NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Solar Technology Validation Project – Utah State Energy Program (Met Station)

Cooperative Research and Development Final Report

CRADA Number: CRD-09-367-09

NREL Technical Contact: Stephen Wilcox

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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-09-367-09

CRADA Title: Solar Technology Validation Project

Parties to the Agreement: Utah State Energy Program (Met Station)

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	$ 75,000.00
Year 2	$ 45,000.00
Year 3	$ 60,000.00
TOTALS	$ 180,000.00

Abstract of CRADA work:

Under this Agreement, NREL will work with Participant to improve concentrating solar power system performance characterizations. This work includes, but is not limited to, research and development of methods for acquiring renewable resource characterization information using site-specific measurements of solar radiation and meteorological conditions; collecting system performance data; and developing tools for improving the design, installation, operation, and maintenance of solar energy conversion systems. This work will be conducted at NREL and Participant facilities.

Summary of Research Results:

This agreement, which resulted in up to four years of high quality solar radiation data, was part of the NREL Solar Resource and Meteorological Assessment Project (SOLRMAP). SOLRMAP established high quality solar measurements at targeted locations to enable deployment of solar power conversion projects in the United States. The measurements provided NREL with critical data for model development and other research that advances techniques in solar resource assessment. The relationship between NREL and the CRADA partner is summarized in the following list:

- Participant shall purchase or lease equipment meeting NREL specifications
- Participant shall provide station infrastructure (e.g., electrical power, communications links, equipment, mechanical support structure, site security, etc.)

- Participant shall provide qualified staff for assisting with station setup and station operations training at a mutually acceptable date (approximately one to two days)
- Participant shall commit staff and resources for ongoing station maintenance according to NREL specifications (perpetual during duration of agreement)
- Participant shall assist NREL with instrument calibrations as required to maintain traceability to calibration standards (e.g., instrument swaps, shipping, site visits)
- NREL shall specify instrument type and how instruments are installed and maintained
- NREL shall fund supervision for on-location station setup (to include NREL labor and travel for instrument setup, but to exclude participant labor, travel, equipment, and infrastructure-related costs)
- NREL shall provide on-site training of participant staff as part of site visit for station setup
- At the request of the Participant, NREL shall provide an opportunity for additional one-day training of participant staff at the Solar Radiation Research Laboratory (SRRL) in Golden, Colorado at a date to be determined
- NREL shall provide ongoing data quality assessment, data distribution, and archiving.
- NREL shall provide data summaries on an annual (or otherwise stipulated) schedule to include reports on resource magnitude and variability and data uncertainty. Summaries and reports will not provide analysis of the suitability of the solar resource for any application or technology deployment. NREL makes no representations as to the suitability of any location for a renewable energy technology facility or the economic performance of such facility
- NREL shall fund regular instrument calibrations (excluding participant labor and shipping costs)
- NREL shall enter into a non-disclosure agreement, if requested and justified by participants, to maintain data confidentiality and restrict access.

The CRADA provided NREL with sub-hourly solar and meteorological data that have been used to validate satellite-based solar resource model results, provide a basis for economic analyses of solar power plant viability, and as a catalyst for significant improvements in field measurement campaigns. As a result of NREL involvement, the CRADA partner had access to the same high quality data that otherwise may not have been available to support increased penetration of solar energy in the nation's energy mix.

Subject Inventions Listing: None

Report Date: 5/13/13

Responsible Technical Contact at Alliance/NREL: Stephen Wilcox

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