

Memorandum

To: Senior Management
CC: Michael Cuomo
From: Rupesh Gajurel, Rob Schmid
Date: 2/18/2009
Re: T001

We calculated the insolation data from the VTB software and validated the results with data from the National Solar Radiation Database (NSRD). We looked at the daily and monthly solar irradiance data and the two sources correlated to a good degree.

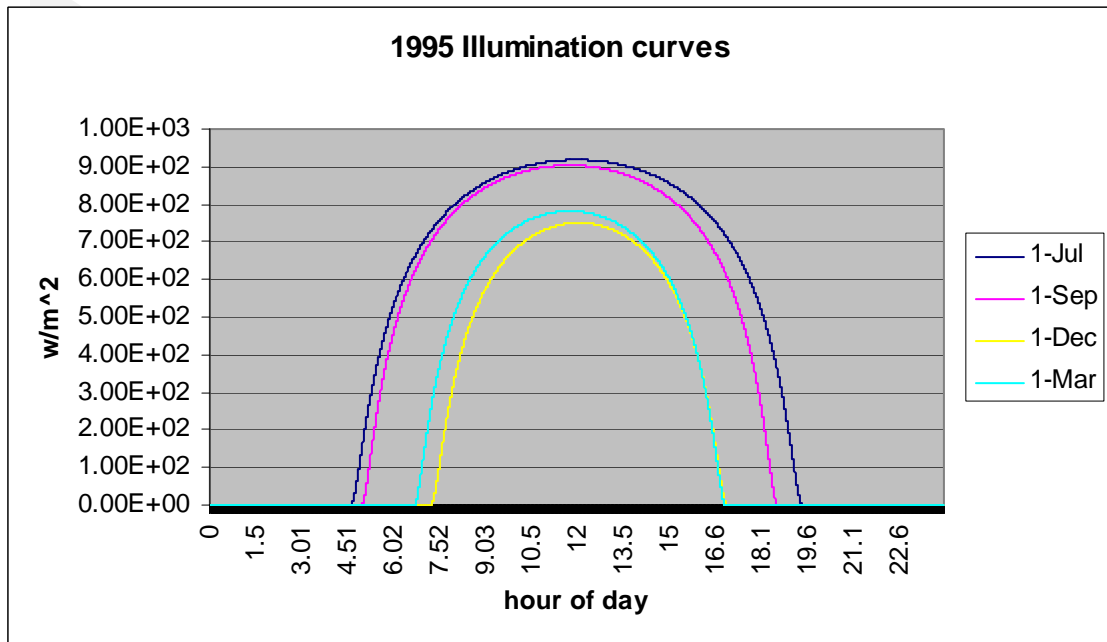


Figure 1: Hourly Solar Illumination data from VTB

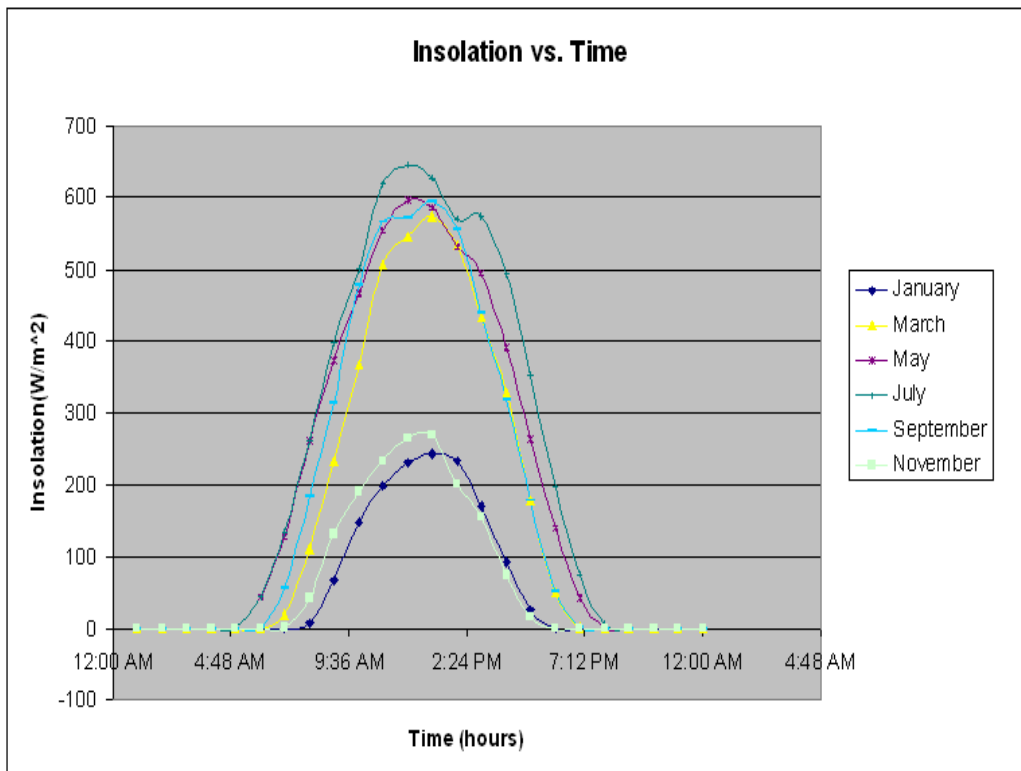


Figure 2: Hourly Solar Illumination data from NSRD

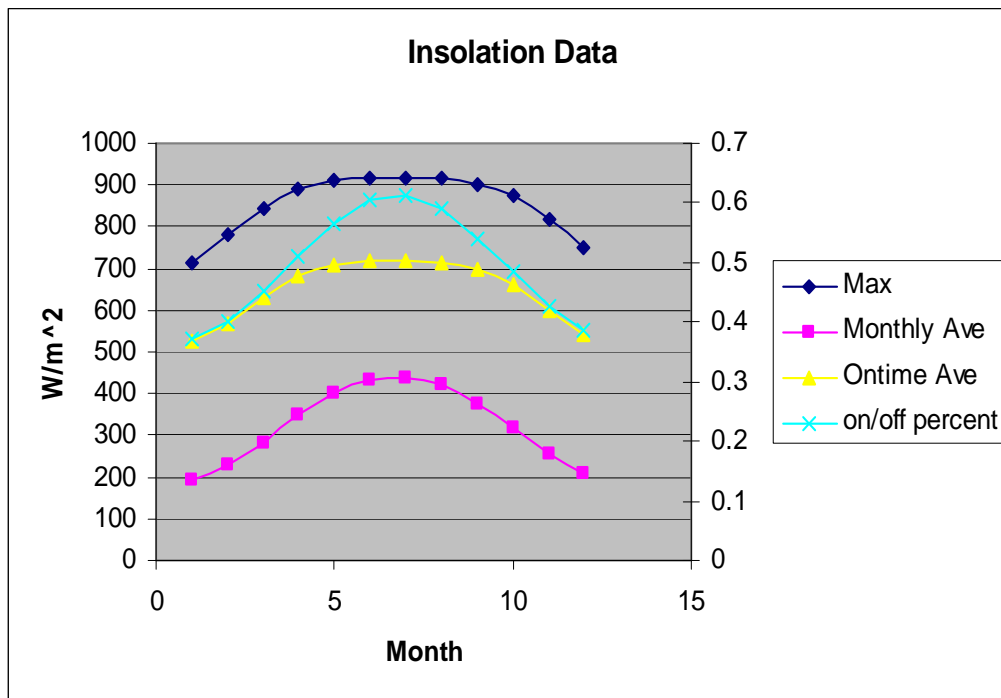


Figure 3: Monthly Solar Illumination data from VTB

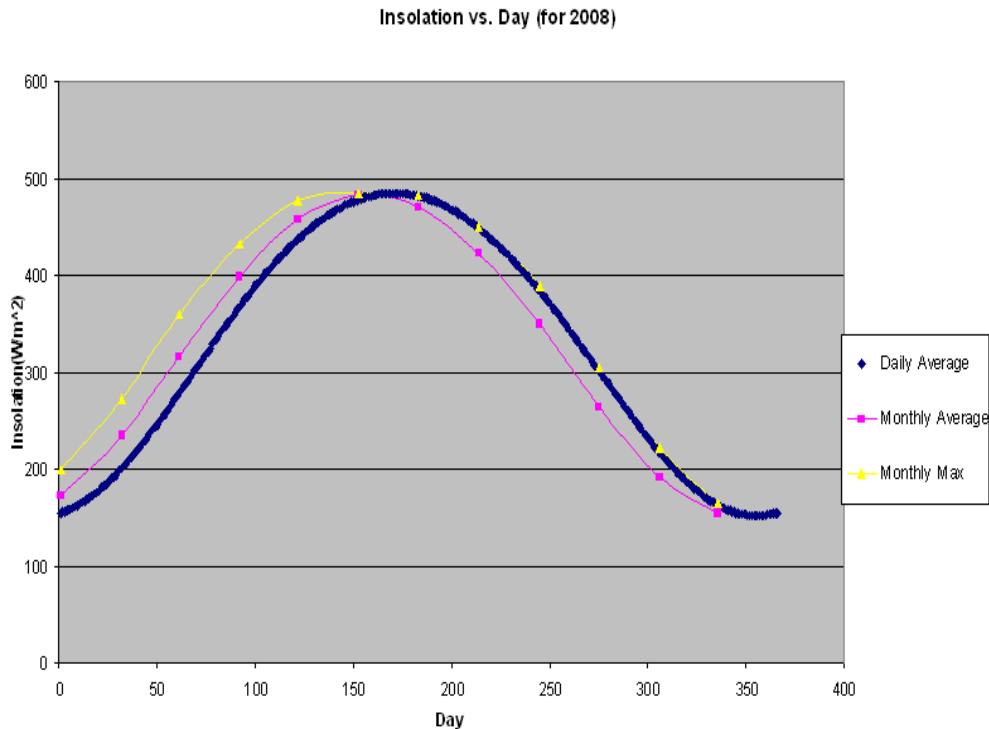


Figure 4: Monthly Solar Illumination data from NSRD

Results and Conclusions:

Data Source	Yearly Insolation Average(W/m^2)	Maximum Insolation (W/m^2)
VTB	325	919
NSRD	326	978

Insolation varies significantly within a single day and also through different months of a year. There is higher insolation during mid-day on hourly basis. For months, June/July have higher insolation on average.

Next Steps:

What is the DC power depending on Insolation? On average for a year, month? At Maximum Insolation?