

21st September 2011

SOLAR TESTING UPDATE

As previously announced, testing of MST enabled solar cells fabricated at the CNS facility at Harvard has occurred, and testing has now commenced on the solar cells fabricated at TEI solutions in Tsukuba Japan.

Preliminary results of the CNS solar cells were announced to the market in March 2011.

The TEI solar cells have now been received and testing is proceeding. The focus of the testing has been the extraction of a key parameter for solar cell design known as recombination. The efficiency of a solar cell is reduced because of the effects of recombination, where charge carriers are not able to move into an external circuit. The TEI MST wafers, whose design configuration differs from the better performing CNS designs, are exhibiting degraded recombination compared to crystalline silicon controls although improved recombination compared to polycrystalline silicon controls.

Further analysis of the results is ongoing to determine the cause of the additional recombination. This is not expected to be fundamental to the MST design but may indicate sub-optimal fabrication conditions of the MST silicon layer. Once the analysis is completed a revised program will be implemented for further MST fabrication and testing in the future.

The MST™ technology involves the production of an altered or “nano-doped” layer of silicon that can be used in the manufacturing of silicon solar PV cells; a process already proven in traditional semiconductor manufacturing. This layer is introduced to increase the efficiency parameter for Photovoltaic (PV) technology and solar power generation in silicon PV cells. By improving the efficiency parameter, the use of MST™ technology in the PV cell development process reduces the amount of silicon required, potentially making PV cells significantly more efficient and much less expensive.