communication Circuits

- The above PERMISSION FOR RELAY WORK cover all features of the station wiring including associated circuits external to the station which in any way might affect the operation of the system and are tested as follows:
 - a. A verbal PERMISSION FOR RELAY WORK, for work on relay-protections and associate wiring.
 - b. A verbal PERMISSION FOR CONTROL WORK, for work on equipment control devices and wiring.
 - c. A verbal PERMISSION FOR METERING WORK, for work on metering equipment and associated wiring.
 - d. A verbal PERMISSION FOR COMMUNICATION WORK FOR work on communication and carrier circuits which are in any way connected to relay protection, control or metering circuits.

- Before any work is performed on the above-mentioned apparatus except the routine changing of meter charts, a verbal PERMISSION FOR RELAY WORK must Be OBTAINED from the operator in charge. When such PERMISSIONS are issued it shall be the duty of the operator in charge to notify the system operator and other interested parties

- Before issuing a verbal Permission FOR WORK on the above-mentioned equipment it is the responsibility of the operator in charge to see that the equipment has been properly blocked so that no unauthorized tripping will take place. It is his further responsibility to see that the equipment is cleared by an authorized person using the proper procedure as detailed in Standard and Local Operation Instructions.

- Before a verbal PERMISSION FOR RELAY WORK is issued for work on a specific protection, the front and back of adjacent relay panels must be covered to prevent accidental tripping by workmen. When relay panels are arranged back to back, the panel opposite one to be worked on must also be covered.

- When it is necessary to work in relay rooms or adjacent to relay protection panels where no verbal PERMISSION FOR WORK is required, this work may be done only with the authorization of one of the supervisory staffs, after the operator in charge has been notified.

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Irrespective of the above, before any work is started in the vicinity of relay panels or on apparatus equipped with gas detector relays which could cause tripping of this equipment, a HOLD OFF (Permit to work) must first be obtained from the operator in charge. This applies particularly to drilling metering panels, drilling or chipping concrete or other work which might cause vibration. Dusting of relay covers is not to be carried out without a HOLD OFF (Permit to work) from the operator in charge.

- No work on the above-mentioned equipment is to be undertaken without the prior approval of a member of the supervisory staff of the station(s) or division concerned.
- In the case of a PERMISSION FOR COMMUNICATION WORK on a communication or carrier circuit which is in any way connected to relay protected, control or metering circuits involving two or more station. It is the duty other operator issuing the PERMISSION to advise the other station or stations concerned and the system operator.

5.11 Men Working Tags

- These are red coloured tags. These tags are to be installed at all controlling points of apparatus on which a CLEARANCE FOR WORK or a WORK AND TEST PERMIT is being issued and are only to be installed and removed by the operator in-charge or on his order. If desirable a miniature tag may be used on the bench board controller.
- Each tag must be initialled and dated by the person installing it.
- These tags are never to be used as a substitute for the "Live Permit for Work", "Danger", "Out of Order", or "Abnormal Conditions", tag.

5.12 "Live Line Permit for Work" Tags

- These are green coloured tags. These tags are to be installed on all circuit breaker controllers of apparatus on which a PERMISSION FOR LIVE LINE WORK or a PERMISSION FOR LIVE STATION WORK is being issued and are only to be installed or removed are by the operator in charge or on his order. If desirable a miniature tag may be used.
- Each tag must be initialled and dated by the person installing it.

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- These tags are to be Installed only when a PERMISSION FOR LIVE LINE WORK or a PERMISSION FOR LIVE STATION WORK is being issued and are not to be removed until the PERMISSION has been returned.

5.13 "Danger" signs

- These black and red signs are Danger Signs which must be used to indicate danger in the immediate vicinity of the point marked. They may be installed by the operator or the workman as required. They are to be used only in areas where actual danger exists.
- Each sign must be initialled and dated by the man installing it.

5.14 "Abnormal Conditions "Tags

- These blue coloured tags are to be attached to apparatus which does not operate in its normal manner. Such a tag does not prohibit the use of the apparatus marked, it indicates that special caution should be exercised and that the equipment should not be used unless its limitations are understood. If desirable a miniature tag may be used.
- This tag may be used by both operators and maintenance men, but must not be placed on any apparatus under the jurisdiction of the operator-in-charge without his consent.
- Each tag must be initialled and dated by the man installing it.
- This tag must not be removed until the abnormal conditions have been corrected and all interested parties notified.


5.15 "Out of Order" Tags

- These are yellow coloured tags which are to be used to indicated faulty apparatus; building accessories, or any equipment which must be kept out of service because of some defect.
- This tag may be used by both operators and maintenance men but must not be placed on any apparatus under the jurisdiction of the operator-in-charge without his consent.
- Each tag must be dated and initialled by the man installing it.
- This tag must not be removed until the "Out of Order" conditions has been corrected and all interested parties notified.

5.16 Miniature Tags

- In the case of bench board and supervisory controls, miniature tags of the type previously outlined may be used in a holder of approved design and when using this type of tag, each tag must be initialled and dated by the person installing it.

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5.17 Operating Pin Diagrams

- Operating diagram pins are of different colours and shapes. They are to be used in conjunction with operating pin diagrams at all locations to give operators an indication of the status of the equipment under their jurisdiction.

5.18 PERMITS-TO-WORK SANCTIONS FOR TEST AND LIMITATIONS-OF-ACCESS

- Authority for issue
 - Permit-to work or sanction-for-test shall only be issued with the sanction of the Control Engineer. Who shall retain in his custody a written record of the issue of each Permit-to-Work-or Sanction-for-Test and its cancellation.
 - A Permit-to-Work or Sanction-for Test shall be issued by the Senior Authorized Person under whose supervision the work is initiated before any work carried out on-any apparatus after it has once been connected to and remains part of a high voltage system.
 - A Limitation-of-Access shall be issued by a Senior Authorized Person or an Authorized Person specially authorized to do so. A Limitation-of Access shall be issued when verbal instruction is not considered sufficient.
 - Excavation Permit
A form of declaration endorsed by all relevant departments of BPDB issued prior to work permit to the person in charge of the proposed excavations to ensure that all underground services and power cables are identified and safe methods of excavation are followed.
- Procedure for Issue and Receipt
 - A Permit-to-Work, Sanction-for-Test or Limitation-of-Access shall be issued to the person in charge of the work, who after reading its contents to the person issuing the Permit-to-Work, Sanction-for-Test or Limitation-of -Access shall there upon sign its receipt and its duplicate.
 - The person to whom a Permit-to-Work or Limitation-of-Access is issued shall be a Competent Person who shall retain the Permit-to-Work or Limitation-of-Access in his possession at all times whilst work is being carried out.
 - The person in charge to whom a Sanction-for-Test is issued shall be an Authorized Person who shall retain the Sanction-for-Test in his possession at all times whilst tests are being made.

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- d. Where more than one Working Party is concerned a Permit-to-Work or Limitation-of-Access shall be issued to the Competent Person in Charge of each Working Party.
- Precautions during Progress of Work
 - a. The apparatus isolated and earthed for work under the terms of a Permit-to-Work shall remain so until the Permit-to-Work has been cleared, returned to a Senior Authorized Person, and cancelled.
 - b. The apparatus isolated and earthed for testing under the terms of a Sanction-for-Test must not be connected to the system without the sanction of the Control Engineer. The recipient of the Sanction-for-Test will be responsible for co-coordinating all testing operations on the isolated equipment and for ensuring safety during the tests. He may without Further reference to the Control Engineer remove and replace earths as necessary and carry out tests including making live the apparatus concerned from a testing supply. This does not mean that the recipient of the Sanction-for-Test must make the tests personally.
 - Procedure for Clearance and Cancellation
 - a. When work on apparatus for which a Permit-to-Work or Sanction-for-Test has been issued is suspended or completed the recipient shall sign the clearance and return the Permit-to-Work or the Sanction-for-Test to a Senior Authorized Person who shall cancel it and inform the Control Engineer.
 - b. Where more than one Permit-to-Work has been issued for work on High Voltage Apparatus associates with the same Circuit Main Earths the Control Engineer shall ensure that all such Permit-to-Work have been cancelled before the Circuit Main Earths are removed.
 - c. When work for which a Limitation-of-Access has been issued is suspended or completed the recipient shall sign the clearance and return the Limitation-of-Access for cancellation "to a Senior Authorized Person specially authorized to do so.

6. References

- a) ISO 45001: 2018 Standard

7. Appendix

- a) BPDB-IMS-FR-015 - Work and Test Permit

8. Revision History

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