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OFFICE OF PROGRAM POLICY ANALYSIS & GOVERNMENT ACCOUNTABILITY

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The Florida Solar Energy Center Eliminated the Backlog for Testing and Certification and Reduced its Reliance on State Funds

at a glance

Subsequent to our 2009 report, the University of Central Florida directed the Florida Solar Energy Center to reduce its testing and certification backlog. The center analyzed its testing process for barriers and made several improvements, including increasing the number of test stands and automating test data collection. These changes reduced test times from 227 to 129 days, a 43% decrease. The center also transferred some of the backlog to other laboratories. As a result, the backlog was eliminated and the laboratory capacity increased.

In addition, the university directed the center to reduce its reliance on state funds for testing and certification services. The center significantly increased testing fees and used other funds such as additional contract and grant funds from the Solar Rating & Certification Corporation to cover costs. The amount of state funds used to pay for testing decreased from $256,255 in Fiscal Year 2007-08 to $77,931 in Fiscal Year 2010-11, a 70% reduction.

Scope

In accordance with state law, this progress report informs the Legislature of actions taken by the University of Central Florida and the Board of Governors in response to a 2009 OPPAGA report.[1, 2]

[1] Section 11.51(6), *F.S.*

[2] *Florida Solar Energy Center Conducts Research and Development; Legislature Could Direct Fee Increases and Drop Certification Requirement*, OPPAGA Report No. 09-17, March 2009.

Background

The Florida Solar Energy Center is a research institute of the University of Central Florida. The center performs four major activities.

- **Energy research and development** – The center develops and tests solar energy technologies, alternative fuels, and technologies for improving building energy efficiency.
- **Education and outreach** – The center provides information on alternative energy technologies and energy saving methods to a variety of stakeholders, including the state's building and manufactured home industries and solar energy industry workers.
- **Solar energy testing and certification** – The center develops standards for solar energy systems manufactured or sold in Florida and certifies that systems meet these standards; it also tests and certifies solar energy systems for manufacturers throughout the nation.[3]
- **Technical assistance** – The center provides assistance in designing energy systems and buildings and developing energy codes and standards.

As shown in Exhibit 1, the center's Fiscal Year 2010-11 funding sources include contracts and grants (71%); state Education and General funds allocated to the center by the University of Central Florida (19%); and other sources (10%) including fees charged for certifying and testing solar energy

[3] Section 377.705, *F.S.*

systems, providing workshops and training, and software sales.

Exhibit 1
The Florida Solar Energy Center Was Funded Through Several Sources in Fiscal Year 2010-11

Source of Funds	Amount (in millions) (Percentage of Total)
Contracts and Grants	$11.9 (71%)
State Appropriations[1]	3.3 (19%)
Other	1.6 (10%)
Total	**$16.8**

[1] Allocation of Education and General funds from the University of Central Florida.

Source: Florida Solar Energy Center.

Our 2009 report found that the Florida Solar Energy Center faced two challenges in testing and certifying solar energy systems.

- There was a two-year testing backlog that negatively affected businesses seeking to sell solar energy systems.
- Testing fees charged to manufacturers covered only 30% of the costs associated with these services, with state funds making up most of the shortfall.

Current Status

At the direction of the University of Central Florida, the Florida Solar Energy Center examined strategies for addressing the challenges identified in our prior report. The center analyzed its testing and certification process to identify inefficiencies and methods for reducing the time it takes to get solar systems to market. In addition, the center reduced the amount of state funds used to support the testing and certification process.

The center analyzed its testing process and reduced test times by three months

Our 2009 report found that it took 227 days to complete solar energy system tests, resulting in a backlog of 32 testing requests that the center estimated would take two years to resolve.[4] To address the backlog issue, we suggested that the Legislature consider directing the center to submit a plan specifying strategies, timeframes, and costs for eliminating the backlog to the University of Central Florida and the Florida Board of Governors.

Subsequent to our report, the university directed the center to devise a detailed plan to increase the rate of solar collector testing and reduce the backlog. The center reviewed its testing and certification process and identified three performance barriers: insufficient number of test stands; unacceptable outdoor test conditions; and antiquated data collection and retrieval methods. The center addressed these barriers by

- increasing the number of test stands from one to four;
- installing an artificial wind machine on all test stands to create the minimum amount of wind required for testing; and
- planning a computerized database system with automated reporting applications that will facilitate data retrieval.

The center also created a new interim certification category that allows manufacturers to take their product to market in approximately three months rather than the previous seven-and-a-half months. The center grants an interim certification if the solar thermal collector passes the quality test, which takes about 89 days from the time the collector is received.[5] It takes another 40 days for performance testing. Consequently, the total test time is now 129 days rather than 227 days, a 43% decrease.

With permission from the federal government, the center transferred some of its testing backlog to other facilities around the world.[6] The U.S. Department of Energy paid additional costs for these tests, including fees and shipping. As a result of the changes to its testing processes and the distribution of testing services to other sites, the center eliminated its testing backlog.

[4] The testing period is lengthy because systems must be exposed to varying weather conditions over time to determine if they meet durability standards. In addition, staff manually performed certain data collection tasks rather than using an automated system.

[5] The interim certification is a temporary solar collector rating.

[6] In addition to test labs in the United States, the Solar Rating & Certification Corporation, a private nonprofit organization that sets national standards for solar energy systems, lists accredited test labs in various countries including Australia, Austria, Canada, China, Germany, Spain, and Sweden.

The center increased fees and reduced the amount of state funds used for testing

Our 2009 report also found that the center did not charge sufficient fees to cover the costs of testing and certification activities. In Fiscal Year 2007-08, fees covered only 30% of testing costs, with state education and general university funds covering 69% of the remaining costs. To eliminate the need for state funds to pay for testing and certification, we suggested that the Legislature consider directing the center to increase fees to cover the costs.

Under the University of Central Florida's oversight, the center increased its testing and certification fees. In May 2009, testing fees nearly tripled, and in May 2010, they were readjusted for certain tests. For example, solar thermal collector fees increased from $3,000 in March 2009 to between $10,000 and $14,000 in May 2010. However, collectors waiting to be tested (i.e., the backlog) paid fees according to the old schedule. Consequently, the center has yet to determine if the new fee structure will fully cover future testing costs.

In addition, the center increased its use of other funds to cover testing costs. The center obtained contract and grant funds from the Solar Rating & Certification Corporation. In Fiscal Year 2007-08, other funds covered less than 1% of testing-related expenditures, while in Fiscal Year 2010-11 they covered 14%.

In Fiscal Year 2010-11, state funds paid for 21% of testing and certification expenditures, compared to 69% in Fiscal Year 2007-08. See Exhibit 2.

Exhibit 2
The Percentage of State Funds Used to Cover Testing and Certification Costs Has Declined[1]

	Testing and Certification Expenditures (Percentage of Total)	
Funding Sources	2007-08	2010-11
Fees	$111,714 (30%)	$244,686 (65%)
State funds	256,255 (69%)	77,931 (21%)
Other	310 (<1%)	50,747 (14%)
Total	**$368,279**	**$373,364**

[1] These figures do not include the estimated annual cost of $175,000 for updating and maintaining Florida's certification standards.

Source: Florida Solar Energy Center.

The Florida Legislature

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