

UNIVERSITY OF CENTRAL FLORIDA

Solar Systems Testing Facility

PI: James Roland, David Block

Description: Over the past four years, the Florida Solar Energy Center (FSEC) has received a significant increase in demand for solar and PV systems testing and certification. This occurrence has resulted in requiring the Center to correspondingly amplify its capabilities to respond to the increased demand. Thus, the objective of this task was to construct a solar and PV systems testing facility by adding walls, windows, doors and A/C to an existing Florida Solar Energy Center roof only facility. The enclosing of this existing space was done for the purpose of increasing laboratory space and to allow for laboratory testing of solar water heating systems and PV modules and inverters. The action was taken following a study which determined this project was the most cost effective means of adding valuable indoor laboratory space.

Budget: \$600,609

Universities: UCF/FSEC

Progress Summary

The building renovation has been completed. This facility is now called the Solar Systems Testing Facility (Bldg. #1940). The following photograph shows this existing facility before any renovation was begun (Figure 1) and the exterior and interior views after renovation (Figures 2 to 4).



Figure 1: Ground Level Front View



Figure 2: Exterior View after completion



Figures 3 and 4: Interior views – ready for laboratory installation.

At present, work continues inside the building to install solar water heating laboratory equipment for testing and certification of solar systems and the installation, development and operation of a Spire PV simulator. Both of the laboratory development projects are part of the FESC and are reported under the following two projects:

1. Enhanced and Expanded Solar Thermal Testing Capabilities, PI: Joe Walters
2. Enhanced and Expanded PV Systems Testing Capabilities at FSEC, PI: Stephen Barkaszi

Industry Support:

This task is supported by the solar thermal and PV manufacturers who must have certification to effectively sell their products and qualify those products for various state and federal incentives and rebates. The Solar Rating and Certification Corporation (SRCC) currently contracts with FSEC for \$500,000 of annual work in solar testing and certification. However, this DOE and industry support is directed to labor and other operating expenses, and will not provide for the capital expansion and enhancements conducted under this task.