



# **Solar Resource Measurements in El Paso, Texas (Equipment CRADA Only)**

**Cooperative Research and Development  
Final Report**

**CRADA Number: CRD-08-273**

NREL Technical Contact: Afshin Andreas

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## Cooperative Research and Development Final Report

In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

**CRADA Number:** CRD-08-273

**CRADA Title:** Solar Resource Measurements in El Paso, Texas (Equipment CRADA Only)

**Parties to the Agreement:** University of Texas at El Paso

### **Joint Work Statement Funding Table Showing DOE Commitment:**

<b>Estimated Costs</b>	<b>NREL Shared Resources</b>
Year 1	\$ 27,248.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 27,248.00

### **Abstract of CRADA Work:**

Site-specific, long-term, continuous, and high-resolution measurements of solar irradiance are important for developing renewable resource data. These data are used for several research and development activities consistent with the NREL mission:

- Establish a national 30-year climatological database of measured solar irradiances
- Provide high quality ground-truth data for satellite remote sensing validation
- Support development of radiative transfer models for estimating solar irradiance from available meteorological observations
- Provide solar resource information needed for technology deployment and operations.

### **Summary of Research Results:**

As part of the DOE-funded Cooperative Network for Renewable Resource Measurements (CONFRM), faculty and staff at the University of Texas at El Paso collected solar resource measurements at their campus station (31.80 degrees North, 106.40 degrees West, 1,219 m AMSL) using equipment on loan from the National Renewable Energy Laboratory (NREL). Measurements of Direct Normal Irradiance, Diffuse Horizontal Irradiance, and Global (total) Horizontal Irradiance were recorded as five-minute averages of 2-second scans. These data were processed at NREL for quality assessment, archived, and remain publically available from the Renewable Resource Data Center (<http://www.nrel.gov/rredc>). The data period of record begins in July 1997 and ends in March 2000. The equipment was also used to train students on the operation and maintenance of solar radiometers and was returned to NREL's Solar

Radiation Research Laboratory upon completion of the CRADA. The resulting data augment the solar resource climatology information required for solar resource characterizations in the United States. The cooperative agreement was also consistent with NREL's goal of developing an educated workforce to advance renewable energy technologies. Additional information is available from the University of Texas Solar Energy Laboratory's Texas Solar Radiation Database (<http://www.me.utexas.edu/~solarlab/tsrdb/tsrdb.html>).

**Subject Inventions Listing:**

N/A

**Report Date:**

14 October 2013

**Responsible Technical Contact at Alliance/NREL:**

Afshin Andreas

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