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(54) **POWER DISTRIBUTION ARRANGEMENT**(52) **U.S. Cl.**CPC *H02J 3/0073* (2020.01);
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ABSTRACT(72) Inventor: **Ritwik MAJUMDER**, Västerås (SE)(21) Appl. No.: **18/020,043**(22) PCT Filed: **Aug. 7, 2020**(86) PCT No.: **PCT/EP2020/072321**

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A power distribution arrangement for distributing AC power to loads requiring AC power is disclosed. The power distribution arrangement comprises a power distribution substation comprising transformers, switches, buses, and feeders, a DC transmission line, and at least one control unit. The control unit may control operation of the switches to selectively connect or disconnect one or more feeders to or from at least one transformer via one or more buses and to selectively connect or disconnect the DC transmission line to or from one or more feeders via at least one bus, whereby AC power is distributed to the loads via the feeders. The control unit may control operation of the switches based on: loading in and a power transfer rating of respective feeders and transformers, and any power transfer via the DC transmission line from the other power distribution substation to the at least one bus.

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