ABSTRACT

Escalation of electricity demand in a country has become an inevitable factor in today. Technological development and uplifting the living standards of the people are main reasons for increased electricity demand. Approximately 6% annual increment in electricity demand was observed in last decade in Sri Lanka. Accordingly, It is paramount important to increase the total installed generation capacity with proper generation mix. Per capita electricity consumption is having strong co-relation with economic growth of a country. Sri Lanka experienced considerable economic downfall in 1996 and 2000 when power crisis occurred in the country. Clean, reliable, affordable, balanced and sustainable energy mix is the strategy of Sri Lankan Government on electricity generation by given priority to renewable sources while minimizing diesel and coal power contribution. Unreliability of available renewable alternatives such as solar, wind and hydro has questioned their contribution for sustainable energy mix. Concern over environmental issues has restricted the development of fossil fueled power plants. Considering energy demand and other available options, nuclear power plant can be considered as a strong and competitive candidate for energy sector beyond 2030. Higher plant factor, capacity, efficiency, reliability, zero or lesser emission of greenhouse gases are the pros of nuclear energy while economical, technological, Social and more importantly political and safety related barriers are the cons of use of nuclear power as an energy source in Sri Lanka.

Key words: Nuclear Power, Renewable energy, Electricity demand.