

**Procedure for Work to be carried out across an Inter-User
Boundary**

**In accordance with the
Maharashtra Electricity Regulatory Commission
(Electricity Grid Code) Regulations, 2020**



Prepared by

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LIST OF ABBREVIATIONS

Abbreviation/Acronym	Expanded Form
AEML-T	Adani Electricity Mumbai Limited – Transmission
APTCL	Amaravati Power Transmission Co. Ltd
ATIL	Adani Transmission (India) Ltd (ATIL)
CB	Circuit Breaker
CT	Current Transformer
EHV	Extra High Voltage
GCC	Grid Coordination Committee
HV	High Voltage
InSTS	Intra-state Transmission System
JPTL	Jaigad Power Transmission Limited
kV	Kilo Volt
LV	Low Voltage
MEGC	Maharashtra Electricity Grid Code
MEGPTCL	Maharashtra Eastern Grid Power Transmission Co. Ltd.
MERC	Maharashtra Electricity Regulatory Commission
MSETCL	Maharashtra State Electricity Transmission Company Limited
MSLDC	Maharashtra State Load Despatch Centre
MV	Medium Voltage
OCC	Operation Coordination Committee
PT	Potential Transformer
PTT	Permit To Test
PTW	Permit To Work
STU	Maharashtra State Transmission Utility
TPC-T	Tata Power Co. Limited (Transmission) (TPC-T)
VIPL-T	Vidarbha Industries Power Ltd. (VIPL-T)



1. INTRODUCTION

1.1. Overview

Regulation 45.2 of Maharashtra Electricity Regulatory Commission (State Grid Code) Regulation, 2020 mandates STU to prepare detailed procedure for work to be carried out across an inter-User boundary. In compliance with the said Regulation, STU, in consultation with Operation Coordinating Committee (OCC), has come up with the procedure to be followed by Transmission Licensee and all Users with a direct Inter-User boundary with STU or other User of the Transmission System. This procedure sets down the requirements for maintaining safe working practices associated with inter user boundary operations. It lays down the procedure to be followed when work is required to be carried out on electrical equipment that is connected to another User's system.

The Transmission System in Maharashtra is integrated with Inter State & Intra State transmission companies like MSETCL, MEGPTCL, ATIL, APTCL, TPC-T, VIPL, JPTL, AEML-T, and APTCL etc. Complete power system in India is operating as single National Grid. Outage of any element in any part of the system has impact on loading of other related elements in an integrated system. Hence, any outage needs to be approved with due consideration to maintain system integrity and avoid corridor congestion in any part of the System at any time.

1.2. Objective

The objective is to achieve agreement and consistency on the principles of safety as prescribed in the Indian Electricity Rules when working across a inter user boundary between one User and another User.

1.3. Framework

1. Transmission Licensees and all Users shall nominate suitable authorized persons to be responsible for the co-ordination of safety across that company boundary. These persons shall be referred to as Designated Officer.
2. Transmission Licensees and all Users shall issue a list of Designated Officers (names, designations and telephone numbers) to all Users who have a direct inter user boundary with their network. This list shall be updated promptly whenever there is change of name, designation or telephone number and shall be uploaded on their website.
3. Whenever work across an inter-user boundary between Transmission Licensees and any other User or between two Users is to be carried out, the Designated Officer, of the User, wishing to carry out work shall personally contact the other relevant Designated Officer. If the Permit to Work (PTW) cannot be obtained personally, the designated officers shall contact through telephone and exchange Code words to ensure correct identification of both parties. Detailed procedure to obtain PTW over telephone is described in Section 2 of this document.



4. If the work extends over more than one shift the Designated Officer shall ensure that the taking over Designated Officer is fully briefed on the nature of the work and the code words in operation.
5. The Designated Officers shall co-operate to establish and maintain the precautions necessary for the required work to be carried out in a safe manner. Both the established isolation and the established earth shall be locked in position, where such facilities exist, and shall be clearly identified.
6. Work shall not commence until the Designated Officer, of the User (who may be State Transmission Licensee), wishing to carry out the work, is satisfied that all the safety precautions have been established. This Designated Officer shall issue agreed safety documentation (PTW) to the working party to allow work to commence. The PTW in respect of specified EHV lines and other interconnections shall be issued with the consent of SLDC. (SLDC consent format for operation or work or testing on transmission line element shall be refer from Annexure – A)
7. When work is completed and safety precautions are no longer required, the Designated Officer who has been responsible for the work being carried out shall make direct contact with the other Designated Officer to return the PTW and removal of those safety precautions. Return of PTW in respect of specified EHV lines and interconnections shall be informed to SLDC.
8. The equipment shall only be considered as suitable for return to service when all safety precautions are confirmed as removed, by direct communication using code word contact between the two Designated Officers, and return of agreed safety documentation from the working party has taken place.
9. Any dispute concerning Inter user Boundary Safety shall be resolved at an appropriate higher level of authority.

1.3 Definition

1. **Additional Earth(s):** Temporary, portable Earth(s) which are issued to the recipient of the Permit to Work or Permit to Test and are included in an Earthing Schedule. They are applied within an Isolated Zone in order to discharge any induced voltage. Additional Earth(s) shall be minimum 35 sq. mm copper equivalent.
2. **Approved Procedure:** STU Safety Instructions or other specialized procedures approved by OCC and GCC as the case may be.
3. **Authorized Person:** Maintenance / Testing Engineer. Maintenance Engineer: Responsible for carrying out maintenance works of EHV & HV equipment, transmission lines & LT systems whereas Testing Engineer: Responsible for carrying out testing of protective systems, PLCC panels and other related equipment.
4. **Caution Notice:** A notice in prescribed form to be placed at all points of isolation, or attached to all vents and drains and to Primary Earths where practicable and to control and operating devices to indicate that work or testing is being carried out



5. **Certificate of No Back Feed:** A certificate which records the details of Isolation carried out at a remote substation in order to achieve safety from EHV/HV systems and from test supplies.
6. **Certificate of Earthing:** A certificate which records the details of Isolation & earthing carried out at a remote substation in order to achieve safety from EHV / HV systems and from test supplies.
7. **Circuit Breaker:** A device, capable of making and breaking the circuit under all conditions, unless otherwise specified, so designed as to break the current automatically under abnormal conditions.
8. **Company:** Maharashtra State Electricity Transmission Company Limited (MSETCL).
9. **Competent Person:** A person not below the level of Supervisor or Technician.
10. **Danger:** A risk to health, or of bodily injury, or to life.
11. **Danger Notice:** An approved notice reading “Danger” in Marathi, Hindi and English with a sign of skull & bones * & voltage level.
12. **Dead:** Not electrically Live or Charged.
13. **Designated Officer:** Authorized persons to be responsible for the co-ordination of safety across that company boundary, where PTW /PTT has been applied for.
14. **Earthing Device:** An approved means of providing a connection between an electrical conductor / equipment and earth, being either a “Primary Earth” or an “Additional Earth”.
15. **Earthing Schedule:** A schedule indicating the requirements of Additional Earth(s) for each stage of the work or testing. It must show the number of earths required and either describe or show pictorially their position in the Isolated Zone.
16. **Equipment:** Electrical and mechanical apparatus / equipment used to protect, control, measure, generate, transmit and distribute electricity to which the Safety Rules apply.
17. **Extra High Voltage (EHV):** Any voltage in excess of 33,000 volts.
18. **General Safety:** Those actions required to maintain a safe environment / place for work / testing, e.g., safe access and safe methods of work & testing and the correct use of personal protective equipment.
19. **High Voltage (HV):** A voltage between 650 volts and 33,000 volts.
20. **Isolated:** Disconnected from associated Equipment by Isolating Device(s) in the isolated position, or by adequate physical separation.
21. **Isolating Device:** A device for rendering Equipment Isolated.
22. **Isolated Zone:** All items of equipment contained within a work / testing area for which isolation has been achieved at all points of supply.



23. **Keys (Safety Key):** The key from a unique lock (at a location) which is used for locking / interlocking an Isolating Device, Earth or Drain / Vents.
24. **Key Safe:** A designated lockable cabinet for the safe custody of all Safety Keys.
25. **Live:** Charged / Energized at a voltage by being connected to a source of electricity.
26. **Lock / Locks:** A device used for immobilization of an item of Equipment.
27. **Lock Closed:** To secure an item of Equipment with padlocks or other device such that it is immobilized in the closed position
28. **Lock Open:** To secure an item of Equipment with padlocks or other device such that it is immobilized in the open position.
29. **Low Voltage (LV):** A voltage not exceeding 250 volts.
30. **Medium Voltage (MV):** A voltage between 250 and 650 volts.
31. **Western Region Load Dispatch Center (WRLDC):** – The center where the operations of Western Regional Electricity grid constituting the power systems of the constituents of Western Region are monitored & coordinated.
32. **Point(s) of Isolation:** The point(s) at which Equipment has been Isolated and, when practicable, the Isolation Point must remain immobilized and Locked. Caution Notices shall be attached to all Points of Isolation.
33. **Primary Earth(s):** Earth(s) {Either fixed earth Switch(es) or Portable Earth(s) with sufficient / suitable electrical capacity} applied between the point of work and all points of EHV / HV isolation before the Permit To Work or Permit To Test is issued. Primary earth(s) shall be minimum 95 sq. mm copper equivalent.
34. **Permits To Test (PTT):** A safety Document specifying the EHV / HV Equipment and the testing to be carried out and the actions taken to avoid the disturbance of the system during the testing.
35. **Permits To Work (PTW):** A Safety Document specifying the Equipment / Area and the work / testing to be carried out and the actions taken to achieve Safety from the system.
36. **Purged:** A condition of Equipment from which any dangerous contents have been removed.
37. **Safe Electrical Clearance:** A minimum distance of 1.5 meters which must be maintained by lineman / workman from the conductors or jumpers of a de-energized overhead line which has been Isolated & Primary earthed and for which a Safety Document has been issued before connection of Additional Earths under the terms of that Safety Document.
38. **Safety Document:** A Document specifying the Equipment / Area and the work / testing to be carried out and the actions taken to achieve Safety from the system (Permit to Work), or to safeguard the disturbance of the system during the testing (Permit To Test).



39. **Safety from the System:** That condition which safeguards persons working on or near to Equipment from the Dangers which are inherent in a System.
40. **Safety Working Clearance:** The minimum clearance to be maintained in air between the live part of the equipment on one hand and earth or another piece of equipment or conductor on which it is necessary to carry out the work, on the other.
41. **Senior Authorized Person / Shift In charge:** Engineer responsible for all operations and activities in substations.
42. **Supervision:** Supervision, Personal / direct, by an Authorized Person who is available at the point of work or testing at all times during the course of that work or testing.
43. **State Load Dispatch Centre (SLDC):** The SLDC control room is located at Kalwa, Mumbai for the purpose of managing the operation of the State Transmission System and co-ordination of State generation and Drawl on a real time basis.
44. **System:** Items of Equipment which are used either separately or in combination to generate transmit or distribute electricity.
45. **Transmission Licence:** A licence granted under Section 14 of the Act to transmit electricity;
46. **Vented:** Allowing a closed space to have an outlet to atmosphere so that the pressure has equalized to atmospheric.



2. THE SAFETY RULES

2.1. Application of Rules

1. The Transmission License Safety Rules and Safety Instructions shall be applied when working on or near to items of Equipment, which are part of a System.
2. The System to which these Safety Rules and Safety Instructions apply for all those items of Equipment owned by Transmission Licensee or on its transmission lines or assets.
3. Equipment shall be added to and removed from a system only in accordance with an Approved Handing over / Taking over Procedure. The same procedure will determine when the Safety Rules and Safety Instructions shall apply or cease to apply.
4. Equipment located on another company's premises may be subject to its Safety Rules and Safety Instructions, or to the owning Authority Safety Rules and Safety Instructions.

2.2. Approach to exposed extra high voltage and high voltage conductor and insulators.

1. Persons shall not allow any part of their body or objects / tools & plant to approach within the specified Safety Clearance to exposed EHV / HV conductors, which are Live. The only exception to this is during Live / Hot line work carried out on EHV / HV equipment in accordance with Approved specialized procedure.
2. Safety working clearance.

Highest system Voltage (kV)	Safety working Clearance (in meters)
12	2.6
36	2.8
72.5	3.1
145	3.7
245	4.3
420	6.4
800	10.3

** Safety working clearance considered from Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010.*

3. When Points of Isolation have been established but exposed conductors could be subject to Extra High Voltage or High Voltage, the only object permitted to approach within Safety Working Clearance shall be Approved voltage measuring devices or Earthing Devices.



4. When Points of Isolation have been established by the application of Earthing Devices, approach is allowed under an appropriate Safety Document within the specified Safety Clearance.

2.3. Safety precautions for work or testing on or near to extra high voltage or high voltage equipment.

1. When work or testing is to be carried out on or near to EHV / HV equipment, the means of achieving safety must be assessed according to Transmission Licensees Safety Document Procedure. The EHV / HV equipment must be identified.
2. **Safety Documents.**
 - a) When work or testing is to be done on the normally energized part / primary side of the EHV / HV equipment and it is necessary to provide Primary Earths, a Permit To Work (PTW) shall be issued. In case it is required to remove the Primary Earth for the purpose of testing, this shall be done after taking due precautions as required.
 - b) When work or testing is to be done on the normally not energized part / secondary side of the EHV / HV equipment, such as for relay testing or CB operation testing or work on secondary side of CT's / PT's and does not require the de-energization of the equipment or the providing of Primary Earths, Permit To Test (PTT) shall be issued.
 - c) The Safety Document must show the Safety Precautions taken to achieve safety from the EHV / HV system and further precautions required to protect persons from inherent dangers in other systems.
 - d) Within any Isolated Zone, any number of PTWs may be issued.
 - e) Only one PTT shall be in force at any time within any isolated zone, No PTWs are permitted at the same time as the PTT is in force in the same isolated zone.
 - f) When the restoration of motive power is required for work or testing, the supplies required must be stated on the Safety Document in accordance with Safety Instruction.
 - g) If motive power supplies have been made available, no other PTWs shall be issued on the same equipment.
3. When danger from induced voltages could arise during the course of work or testing, additional earths shall be applied.

2.4. Safety precautions for work on or near to medium and low voltage equipment

1. Where reasonably practical, work on or near to Medium and Low voltage equipment should be carried out with that equipment in Dead condition.
2. When work or testing is to be carried out on or near to MV / LV Equipment, then the means of achieving safety must be assessed and shall also comply with the following rules.
 - a. The MV / LV Equipment shall be identified.



- b. The MV/LV Equipment shall be isolated and those points of isolation secured.
 - c. The Supervisor or Shift Incharge under which work or testing work is carried, shall have to brief the detail procedure to the technician before taking the Permit To Work.
 - d. The method of instructing how the work or testing is to take place can be either a safety Document or Personal supervision.
3. When it is unavoidable to carry out work or testing on MV / LV equipment which is not Dead, then suitable precautions to avoid Danger must be followed.

2.5. Safety precautions for work or testing or testing in or near to mechanical equipment.

1. When work or testing is to be carried out on or near to mechanical equipment, the means of achieving safety must be assessed according to Safety Instructions.
2. Safety Documents
 - a. For work or testing with the Equipment Isolated and either non - operational or with limited restoration of motive power supplies, the Safety Document issued will be a Permit To Work.
 - b. When testing of mechanical Equipment involves the application of test pressures, the Safety Document issued will be a Permit To Test.
3. When the work or testing requires the issue of a Permit To Work, according to the safety rule (2.5.2.a), the precautions will be specified in the Permit To Work and must include the following:
 - a. The Mechanical equipment must be Isolated and Points of Isolation established for the work.
 - b. Further precautions taken to protect persons from inherent dangers in mechanical systems. This must include draining, venting, purging and removal of stored energy.
 - c. Venting emissions shall be dissipated so as to avoid Danger. Where reasonably practicable, vents shall be locked open and Caution Notices fixed.
 - d. The removal of the stored energy must be carried out in a manner to contain or dissipate that stored energy safely.
 - e. Where internal access is required and the residue of the contents could cause Danger, the mechanical equipment must be purged and that residue disposed off safely according to an Approved Procedure.
4. Where work or testing is to be carried out on mechanical Equipment and it is essential to restore motive power for that work or testing while the Permit To Work is in force, then the following additional precautions shall be applied.
 - a. All supplies required must be stated on the Permit To Work in accordance with the Safety Instructions.
 - b. If motive power supplies have been made available, no other PTWs shall be issued



on the same Equipment.

5. When the testing requires the issue of a Permit To Test according to Safety Rule (2.5.2-b) then the procedures will be as described in Safety Instructions.

It is essential that the risks of testing are properly assessed by the Maintenance / Testing Engineer. This procedure should only be used when such testing is an operational necessity.

2.6. Transfer of permit

1. Transfer of permit to work from one Supervisor to another is strictly prohibited. If there are more than one working parties, separate permits should be issued to the Supervisor in charge of each working party and a written record should be kept of the number of such permits issued for each work.
2. If work is of such a nature and duration that it has to be carried out continuously but under the supervision of more than one Supervisor in shift duty, the "Permit to work" form shall be endorsed by the Permit Issuing Officer cancelling the name of the supervisor to whom it was originally issued and substituting the name of the second or subsequent Supervisor to whom the permit will now become valid. The time of each endorsement should be noted on the "Permit to work" form and its duplicate.

2.7. Operating of equipment

1. The system shall never involve pre - arranged signals or the use of time intervals to achieve safety while operation on any Equipment.
2. The operation of the equipment and / or its isolation and / or earthing shall be confirmed before the issue of Permit To Work or Permit To Test.

2.8. Demarcation of work and testing areas

1. The work and testing area shall be clearly demarcated.
2. Where necessary, physical protection must be provided to prevent danger to persons in a demarcated area from adjacent system hazards.

2.9. Identification of equipment and special consideration

1. All equipment on inter user boundary between Transmission Licensee and other Users circuits which may be used for the purpose of safety co-ordination and establishment of isolation and earthing, shall be permanently and clearly marked with an identification number or name, that number or name being unique in that sub-station. This equipment shall be regularly inspected and maintained in accordance with manufacturer's specification.
2. Each Designated Officer shall maintain a legibly written safety log, in chronological order, of all operations and messages. relating to safety co-ordination sent and received by them.
3. For inter user boundary between STU and other Users circuits, all Users shall comply with the agreed safety rules, which must be in accordance with IE Rules.



3 EHV AND HV SWITCHING, EARTHING AND SAFETY DOCUMENT PROCEDURE

3.1. Purpose: To specify procedure to achieve safety from system when maintenance or testing is to be carried out on EHV / HV System.

3.2. Scope: This MSETCL Safety Instructions set down the procedure to be adopted when carrying out EHV / HV switching, isolation from other supplies, earthing, issue of Safety Document and control on EHV / HV Transmission System.

3.3. Procedure:

3.3.1 Planning/Assessment

1. PTW (Permit to Work) will be issued when work requires the providing of primary earths. (Refer Safety Rule 2.3.2.a).
2. PTT (Permit to Test) will be issued when work / testing on the substation equipment/ transmission line do not require the providing of primary earths. (Refer Safety Rule 2.3.2.b).
3. Any number of PTWs may be issued within any isolated zone, at the discretion of the Designated Officer (Designated Officer shall keep track of the PTWs issued). (Refer Safety Rule 2.3.2.d).
4. Only one PTT shall be in force at any time within any isolated zone, No PTWs are permitted at the same time as the PTT is in force in the same isolated zone. (Refer Safety Rule 2.3.2.e).

3.3.2 Shutdown approval from SLDC/WRLDC

1. The approval of planned as well as emergency outages in the transmission Network level in real time is coordinated by SLDC/ RLDCs based on system conditions.

(Detailed procedure for the shutdown shall be as per **Standard Operating Procedure for Outage Planning in State of Maharashtra**)

3.3.3 Request of PTW

1. Maintenance engineer shall request PTW by completing the Part-A of Permit to Work format.

3.3.4 Availing outage code from SLDC/WRLDC

1. The Designated Officer shall check whether this is a planned outage or emergency and seek the code for availing outage from SLDC.

(In case of WRLDC oversight asset, SLDC shall request WRLDC for shutdown code. WRLDC will provide the code to SLDC in case of interstate line/asset)

2. SLDC will confirm to the Designated Officer that the shutdown can be availed/or cannot be availed and both will record the instructions in their log sheet(s) and message register together with the message number, date and time that the instruction was given. Mode of communication; Email/ land Line Phone/ Mobile/ PLCC shall also be recorded. Detail of the message recorded in the voice Recording system of the substation, if available, shall also be



recorded in the Log sheet and message Register.

3.3.5 Switching operations (for shutdown)

1. The Designated Officer will carry out switching (shutdown) operations as per the instructions of SLDC.
 - a. If SLDC is not coordinating the switching procedure, an authorization for carrying out necessary coordination and switching operations shall be availed from SLDC.
 - b. The Designated Officer of the Sub Station where the PTW / PTT has been applied for, on getting the authorization for operations shall coordinate for carrying out such switching operations as necessary for isolation of the work/ test area.
 - c. All isolations shall be carried out and points of isolations will be Locked Open.
 - d. In case of Line, the Designated Officer shall give a message to the Designated Officer of the Sub Station at the other end(s) for carrying out isolation and locking open the points of isolation.
 - e. The Designated Officer of the Sub Station at the remote end only after confirming and matching the shutdown code given by SLDC/WRLDC will isolate and Lock Open all points of isolation and confirm back to the Designated Officer of the Sub Station where the PTW / PTT has been applied for.
 - f. Isolation of the secondary side of voltage transformers and auxiliary transformers (tertiary winding where applicable) will also be carried out including locking.
 - g. These switching operations, along with time stampings of each operation, will be recorded as per Operations Register Format in the substation log sheet(s) and message register together with message number, the date and time.

3.3.6 Locking of isolation points and no feedback/ earthing certificate

1. Earth switches shall be closed and locked once all isolation including voltage transformers and auxiliary transformers (tertiary winding where applicable) has been completed, including remote ends where necessary, and confirmation has been received that the isolation has been completed at the remote end
2. Designated Officer shall ensure that Caution Notices shall be fixed on all control handles on the control panel and also attached to the locks used to Lock Open all points of Isolation and Lock Closed all earth switches.

These switching operations will be recorded in the Sub-station log sheet(s) and message Register together with message number, date and time.

3. 'No Back Feed Certificate' / 'Earthing Certificate' must be obtained from all concerned Sub Stations. All details of the 'No Back-Feed Certificate' / 'Earthing Certificate' must be entered in the Sub Station log sheet(s) and message register along with message number, date and time. The message number, date and time must also be recorded on the PTW / PTT.



4. The Designated Officer shall record the isolation and earthing as per Operations Register Format.

A copy of operations register format is to be attached with Permit To Work or Permit To Test and document no. is to be referred in part B.1 (Sequence of Isolation) of PTW/PTT.

5. All Safety Keys, fuses and links, etc, which have been used to Lock all points of isolation and earth switches, etc. will be Locked in a Key Safe under the safe custody of the Designated Officer.
6. The Designated Officer will specify the following in Part B of the Permit To Work or Permit To Test before issue:
 - a. Any further precautions which are required to be taken later by the Incharge holding the Permit to Work or Permit to Test to achieve Safety. (Refer Safety Rule 2.3.2.b).
 - b. The power supplies that can be resorted for the particular work being carried out (Refer Safety Rule 2.3.2.e) and issue the Approved written procedure.
 - c. The number of Additional Earths required. The use of these Additional Earths will be specified on an Earthing Schedule drawn up by the Maintenance Engineer

3.3.7 Issue of PTW/PTT

1. The Designated Officer will issue the Permit To Work or Permit To Test to the Person requesting for PTW / PTT who will retain the Safety Document in his possession until all work has been completed.
2. The Designated Officer will record all the details in the substation log book and Permit To Work or Permit To Test register.
3. In cases where PTW / PTT has been requested over telephone or mail, the confirmation of conveying the approval of the PTW / PTT shall be recorded by the Designated Officer.

3.3.8 Receipt of PTW/PTT and Code

1. The Person requesting for PTW / PTT will sign Part C (Receipt) to accept the responsibility for carrying out the work / testing on the Sub Station equipment / transmission line.
2. The Person responsible for the work / testing will draw up the Earthing Schedule, if required, to show the position and use of Additional Earths.
3. IMPORTANT: - When PTW / PTT has been requested over telephone: The person responsible for the work / testing will give confirmation of receipt of the approval of the PTW / PTT by giving a "code name" which shall be not be recorded by the Designated Officer. The Designated Officer shall verbally convey the "code name" to the next Designated Officer
4. In substations, Additional Earths must be applied in a manner similar to primary portable earths using the same earthing equipment.
5. On overhead transmission lines, Additional Earths can be applied within Safety Clearance but at not less than Safe Electrical Clearances.



3.3.9 Return of PTW, code verification and cancellation of PTW/PTT

1. The person who has obtained the PTW / PTT will sign the Return of Permit to Work or Permit To Test (Part D) to declare that all work / testing is completed.
2. The person who has obtained the PTW / PTT over telephone shall convey the above along with the “**code name**” given by him at the time of obtaining the PTW / PTT.
3. While returning the PTW / PTT, any restrictions applicable / changes made shall be described in part D.
4. It shall also be confirmed that all men, tools, plant and Additional Earths have been removed.
5. The Designated Officer will receive / accept the cleared Permit To Work or Permit To Test and record receipt in the substation log sheet. He will also record the receipt / acceptance in the Permit To Work or Permit To Test register together with date and time, and mention this in Part E.1 of the PTW / PTT.
6. The Designated Officer shall cancel the PTW / PTT by signing in Part E. The PTW / PTT shall then be kept for record.

3.3.10 Confirmation of No PTW outstanding

1. The Designated Officer will verify the local status and confirm that no PTW/PTT is outstanding and it is clear for restoration.
2. The Designated Officer where PTW/PTT was issued shall seek from the Designated Officer of the Sub Station at the other end(s) the confirmation in the form of a certified document that no PTW/PTT is pending at his end and line is clear to be charged.

This shall be recorded in the substation log sheet(s) and message register together with message number, the date and time.

3.3.11 Availing restoration code from SLDC/WRLDC

1. Designated Officer shall seek restoration code from SLDC that the PTW on the asset has been cancelled and can be energized.

(In case of WRLDC oversight asset (refer Operating Procedures of Western Region), SLDC shall forward the request with their consent to WRLDC. WRLDC will then approve the restoration and provide the code to SLDC)

SLDC shall confirm the Designated Officer with code that restoration of the asset can be availed.

3.3.12 Switching operation (for restoration)

1. The Designated Officer will carry out switching (restoration) operations as per the instructions of SLDC.
 - a. If SLDC is not coordinating the switching procedure, an authorization for carrying out necessary coordination and switching operations shall be availed from SLDC.

- b. The Designated Officer of the Sub Station where the PTW / PTT has been applied for shall coordinate for carrying out such switching operations as are necessary for restoration of the work / test area.
 - c. The Designated Officer of the Sub Station where the PTW / PTT has been applied for shall then carry out the removal of all the Primary Earthing and switching operations after consultation with remote end(s), recording these in the operations register format, substation log sheet together with date and time
 - d. These switching operations, along with time stampings of each operation, will be recorded as per Operations Register Format in the substation log sheet(s) and message register together with message number, the date and time.
 - e. Designated Officer will complete Part E.2 of the Permit To Work / Permit To Test to describe the sequence of normalization and refer the Operations register document no. A copy of operations register shall be attached to the cancelled PTW.
2. All documents shall be filed and maintained.



4 AUTHORISATION (WORK ALLOCATION) OF PERSONS

4.1. Purpose

To define guidelines for authorizing persons for carrying out maintenance works in EHV Sub Stations or on transmission lines.

4.2. Scope

These MSETCL Safety Instructions set down procedures for authorization of personnel such as Maintenance Engineer, Testing Engineer, Designated Officer, Sub Station In-Charge, Line In-Charge, Operator and Authorized Person.

4.3. Procedures

1. Only authorized persons shall be allowed to carry out operation and maintenance activities in Sub Stations / on transmission lines.
2. Safety guidelines during O&M of Sub Stations shall be issued by Sub Station In-Charge. All operation and maintenance activities shall be carried out under the control of Sub Station In-Charge.
3. For carrying out maintenance work, issue of safety document (PTW / PTT) shall be approved by Sub Station In-Charge.
4. Sub Station In-Charge shall authorise Designated Officer & Maintenance Engineer for carrying out O&M activities. Maintenance Engineer shall also be Testing Engineer for local testing. Engineers of the Protection Wing & other fields who have been assigned specific testing tasks shall also be designated as Testing Engineers. Sub Station safety documents, i.e., PTW / PTT shall be filled by Maintenance Engineer / Testing Engineer for carrying out maintenance / testing activities in Sub Stations. PTW / PTT are to be approved by Sub Station In-Charge before being issued by Designated Officer.
5. All operations including isolation and earthing of equipment shall be carried out by the Operator in the presence of Designated Officer.
6. Only after personally confirming isolation and earthing in the work area, the Designated Officer shall issue the PTW / PTT. After receipt of PTW / PTT, the Maintenance Engineer / Testing Engineer shall advise the Authorized Persons for carrying out maintenance / testing activities. All Authorized Persons shall be selected by Maintenance Engineer / Testing Engineer.
7. Maintenance Engineer / Testing Engineer shall be responsible for taking all safety precautions during maintenance testing works including use of Personnel Protective Equipment (PPEs).



ANNEXURE– A Sample authorization letter from SLDC for Switching Operations or work or testing on Transmission Line Element

From: MSLDC

Date - ___/___/___

To,

Subject: Shutdown on / for _____

You are hereby allowed to carry out necessary operations and issue PTW to an authorized person after observing all safety precautions to avail shutdown on w.e.f. _____ hrs. to _____ hrs. of dt. _____. Shutdown timings should be strictly adhered to.

Name -
Employee Code-
Designation –

Signature of Authorized Person:



PERMIT TO WORK

A: REQUEST

1	Work Area			
2	Work to be done			
3	Period of PTW	From Date:	Time:	To Date Time :
4	Details of Isolation Required	1. 2. 3. 4. 5.		
5	PTW Requested by			
	Name & Designation		Date:	
	Signature		Time:	

B: ISSUE OF PTW

		Isolating Time:		
		Earthing Time:		
		Certificate No.:		
		Dt.:		
		Issued by:		
3	Further precautions to be taken to achieve safety	i) ii)		
4	PTW ALLOWED	From Date:	Time:	To Date Time:
5	Entry made in PTW register on page			
6	PTW Approved by: Name and Designation:			
	Signature:			



C. RECEIPT

I Hereby declare that I have inspected and have satisfied myself that such equipment where the work is to be carried out has been switched off and isolated/earthed. I also accept responsibility for carrying out work only on equipment detailed on this permit and that no attempt will be made by me or by any man under my control, to carry out work on any other equipment.

Name and Designation:

Signature or Code (In case receipt over Phone):

D. RETURN OF PERMIT TO WORK

1 Details of Work done

2 Restriction/changes if any on the equipment being returned to service

3 Clearance Certificate

I hereby declare that all men, material & earthing have been withdrawn and all personnel warned that is no longer safe to work on the equipment specified in this permit and all tools and additional earths are clear and equipment is ready for charging.

Name:

Date:

Signature:

Time:

E CANCELLATION OF PERMIT TO WORK (PTW)

1 PTW Cancelled and entry made on PTW register page no:

2	Sequence of Normalization: & Operations Register Document No.:	i. OPERATIONS REGISTER DOCUMENT NO.: ii. REMOVAL OF EARTHING: TIME: iii. CLOSING OF ISOLATORS TIME: iv. ENERGIZATION TIME:
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Name & Designation:

Date:

Signature:

Time:

ADDITIONAL COMMENTS

[Empty box for additional comments]

NOTES FOR RECIPIENT

THIS CERTIFICATE IS A VALUABLE DOCUMENT AND SHOULD BE RETAINED FOR FUTURE REFERENCE



PERMIT TO TEST

A: REQUEST

1	Work Area			
2	Work to be done			
3	Period of PTW	From Date:	Time:	To Date Time :
4	Details of Isolation Required	1. 2. 3. 4. 5.		
5	PTW Requested by			
	Name & Designation		Date:	
	Signature		Time:	

B: ISSUE OF PTT

		Isolating Time:		
		Earthing Time:		
		Certificate No.:		
		Dt.:		
		Issued by:		
3	Further precautions to be taken to achieve safety	i) ii)		
4	PTT ALLOWED	From Date:	Time:	To Date Time:
5	Entry made in PTW register on page			
6	PTT Approved by: Name and Designation: Signature:			



C. RECEIPT

I Hereby declare that I have inspected and have satisfied myself that such equipment where the work is to be carried out has been switched off and isolated/earthed. I also accept responsibility for carrying out work only on equipment detailed on this permit and that no attempt will be made by me or by any man under my control, to carry out work on any other equipment.

Name and Designation:

Signature or Code (In case receipt over Phone):

D. RETURN OF PERMIT TO TEST

1 Details of Work done

2 Restriction/changes if any on the equipment being returned to service

3 Clearance Certificate

I hereby declare that all men, material & earthing have been withdrawn and all personnel warned that is no longer safe to work on the equipment specified in this permit and all tools and additional earths are clear and equipment is ready for charging.

Name:

Date:

Signature:

Time:

E CANCELLATION OF PERMIT TO TEST (PTT)

1 PTT Cancelled and entry made on PTT register page no:

2 Sequence of Normalization: & Operations Register Document No.:

- i. OPERATIONS REGISTER DOCUMENT NO.:
- ii. REMOVAL OF EARTHING: TIME:
- iii. CLOSING OF ISOLATORS TIME:
- iv. ENERGIZATION TIME:

Name & Designation:

Date:

Signature:

Time:

ADDITIONAL COMMENTS

[Empty box for additional comments]

NOTES FOR RECIPIENT

THIS CERTIFICATE IS A VALUABLE DOCUMENT AND SHOULD BE RETAINED FOR FUTURE REFERENCE

