



Solar Resources Measurements in Elizabeth City, North Carolina – Equipment Only

**Cooperative Research and Development
Final Report**

CRADA Number: CRD-07-217

NREL Technical Contact: Tom Stoffel (Primary);
Afshin Andreas (Alternate)

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CRADA Report
NREL/TP-5200-60426
January 2014

Contract No. DE-AC36-08GO28308

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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.

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CRADA Title: Solar Resources Measurements in Elizabeth City, NC - Equipment Only

Parties to the Agreement: Elizabeth City University

Joint Work Statement Funding Table showing DOE Commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 10,400.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 10,400.00

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.

Data acquired under this agreement will be available to the public through NREL's Measurement & Instrumentation Data Center – MIDC (www.nrel.gov/midc). 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:

The solar resource measurements completed as part of this CRADA add to the valuable historical record produced by the students and staff at Elizabeth City State University that began in September 1985. As one of the first stations in the DOE/NREL Historically Black Colleges and Universities (HBCU) Solar Measurement Network and continuing as one of the most successful

stations in the DOE/NREL Cooperative Network for Renewable Resource Measurements (CONFRRM) Network, the sub-hourly data continue to be available from NREL's MIDC and Renewable Resource Data Center (http://rredc.nrel.gov/solar/new_data/confrrm/ec/). The high-quality measurements contributed to the development of National Solar Radiation Database (NSRDB) providing hourly solar resource and meteorological data important for the deployment of solar energy conversion systems in the United States (http://rredc.nrel.gov/solar/old_data/nsrdb/). Relevant NREL publications are available from www.nrel.gov/publications/, including those listed below:

Author	Publication Year	Title	Report Numbers
Posey-Eddy, F.; McConnell, R. D.	2002	Assessment of the DOE/NREL Historically Black College and University Photovoltaic Research Associates Program	TP-820-32169
Marion, W.	1994	Summary Information and Data Sets for the HBCU Solar Measurements Network	TP-463-7090
Stoffel, T. L.	1987	HBCU Solar Radiation Network Annual Report: FY 1986	PR-215-3098
Maxwell, E. L.; Szwarc, V. S.; Stoffel, T. L.	1986	Progress Report on the SERI/HBCU Task to Upgrade the Assessment of Insolation Resources in the Southeastern United States	PR-215-2917
Stoffel, T.; Andreas, A.	1985	Elizabeth City State University: Elizabeth City, North Carolina (Data)	DA-5500-56517

Subject Inventions Listing:

N/A

Report Date:

September 11, 2013

Responsible Technical Contact at Alliance/NREL:

Tom Stoffel (Primary); Afshin Andreas (Alternate)

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