

EUR24_20 - A new methodology for grounding design for offshore production platforms

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Abstract:

This article presents a new methodology to design a grounding system for medium voltage generators in offshore production platforms. The objective of this new methodology is to reduce as much as possible the values of short-circuit currents and to control the overvoltages within safe levels during a phase-to-ground fault. Reducing the short-circuit current the damage in electrical equipment such as generators and motors could also be mitigated leading to shorter repair time, lower maintenance costs and lower losses due to loss of profit. The solution proposed maintains the same limit for the values of overvoltages that may occur in the health phases during a phase-to-ground short-circuit compared with the old design criteria. The new methodology is applied in some assets and the results are evaluated and discussed.