



Solar Resources Measurements in Houston, TX – Equipment Only

**Cooperative Research and Development
Final Report**

CRADA Number: CRD-06-204

NREL Technical Contact: Tom Stoffel

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

CRADA Report
NREL/TP-7A10-55340
September 2012

Contract No. DE-AC36-08GO28308

NOTICE

This report was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or any agency thereof.

Available electronically at <http://www.osti.gov/bridge>

Available for a processing fee to U.S. Department of Energy and its contractors, in paper, from:

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062
phone: 865.576.8401
fax: 865.576.5728
email: <mailto:reports@adonis.osti.gov>

Available for sale to the public, in paper, from:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
phone: 800.553.6847
fax: 703.605.6900
email: orders@ntis.fedworld.gov
online ordering: <http://www.ntis.gov/help/ordermethods.aspx>

Cover Photos: (left to right) PIX 16416, PIX 17423, PIX 16560, PIX 17613, PIX 17436, PIX 17721



Printed on paper containing at least 50% wastepaper, including 10% post consumer waste.

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-06-204

CRADA Title: Solar Resources Measurements in Houston, TX - Equipment Only

Parties to the Agreement: Texas Southern University

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 16,431.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 16,431.00

Abstract of CRADA work:

Loaning Texas Southern University equipment in order to perform site-specific, long-term, continuous, and high-resolution measurements of solar irradiance is 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.

Data acquired under this agreement will be available to the public through NREL's Measurement & Instrumentation Data Center - MIDC (<http://www.nrel.gov/midc>) Or the Renewable Resource Data Center - RReDC (<http://rredec.nrel.gov>). The MIDC offers a variety of standard data display, access, and analysis tools designed to address the needs of a wide user audience (e.g., industry, academia, and government interests).

Summary of Research Results:

Faculty and staff at Texas Southern University collected solar resource measurements at the Houston campus using equipment on loan from the National Renewable Energy Laboratory. The equipment was 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 U.S.

Subject Inventions Listing: Not Applicable

Report Date: July 6, 2012

Responsible Technical Contact at Alliance/NREL: Tom Stoffel

This document contains NO confidential, protectable, or proprietary information.