



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

ENERGY ISOLATION & NORMALISATION



INTEGRATED MANAGEMENT SYSTEM

Document No.:
BPDB-IMS-PR-080

Revision No.: 00

Effective Date: 01-11-2021

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1. Purpose

This procedure is made to guide the operators inside BPDB to carry out the energy isolation & normalization

2. Scope

This procedure applies to all energy isolations, temporary and permanent, made to BPDB.

3. Terms and Definition

None

Abbreviation

BPDB – Bangladesh Power Development board

4. Roles and Responsibilities

4.1 The Operation Manager is responsible for the implementation of work to be done

4.2 The Shift Charge Engineer is responsible for ensuring that the task to be carried out by his Operation Engineer is in the manner described herein

4.3 The Operation Engineer is responsible for carrying out the task according to the manner described herein

4.4 Operations Engineer pertaining to Balance of Plant (BOP), Trainee/s, Power Block, Control Room Engineer or Operations Engineer itself assigned to carry out the given task by Shift Charge Engineer.

5. Procedure:

5.1 Isolation of Electrical Equipment

Electrical isolation is necessary to remove the mechanical and electrical energy from the system.

When work is to be carried out on high voltage apparatus, the primary means of achieving safety is by isolation from the system followed by earthing.

In the case of low voltage apparatus, the primary means of achieving safety is by isolation from the system.

Equipment must be isolated from all electrical energy sources by opening and locking all main power supplies. Caution notices shall be affixed at all points of isolations.

If the main power supply cannot be locked out, qualified electrical personnel must physically disconnect the equipment from the power source. Lockouts of electrical equipment shall be made at the main power supply.

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For work on H.V. apparatus, primary earths shall be applied within the isolated zone and, where reasonably practicable, immobilized and Locked.

Once the electrical lockout is complete, an attempt shall be made to start the equipment locally to ensure it is properly isolated before the maintenance work starts (and then all switches should be returned to their "off" position and tagged "Do Not Operate").

Danger from Induced Voltages

When danger from induced voltages could arise during the course of the work, portable drain earths shall be applied. Any portable drain earths shall be issued with the permit for work together with an earthing schedule.

Safety distances from high voltage (HV) conductors

When exposed to HV conductors, no object is allowed to approach them or their insulators within the safety distance specified for that voltage level.

When work is to be carried out near to the safety distance, the permit issuer shall ensure that scaled drawings and other means of checking dimension are available at the planning stage of the work to enable distance to be measured and assessed accurately.

Safety Precautions for Testing Plant & High Voltage Apparatus

Safety precautions for electrical testing of Plant and/or H.V. apparatus shall include the following:

- A new and sole permit to work for electrical testing.
- Proper isolation procedure for the Plant and/or high voltage to ensure safety from the system
- Recipient of permit shall be electrically competent to carry out the electrical testing
- Area of testing shall be barricaded from unauthorized personnel.

Simultaneous works in the equipment is strictly prohibited.

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5.2 DETAILS ISOLATION

Confirm Equipment tag with WCD

Confirm the respective system not in service

Before Isolate inform control room

440 V and below Isolation:

- i. Switch the remote selection to Local/ OFF
- ii. Turn off the respective breaker
- iii. Lock out and Tag out
- iv. Record the key number on WCD

440 V and above Isolation:

- i. By Electrical Personnel
- ii. Confirm that safety EPB is engaged
- iii. Switch the remote selection to Local/OFF
- iv. Turn off the respective breaker
- v. 6.6 KV and above earth switch to be on
- vi. Lock out and Tag out
- vii. Record the key number on WCB

5.3 PROCEDURE DETAILS NORMALIZATION

a. Confirm Equipment tag with WCD

b. Confirm PTW is closed

c. Before Normalization inform control room

d. 440 V and below normalization:

- i. Remove Lock out and Tag out
- ii. Turn on the respective breaker
- iii. Switch the remote selection to auto
- iv. Confirm that safety EPB is released

e. 440 V and above normalization:

- i. By Electrical Personnel
- ii. Remove Lock out and Tag out
- iii. Turn on the respective breaker
- iv. Switch the remote selection to auto
- v. Confirm that safety EPB is released

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6. References

ISO 45001: 2018 Standard

7. Appendices

N/A

8. Revision History

SI No.	Revision Number	Section	Change Made	Date of Revision

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