Studi penyetelan perancangan rele proteksi pada generator PLTM Cibalapulang Jawa Barat = Study of design calculation of rele protection Cibalapulang Hydrodaya West Java

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Abstrak

[Sejalan dengan pertumbuhan industrialisasi, dimana kebutuhan akan tenaga listrik besar sekali, sehingga generator dapat digunakan sebagai sumber pembangkit tenaga listrik.
Dalam pengoperasiannya, generator sering mengalami gangguan hubung singkat yang terjadi didalam maupun diluar generator. Gangguan tersebut dapat terjadi setiap saat dan bersifat merusak generator yang dapat mengganggu aliran daya kekonsumen.
Akibat yang ditimbulkan tersebut maka perlu diberikan peralatan pengaman untuk generator, agar gangguan yang terjadi setiap saat dapat diamankan sedini mungkin tanpa merusak generator dan apabila generator dihubungkan kesistem tidak mengganggu sistem.
Pemilihan rele pengaman untuk generator tersebut didasarkan pada gangguan yang mungkin timbul, yang ditinjau dari situasi dan kondisi setempat, sehingga setelah dihitung didapat peneyetelan rele diferensial dengan batas ambang 0,16 A dan rele arus lebih 0,96 A dengan waktu 2 detik , rele gangguan tanah stator 0,17 A, rele daya lebih 144 watt rele tegangan lebih 121 Volt, rele beban tak seimbang 0,94 A dan 12,4 detik, rele kehilangan medan 1,2 Ohm dan diameter kerja 9,7 Ohm dan rele daya balik disetel -2,34%;In line with the growth of industrialization, where the demand for power is
enormous, so that the generator can be used as a source of power generation.
In conducting the operation, the generator often experience short circuit that occurred within and outside the generator The disorder can occur at any time and destructive generator that can disrupt power flow to consument.
With the impact that it should be given safety equipment to the generator, so that disturbance at any waktu can be secured as early as possible without damaging the generator when the generator is connected to a system and do not disturb the sistem.
Selection of safety relays for the generator is based on problems that may arise, which in terms of local circumstances, so that can know what amount of the amount of influence in the disorder, which scale is used to determine the amount of setting. So that after calculation ,relay differential threshold setting is 0,16 A and overcurrent is 0,96 A with time delay 2 s,stator ground fault relay 0,17 A,Overload relay 144 W, Overvoltage 121 V, Load Unbalance relay 0,94 A and 12,4 s, Loss of Excitation relay 1,2 Ohm and diameter 9,7 Ohm and Reverse

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