MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
(A Government of Maharashtra Undertaking)
(CIN: - U40109MH2005SGC153645)

OFFICE OF CHIEF ENGINEER TESTING
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CE/Testing/PQM/ No 0 1 5 7 0 Date: 1 3 JAN 2026

TESTING CIRCULAR

Subject: Directives for regular Maintenance Drive to Improve Power Quality (PQ) Parameters.

Ref: 1) CE/Testing/PQM/34218 dated 29/10/2024.
2) This office email to all SE(O&M) dated 05/09/2025.

As you are aware, MSEDCL has installed **Power Quality (PQ) Meters** on the LV side of Power Transformers across all substations; its PQ data is available on eWatch dashboard. Analysis reports indicate that a significant number of PQ events are directly attributable to lack of **substation and line maintenance**. Detailed guidelines regarding probable causes and remedial actions to be taken are already communicated via letters cited under reference (1) and (2).Hon. CMD takes regular review of the status of Power Quality Parameters. The details circle wise statis status of power quality parameters is attached with the letter.

During the recent review meeting, Hon'ble CMD expressed serious concern regarding the increasing count of Power Quality events and directed to expedite the maintenance activities to improve the power quality of system.

In this regard, in order to improve the power quality parameters following actions needs to be taken:-

- An **immediate maintenance drive** for all substations and lines must be initiated.
- Maintenance activities must strictly adhere to the standard maintenance schedules.
- All testing team shall verify the substation issues mentioned in below table and shall take corrective action in co-ordination with O&M teams wherever required.
- This drive shall be conducted regularly on a **fortnightly basis** to ensure sustained power quality.

The following table outlines specific PQ parameters and the corresponding maintenance activities required for restoration:

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PQ Parameter	Activity to be done during drive
Flicker	• Lack of S/stn & Line Maintenance. • Heavily Loaded Feeder trippings • Heavy Faults • S/stn Earthing
Flicker, Sag	• Multiple Feeder Interruptions (HV/EHV)
Flicker, Voltage variations, Voltage Unbalance	• PT Sec. Star pt. Earthing. Loose connections (PT/ TTB/Conductors/ wiring)
Flicker, Voltage variations	• PTF neutral Earthing Floating
Flicker, Sag, Voltage variations, Voltage Unbalance, Swell	• Improper PTF TAP operations
Voltage Unbalance	• Single Phasing -AG/ No crimping at Cut Point • Wrong Phase Sequence. • Uneven Load Distribution • Capacitor bank working partially for one or two phase.
Voltage Unbalance, Sag, Voltage variations	• PT Fuse Blown / PT failure
Sag	• Loose Jumpering
Swell	• Switching Operations. • 11KV Load Isolation during 33KV HV fault & restoration of 33KV.
Voltage variations	• Common Bus PT for multiple PTFs. • On Load AB switch operations causing variations & interruption events.

To ensure the success of the drives, the following coordination structure is established:

- **EE(O&M):** Responsible for Substation and Line Maintenance on regular intervals.
- **SE(O&M):** Responsible for verifying maintenance activities are being carried out fortnightly.
- **EE (Testing):** Responsible for **fortnightly reporting** of all maintenance activities carried out by O&M within their jurisdiction to concerned SE TQA and shall responsible for Substation CT, PT and power transformer's testing related maintenance activities also ensure the healthiness of said equipments.
- **SE (TQA):** Responsible for monitoring the overall drive and submitting **consolidated circle-wise reports** on activities carried out & PQ events restored at regular intervals.
- **The outcomes of the drive shall be verified by Corporate Office with the pass percentage of the PQ events in the eWatch.**

All concerned officers are hereby directed to ensure strict compliance with these instructions to maintain power quality as per statutory standards.

All Zonal CEs are requested to take regular review in the matter.

Dr.M.G.Wath
Chief Engineer (Testing)