THE CHANGE OF THE POWERS FLOW IN LOOP NETWORKS APPLYING SUPPLEMENTARY VOLTAGES

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Abstract. The high voltage transport networks are realized, generally, in loop configuration. The flow of the active and reactive powers in these networks divides unreasonably between different voltage levels, leading to additional active power losses and big voltage drops. The change of the powers flow, aiming the minimization of the active power losses and the maintenance of the voltage level in the nodes at prescribed values, can be realized applying supplementary voltages, in phase and differing in phase by 90 electrical degrees, with the help of busters. These devices are connected at transport electric lines that belong to non-homogeneous loop networks.

Keywords: Non-Homogeneous Loop Networks; Supplementary Voltages Application; Voltage Level; Reduce Losses.