

PSS Earthing Enhancement- CAPEX FY'27

SCOPE of Work:

- a) Bidder should conduct survey of listed Primary substation after award of PO.
- b) Earth resistance of individual earth pit & grid earth resistance value should be checked & recorded by BA in presence of EIC using calibrated testing tool.
- c) BA should conduct soil resistivity test, necessary fault level calculation, step potential & touch potential within threshold value according to IEC standard & propose new earth pit & earth mat design to maintain the grid earth resistance value less than or equal to 1ohm, the proposed drawing shall be approved from concern department. Final Earthing layout drawing to be submitted for each PSS by BA.
- d) BA may install required no of earth pit to maintain the earth pit resistance value as well as grid resistance value. (location details listed below for your reference).
- e) BA has to do revival of existing earth pits which are having high resistance earth value more than 2ohms as per the site conditions. Revival of existing earth pits should also be maintenance free. Excavation of existing earth pit and installation work of new earth pit will be under BA's scope.
- f) Any consumables and materials for the revival of existing/new earth pits will be considered under BA's scope.
- g) BA need to follow technical specification for earth enhancement material, electrode & GI materials.

h) Material shall be invoice as follows with EIC approval

Sl. no	Material description	UOM
1	Earth pit (including earth enhancement material, electrode, concrete chamber, clamp)	No
2	GI flat (75x10, 50x8)	MTR
3	Installation & commissioning charge	No
4	Revival of Existing earth pit	No

- i) Failure to maintain the earth pit resistance & grid resistance value after commissioning BA may face commercial or contractual implication.
- j) All the existing earth pits in each PSS are to be interconnected with grid earth using 75*10 mm GI flat. Depth calculation of the earth mat to be installed should be decided as per the soil resistivity test of PSS & the tabulation report should be submitted. All equipment shall be connected with earth pit by 50x8 GI flat.
- k) Overall Grid Resistance value should be less than or equal to 1 ohm.
- l) BA should provide RCC (Reinforced Cement Concrete) chamber of size 450 mm*450 mm*300 mm with removable RCC cover of minimum 70 mm thickness, reinforced with MS/wire mesh, complete with lifting arrangement and nomenclature work as per the below mentioned details:
 - 1. Font Type: **Arial**
 - 2. Font Size: **As per visibility**
 - 3. Color: **BUS GREEN color for entire chamber, Earth Resistance details to be written with WHITE lettering in BLACK Background**

Nomenclature to be mentioned on RCC cover of each Earth Pit Chamber:

- 1. No. of Earth Pit
- 2. ISO Standard Details: “ISO- 11 BE”
- 3. Earth Resistance Value: “VALUE- ...Ω”
- 4. Testing Date: “TESTED ON- DD.MM.YYYY”
- 5. Next Due date of Testing: “NEXT DUE ON: DD.MM.YYYY”

Please refer to the photo of a Standardized Earth Pit Chamber for reference.

