

Welcome to our “e-REW Express”. In this new issue of “e-REW Express”, we will describe the mitigation measures for electromagnetic interference during the design stage.

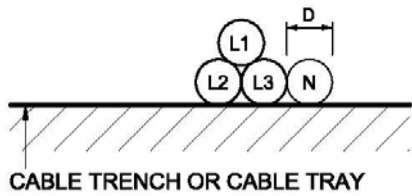
We hope you will find the information useful and handy. If you have any suggestion, please send an email to us at mail@hec.com.hk or contact our Customer Installation Section at 2887 3455 so that we can further improve our service.

At the beginning of the year, we would like to take this opportunity to wish you a prosperous year!

Mitigation Measures for Electromagnetic Interference

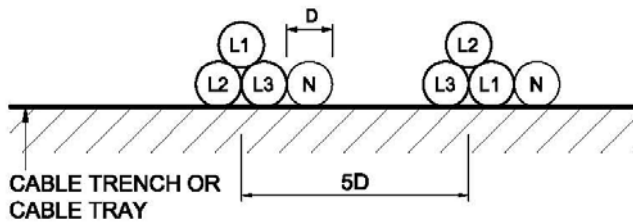
The magnetic field generated from the current in busbars or single core cables in substations would cause electromagnetic interference on computer video terminals. Based on our past experience, a magnetic field strength of as low as 0.001mT could start to cause wobble in computer video screens. In view of this, we recommend the architects and E&M consultants to consider the following arrangements in their design to minimize the interference caused by the magnetic field generated from the proposed substations and to minimize the disturbance so caused to the occupants:-

1. Arrange all the substation walls, ceiling and floor to be screened off by metallic sheets at construction stage.
2. At the design stage, select and propose substation locations such that there will be no computer equipment in the vicinity. This also refers to the floors just above and below the substation.
3. Incorporate in the design of an increased headroom at the floor where the proposed substation is situated so as to reduce the interference to the floor above. Similarly, increase the headroom of the floor just below the substation.
4. Inform the users at the floors just above and below the substations of the possibility of electromagnetic interference right at the first occupation.
5. Since the magnetic field generated by the customer’s high current carrying conductors, e.g. the rising mains from the switchroom, will cause electromagnetic interference on computer video screens, architects and E&M consultants are advised to check at the design stage if there is any area that would be affected by the customer’s installations and carry out the necessary precautionary arrangements accordingly. Suggestions for design and installation of LV single-core cables to minimize electromagnetic interference are as follows:-
 - All the single-core cables should be of same conductor, same cross sectional area, same type, same construction and from the same manufacturer.
 - All the single-core cables should be of equal length and follow the same route of installation.
 - The single-core cables must not be able to operate individually
 - The layout of single-core cables should be arranged as shown in the following drawing.

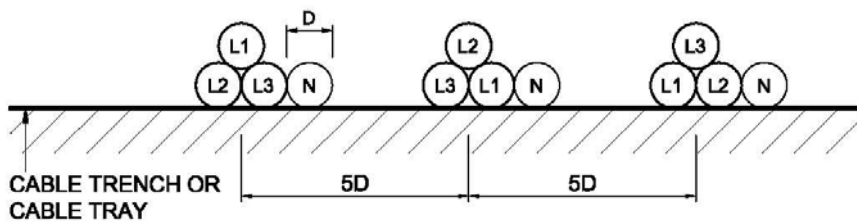


LEGEND:
 L1 = PHASE 1 OF 3-PHASE CIRCUIT
 L2 = PHASE 2 OF 3-PHASE CIRCUIT
 L3 = PHASE 3 OF 3-PHASE CIRCUIT
 N = NEUTRAL
 D = DIAMETER OF SINGLE-CORE CABLES

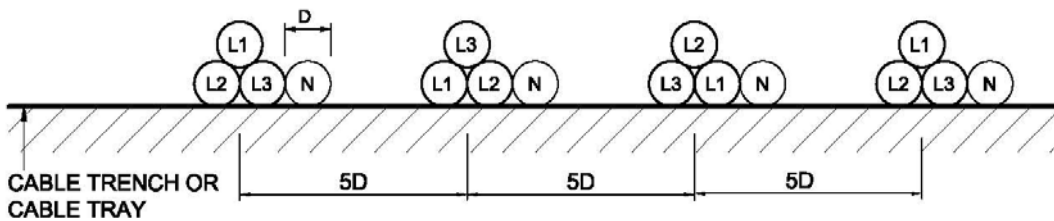
ONE CABLE PER PHASE



TWO CABLES IN PARALLEL PER PHASE



THREE CABLES IN PARALLEL PER PHASE



FOUR CABLES IN PARALLEL PER PHASE

Suggestion for Design and Installation of LV Single-core Cables to Minimize Electromagnetic Interference