

Technical Article-22

ECO-FRIENDLY SUSTAINABLE DEVELOPMENT BY USING SOLAR POWER PLANT

(ON ROOF OFF GRID SOLAR POWER PLANT)

Mr. Subham Patra (Electrical Engineer)

Ghoraburhani Sagasahi Iron Ore Mine, M/s Arcelor Mittal Nippon Steel India Ltd.

ABSTRACT:

Sagasahi mine has installed 60 KWP on roof solar power plant at our office area to supply the power requirement for office. Early the requirement is fulfilled by a 62.5 KVA DG, but it is not eco-friendly as it produced CO₂ to the environment.

LITERATURE & REVIEW:

Renewable energy (RE) sources such as solar is counted as clean energy sources, whose implication is becoming widespread. This source is mostly favourable because of their environmental-friendly features compared to conventional energy sources such as fossil fuels. Likewise, as a leading industry in raw material production, the mining industry is trying to take advantage of these systems in its different mining stages, from exploration to mineral processing but in our Sagasahi mines we are using it for powering the office work and illumination purposes and these solar panels are installed on containers rooftop its 60 KWP of solar power plant.

METHODOLOGY:

When the sun shines onto a solar panel, energy from the sunlight is absorbed by the PV cells in the panel. This energy creates electrical charges that move in response to an internal electrical field in the cell, causing electricity to flow.

INTRODUCTION:

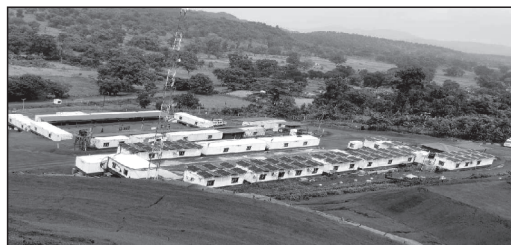
Solar power plant:

Solar power is a form of energy harnessed from the power and heat of the sun's rays. It is renewable, and therefore a "green" source of energy. In the solar photovoltaic system, solar energy is directly converted to electric power. This makes the system far more convenient and compact compared thermal system of energy conversion.

The solar cell technology is the fastest growing power generating technology in the world. It is due to fact that the solar cells with conversion efficiency of more than 40% are becoming available.

Photovoltaic effect

The photovoltaic effect is the generation of voltage and electric current in a material upon exposure to light. It is a physical and chemical phenomenon. The solar system works on this principle.



FACTS AND FIGURES

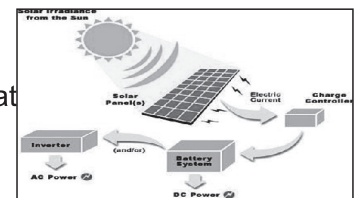
Sagasahi mine has installed 60 KW on roof solar power plant at our office area to supply the power requirement for office. Early the requirement is fulfilled by a 62.5 KVA DG, but it is not eco-friendly as it produces CO₂ to the environment.

CONCLUSION:

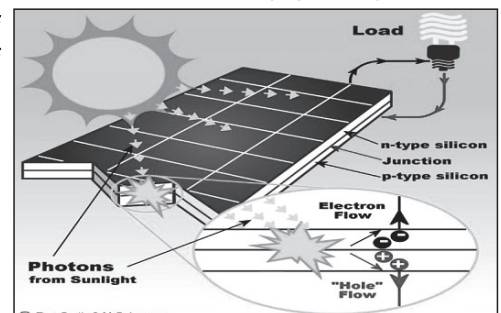
Solar energy is a renewable form of energy it reduces our dependence on non-renewable sources like diesel generator which we use in our mines. Now we are using the rooftop solar panel which is not only saving our money but also reducing the carbon emission in the environment. We are using 60 KWP on roof off grid solar power plant at our office area to reduce the dependence on 62.5kva DG power supply which was not ecofriendly.

ADVANTAGES:

- ✓ Benefits of Solar Energy to the Environment.
- ✓ Reduction of carbon footprint
- ✓ Saving Money.
- ✓ Using Renewable Energy Source.
- ✓ Low Maintenance.
- ✓ Improving Grid Security.



(Fig no:-01)



(Fig no:-02)

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52B S.N Road Kolkata 700063 West bengal, India