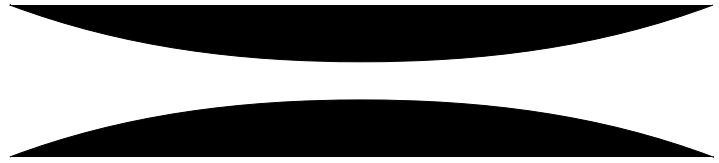


قال تعالى:

{قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ}

صدق الله العظيم

سورة البقرة الآية (32)



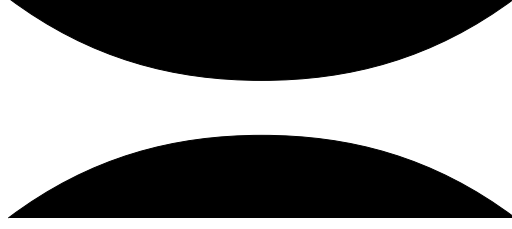
I would like to thanks my God who help
me, then thanks ustaz Khamis Arbeesh
Saad Eldin and all members of electrical
. Engineering department

Abstract

Transmission Lines voltage are usually controlled by controlling reactive power flow. In order to control the reactive power the generating or absorbing reactive power are used. There are many type of compensation method such as synchronous condenser, shunt reactor, series capacitors, tap-changing transformers, .(saturated reactors, and static var compensator (SVC

Atbara- Portsudan transmission line is considered as long line , static var compensator is used shunt reactor as a solution in the load in case of .light loads. Static shunt capacitor are used in the case of peak load

For low voltages which are experienced in the load center in Portsudan city, capacitor banks are used to solve the drop of voltage. The problem of the appearance of the low voltage case in Portsudan is due to feeding the city from the tertiary winding of the transformer. This problem is corrected by implementing the .110 KV winding and connecting the city from this winding



التحكم في جهد خطوط النقل غالباً يتم بواسطة التحكم في سريان القدرة الغير فعالة بما يعرف بالتعويض (الزائد أو الناقص) , هنالك عدة طرق لتعويض القدرة الغير فعالة منها المفاعلات الشبعية , مكثفات التوالي , مفاعلات التوازي , المكثفات المتزامنة والمعوّضات الساكنة.

يعتبر خط النقل عطبرة - بورتسودان من خطوط النقل الطويلة kv , km450 220 بعد الدراسة التي أجريت في هذا البحث أوصي بإستخدام المعوّضات الساكنة فيه نظراً لإحتوائها على مفاعلات التوازي والتي تستخدم في حالة الحمولات البسيطة أو حالة اللاحمل , وتستخدم المكثفات في حالة الحمل الكامل ويتم التحكم فيها عن طريق ثايرستور.

تطرق البحث أيضاً إلى مشكلة إنخفاض الجهد في خطوط التوزيع داخل المدينة والتي يجب أن يتم حلها بواسطة إضافة مكثفات في محطات التوزيع وتغذية المدينة من الملف الثنوي للمحول الذي جهده KV110.

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