

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

The increased demand of power cannot alone be made by fossil fuels operated power plants. There are some states where power crises are acute and Ordnance factories in those states are also facing the power crises.

Presently major portion (68%) of electricity is being generated by using fossil fuel and their sources are getting depleting at a very fast rate. These fossil fuel uses have been causing acute pollution problem and increases the green house effect. OFB establishments are also causing significant contribution directly or indirectly toward green house effect as large part of electricity are being consumed in the factories & estates.

Therefore renewable energy is to be harnessed to full extend in particular solar energy which suits OFB establishments due to its locations compare to wind energy.

In the present study we have taken case study of Ordnance Factory Project Korwa, Distt: Amethi. For OFPKR we have done detailed calculations for the size /capacity estimation of the elements of solar PV system i.e Solar Modules, Batteries, Inverter and Charge Controller with the load of 4000 KVA of factory as per Detailed Project Report (DPR) of factory. In this we have considered that due to space constraints individual sections in the factory will have solar PV systems. Due to this size/capacity of the system will be small and can be mounted on the roof top with the special fabricated structures.

Cost of all four elements were also been calculated by taking present market rates of above four items. In this case study the cost benefit analysis has been done by calculating Pay Back Period, Net Present Value and Internal Rate of Return with the discount rate of 13%. The NPV is positive after 7th year onward and at 25th year it is Rs 7, 49, 59,803. IRR is 17% at the 10th year and after 25th year it is 22%. Also payback period is 4.13 years. These figures of cost analysis indicate that the investment will be cost effective and favourable. This is addressing the research questions (j) and (k) of the proposal.

We have also calculated the size/capacity of all four critical elements of solar PV systems i.e Solar Modules, Batteries, Inverter and Charge Controller for the all the remaining 40 OFB establishments by taking four year load average. The cost estimation of solar PV system for OFB establishments was also carried out by taking present market rates of above four items. The size/capacity and total cost of the solar PV system will give fare idea for the budget requirement for the OFB Establishments which is required to be year marked in the subsequent year for initiating procurement action. This is addressing the research question (i) of the proposal.

OFB must venture into solar power generation for the benefit of organisation and also for the benefit of nation for reduction of Green House Effect.

Recommendations

Following recommendations are being suggested for the further study of this vast area