

CHAPTER FIVE

5.1 CONCLUSION

Voltage flicker due to the different parts of power system effect essentially in human beings, when lamps produce fluctuation in light levels this phenomenon is called lamp flicker.

Flicker can be produced by several causes, generally we have two main causes, firstly the fluctuation in source of voltage in power system such as generators, primary movers, excitation system and short circuit and switching surges.

Secondly caused is the most responsible of lamp flickering on central stations is load fluctuation in utilization equipment placed closely to flickering load such as motor starting, motor driven reciprocating loads, motor driven intermittent loads, electric furnaces, electric welders....etc.

Most of these problems can be solved by use of m-g set, series and shunt capacitors, excitation control, phase converters, synchronous condensers, voltage regulators, booster transformers, load control....etc, use one of these remedial measures differ from case to another depending on the place which it use in cost and advantages.

For improving our power system we suggest connecting the load at higher nominal voltage level, supplying flickering loads from dedicated lines and separate it from steady loads and installing series capacitors in order to increase the short circuit power at the point which the fluctuating load joined the system using dynamic compensators to limit the change of reactive power in the supply system.

For utilization equipment

Electric welders can be separated from other load by supplying from transformer, connecting series capacitor, static var compensator, synchronous condenser and transformer to eliminate the negative sequence and shunt capacitor in parallel with resistance welder can provide var requirements or in planting operating two or three resistance welders it may be possible to provide interlocks so that not more than one is operated at the same instant.

5.2: Recommendations:

Electric furnace:

inserting inductors, heating before starting and use the best function of the electrode control system(using controllers)

For future studies

Propagating of voltage fluctuation which causes lamp flicker from origin to several parts of power system and effect in the efficeincy and disturbing many human , this phomenon we hope to be studdied in the future.

References

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