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|  | **APARNA PROPERTY MANAGEMENT SERVICES PRIVATE LIMITED**  **STANDARD OPERATING PROCEDURE FOR ELECTRICAL RESISTANCE CHECK** |

**Objective:**

The objective of this document is to establish a procedure for maintaining healthy condition of the earth pits.

**Policy:**

To ensure healthy condition of earthing and electrical system

**Responsibility:**

Electrician / Technical Supervisors need to ensure timely maintenance of system. Site In-charge to ensure that electricians and technical Supervisors are fully aware about maintenance and safety precautions during earth pit checks

**Instructions:**

1. Weekly maintenance has to be carried out by Electrician & Supervisor
2. Ensure looping of the earth pit before disconnection from earth pit
3. Use only calibrated equipment for testing
4. Ensure availability of adequate salt at site as per consumption pattern
5. Do not touch the earth pit with naked hands
6. Ensure all the earth pits are covered

**Procedure for monthly maintenance:**

1. Ensure barricading the area before start of maintenance
2. Ensure that all the earth pits are covered as part of maintenance
3. Remove all the foreign objects from the earth pits
4. Ensure that the contacts are cleaned and greasing/petroleum gel is applied to terminals.
5. Ensure that all the earth pits numbers and associated equipment is mentioned on the earth pit cover
6. Take 02 kg of salt for each earth pit
7. Mix the salt in 10 liter of water
8. Slowly pour the salt water inside the earth pit funnel
9. Pour additional water without salt around the funnel
10. Ensure proper covering of the earth pit post maintenance
11. Keep the record of earth pit maintenance and update in PPM calendar

**Procedure half yearly earth pit value checks:**

1. Ensure that all the necessary precaution taken during the maintenance
2. Ensure looping of earth strip to another earth pit to maintain continuity of system
3. Ensure disconnection of the earth pit during earth resistance checks
4. The value of earth pit should not be more than 2Ω. If the value exceeds the limiting value undertake maintenance of the earth pit
5. Earth pit resistance is measured by Megger / Earth tester, having four terminals P1, P2, C1, C2 i.e. Two potential & Two Current terminals.
6. During earth pit testing, P2 & C2 are  shorted and C1 connected to current spike(Conductive rod)  which should be inserted into soil at around 30 meter distance from earth pit and P1 is connected to potential spike (Conductive rod) inserted at around 15 meter. Away from earth pit in the direction of current spikes. By rotating the handle of meter / or by pressing test button earth resistance can be obtained.
7. Record all the required information in log book/ earth pit test check list
8. Earth value records need to be maintained for inspection by Electrical Inspector

**Environmental health & safety precautions:**

1. Ensure appropriate Personal Protective Equipment such as hand gloves, safety shoes are used during the maintenance
2. Ensure barricading of the area to avoid any accident
3. Place signage of maintenance in progress near the earth pit
4. Ensure no spillage of water around the earth pit on the floor
5. Ensure secondary containment is provided to prevent leakage

**Revision Guide:**

Any change in the system needs review of SOP.

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| **Rev : 02** | **Prepared By** | **Approved By** |
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