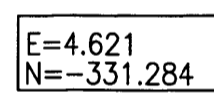


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1. THE EARTH MAT DESIGN CALCULATIONS FOR SWITCHYARD AREA ARE BASED ON IEEE STANDARD 80- 2000.
2. MEASURED APPARENT RESISTIVITY DATA IS TAKEN FROM "ELECTRICAL RESISTIVITY REPORT" (ENCLOSED AS ANNEXURE-C). APPARENT RESISTIVITY RECOMMENDED FOR DESIGN CALCULATION OF EARTHING MAT AS PER PERT REPORT IS 41.11 Ω -M. HOWEVER WE HAVE CONSIDERED 51 Ω -M FOR EARTH-MAT DESIGN CALCULATIONS (FOR THE CARE OF 25% INCREASE ON ACCOUNT OF MOISTURE CONTENT OF SOIL DURING SUMMER/RAIN).
3. OPERATOR BODY WEIGHT OF 50 KG IS CONSIDERED FOR CALCULATION OF TOLERABLE STEP VOLTAGE AND TOLERABLE TOUCH VOLTAGES, BECAUSE IT GIVES MINIMUM VALUE AS PER CLAUSE 8.3 OF IEEE STANDARD 80-2000.
4. MAIN HORIZONTAL GROUND GRID ROD / VERTICAL GROUND ROD IS 40 MM DIA. MILD STEEL ROD.
5. VERTICAL 3M GROUND MISS ROD SHALL BE LAID AT EACH JOINT ALONG THE PERIPHERY OF THE EARTH-MAT.
6. FOR GROUNDING OF LVS, 6 NO VERTICAL ROD ELECTRODES OF MILD STEEL SHALL BE USED.
7. EACH EARTHING LEAD FROM THE NEUTRAL OF POWER TRANSFORMER SHALL BE DIRECTLY CONNECTED TO TWO ROD ELECTRODES SEPARATELY, WHICH IN TURN SHALL BE CONNECTED TO THE MAIN EARTH MESH.
8. DEPTH OF GRID IS CONSIDERED AT 600MM BELOW GROUND LEVEL AS PER UPPTCL SPECIFICATION.
9. THE UNDERGROUND EARTHING CONDUCTOR SHALL BE LAID 2000MM OUTSIDE SWITCHYARD FENCE.
10. TOTAL SWITCH YARD AREA AT SITE (I.E. AREA OF AC SWITCH YARD) IS CONSIDERED IN EARTH MAT SIZING CALCULATIONS SHOWN IN FIG. 1. IEEE 80-2000 PROVIDES CALCULATION FOR L-SHAPE SWITCH YARD, ACTUAL EARTH-MAT SHAPE IS APPROXIMATED TO L-SHAPE DIMENSIONS FOR EASY UNDERSTANDING. AREA FOR EARTH-MAT SIZING CALCULATIONS LESS THAN ACTUAL EARTH-MAT LAYING AREA, HENCE DESIGN CALCULATIONS ARE MORE STRINGENT. FIG. 1 SHOWS THE DIMENSIONS OF SUBSTATION COVERED UNDER EARTHING-MAT.
11. FOR INDIVIDUAL EQUIPMENTS, SEPARATE DRAWINGS INDICATING GROUNDING ARRANGEMENT SHALL BE SUBMITTED.

1. TENDER SPECIFICATION REF: ESD-8/126.
2. TOPOLOGICAL SURVEY PLAN OF PROPOSED 400/220/132kV GIS SUBSTATION Drg no. HK/PS/TGS/560
3. APPROVED ESDL DOC NO: TB-0-406-510-001 Rev 01 dated 25.10.2018.
4. APPROVED LAYOUT DOC NO: TB-0-406-510-002 Rev 01 dated 10.01.2018.

- 3M EARTHROD ON OUTER PERIPHERY
- ⓔ 3M EARTHROD
- Ⓟ PIPE ELECTRODE
- 40mm DIA MSROD
- 40mm DIA MSROD FOR RISERS
- 6 ELECTRODE ARRANGEMENT FOR L

[illegible]

		TENDER SINGLE LINE DIAGRAM 400/220/132KV GIS S/S		TITLE																										
REF. DRG. NO.		LOT NO. : 1311/ESD-8/126/H/400KV SHAMLI dated 14.11.2018																												
ADDITIONAL INFORMATION W.O.NO.		ग्राहक/विद्युतवाहन का नाम NAME OF CUSTOMER / PROJECT		UTTAR PRADESH POWER TRANSMISSION CORPORATION LIMITED 400/220/132KV GIS SUBSTATION AT SHAMLI. (U.P.)																										
STATUS OF DRAWING CONTRACT		DISTRIBUTION OF PRINTS																												
				<table><tr><td>क्रमांक</td><td>विवरण</td><td>नाम</td><td>हस्ता/सह.</td><td>दि.</td></tr><tr><td>01</td><td>SY</td><td></td><td>—SIGNED—</td><td>24.04</td></tr><tr><td>02</td><td>SPS</td><td></td><td>—SIGNED—</td><td>24.04</td></tr><tr><td>03</td><td>MSP</td><td></td><td>—SIGNED—</td><td>24.04</td></tr><tr><td>04</td><td>संशोधन/परामर्श</td><td></td><td>—SIGNED—</td><td>24.04</td></tr></table>		क्रमांक	विवरण	नाम	हस्ता/सह.	दि.	01	SY		—SIGNED—	24.04	02	SPS		—SIGNED—	24.04	03	MSP		—SIGNED—	24.04	04	संशोधन/परामर्श		—SIGNED—	24.04
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DRAWING REVISION IN LINE WITH REVERSED COORDINATES AS PER JOINT SURVEY WITH UPTCL SHAMLI CUE.		शीटिंग/TITLE 400/220/132KV EARTHMAT LAYOUT—SHAMLI		ड्राफ्टिंग/DRAWING NO. TB-0-406-510-007 पृष्ठ No./SHEET No. 01 / जम्मा पृष्ठ/NO. OF SHEET																										