



FLORIDA SOLAR ENERGY CENTER®

Creating Energy Independence

SUNSMART E-SHELTERS

Solar Contractor Webinar
June 2, 2010

UCF



Stands For Opportunity



Questions About Bid

- Questions answered verbally are for informational purposes only.
- Questions must be submitted in writing to become official and will be posted in the form of an addendum.
- Submit in writing to UCF Purchasing
 - Luis Aviles, Purchasing Coordinator
 - E-Mail: lavilesc@mail.ucf.edu
- Deadline for questions: June 8 at 4 p.m. EDT



Overview

- Program Description
- Contract Requirements
- Bid Process
- System Requirements
- Reporting
- Acceptance Test
- Key Dates

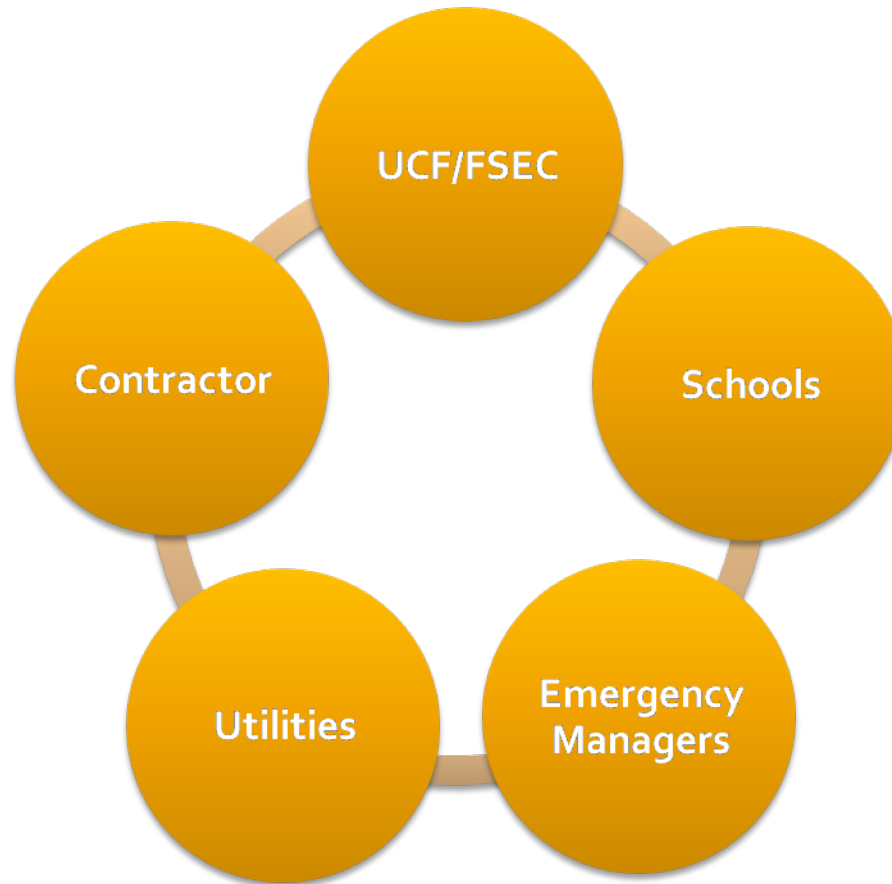


Program Description

- Based on FSEC SunSmart program
 - Educate students, teachers, community
 - More exposure to solar technology
 - Develop long-term interest
- Provide emergency power
- Create jobs
- Reduce greenhouse gas emissions

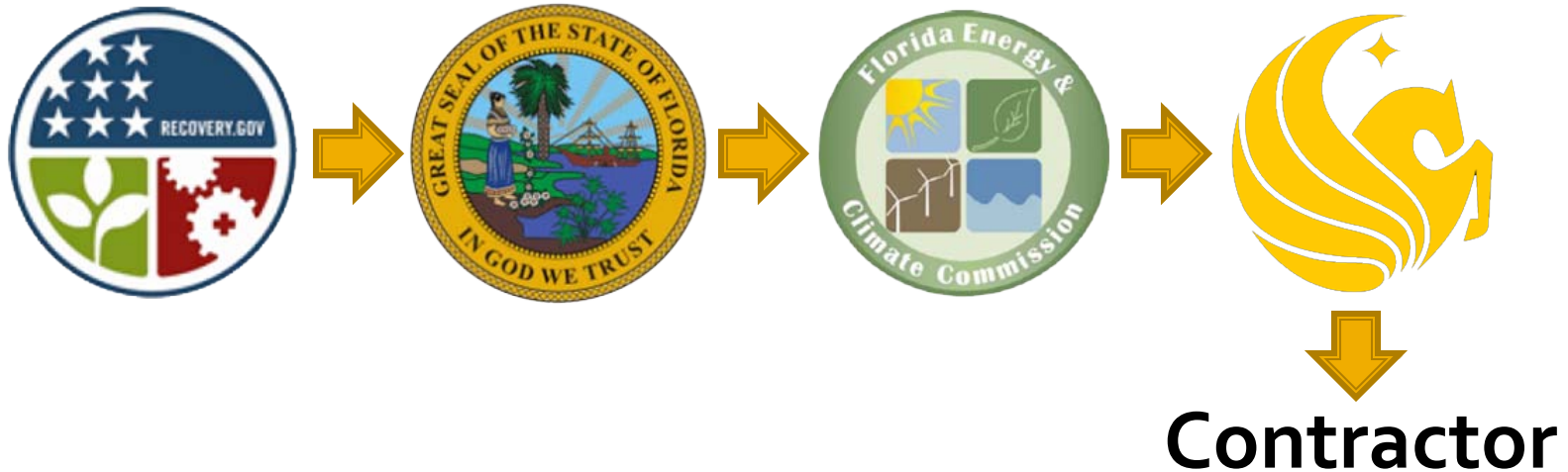


Program: Team Members



Program: Funding

- Federal Stimulus Grant (ARRA funds) of \$10 million dollars



Program: Summary

- Install 10 kW photovoltaic systems on 90 public schools
 - Strategically selected schools that also serve as emergency shelters
 - Battery backup power on schools/ emergency shelters
 - Solar energy educational component



Contract Requirements

■ Contractor Eligibility

- Legal entity properly licensed to do business in Florida
- Must meet minimum experience:
 - Two PV projects of at least 10 kWdc grid-interactive *and*
 - Two PV projects with battery-backup with critical load panel and/or off-grid systems

Note:

- A grid-interactive 10 kWdc PV project with battery-backup may substitute for either of the above



Contract Requirements

- Comply with all “Terms and Conditions” as defined in Invitation to Bid, for example, insurance, Jessica Lundsford Act and Buy American Act requirements.
- All PV modules and systems must be certified by the Florida Solar Energy Center per Florida Statutes (377.705 F.S.)



PV Certification Process

- Follow special PV System Certification application process:
 - Submit special System Certification application to pvshelter@fsec.ucf.edu by June 18 at 2 p.m. EDT
 - Fees are deferred until awards are made
 - PV systems must be fully certified before installations can begin

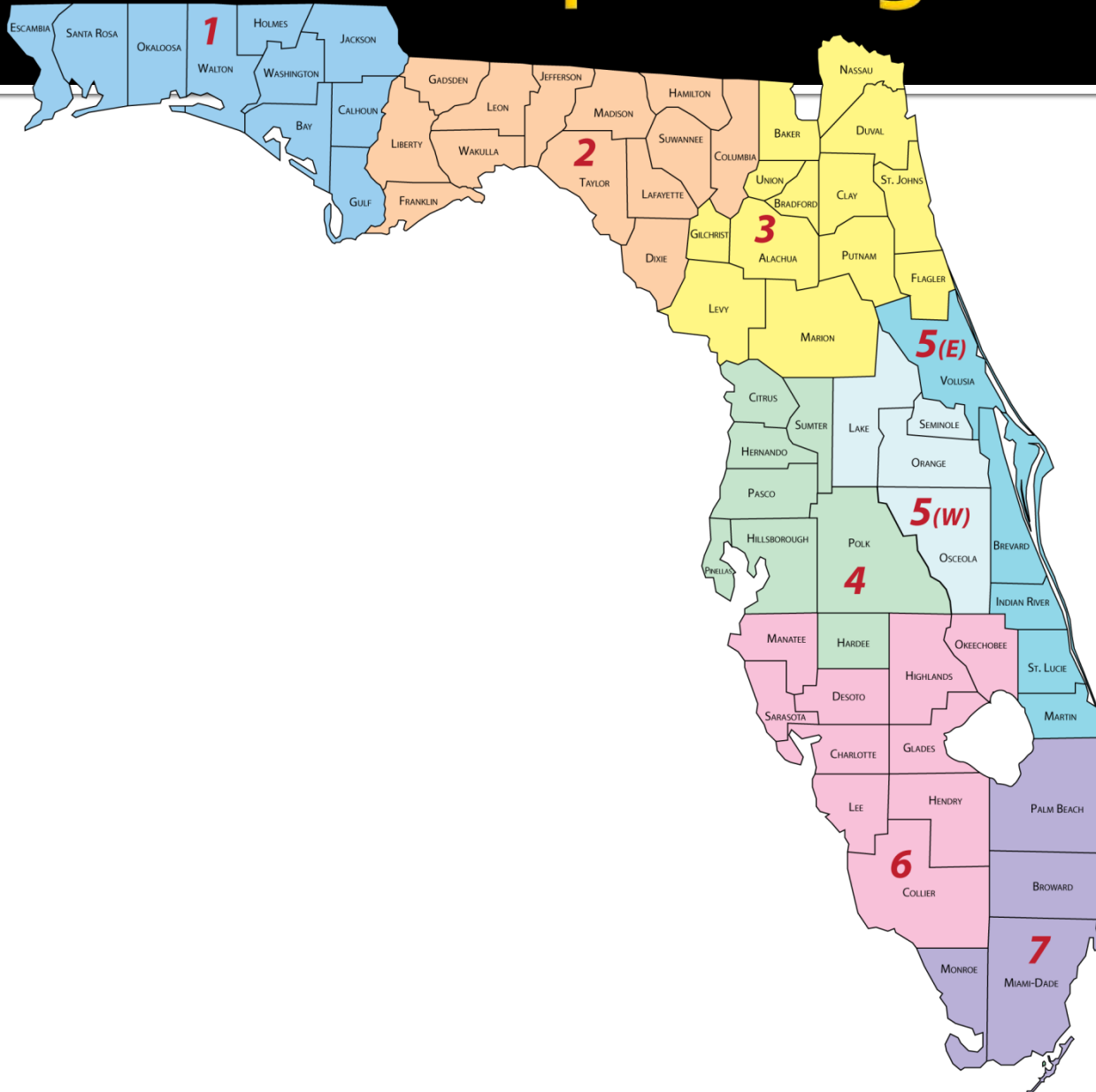


Bid Process: Regional Approach

- Seven Emergency Management regions, with Region 5 divided into East/West regions for a total of 8 regions
- Contractor may bid on one or more regions
- One award per region (10-14 schools/region)
- FSEC conducting preliminary site surveys and will provide info to contractors



Bid Process: Map of Regions



Bid Process

- Bid document posted to UCF Purchasing site
- Webinar (Pre-Bid Conference) – Today!
- Question deadline – June 8, 2010
- Contractor submits PV system certification application to FSEC – June 18, 2 p.m. EDT
- Bids due – June 18, 2 p.m. EDT



Bid Process: After Selection

- UCF issues purchase order to winners
- Contractor completes PV system certification process and obtains all permits.
- Contractor installs PV system and provides deliverables as specified.
- Contractor schedules FSEC acceptance test for final approval.



System Requirements

- 10 kWdc minimum grid-tied photovoltaic system with battery backup (fully operational turnkey installation)
- Installed at site (to be specified by UCF/FSEC)
- Connected to critical load panel installed by others (arranged/paid for by UCF/FSEC)



System Requirements

- 200 feet run maximum from interconnection point to array location
- 200 feet run from array to critical load panel
- Components must be commercially available presently under active manufacture
- Must meet latest local (school board), state and national codes and standards



System Requirements

- Overall aesthetics important
- Use of quality materials and construction practices
- Safety of students is critical



System Requirements: Mechanical

- System installed at 25 degrees facing south at a minimum of 24 inches above ground
- Structure shall be design for ASCE 7 wind load of at least 140 mph
- Some areas of regions 6 and 7 may require designs for wind loads up to 150 mph



System Requirements: Electrical

- System installed according to latest local, state and national codes
- PV must be capable of grid-interactive operation with utility supplied to school
- PV array nameplate at STC to be no less than 10 kWdc



System Requirements: Electrical

- Battery bank
 - Minimum usable capacity of 25 kWh
 - Sealed, deep-cycle batteries
- Battery enclosure shall be:
 - Weather resistant
 - Shaded and vented



System Requirements: Electrical

- Voltage drop paths shall not exceed 1%
- One or more transfer switches to bypass inverter
- Contractor shall coordinate interconnection details with local electrical utility and school owner



System Requirements: Electrical

- Placards showing mapped locations of interconnection points
- Contractor shall install a meter base on the PV array output for utility



System Requirements: DAS

- Data Acquisition System (DAS) – PV system performance and operation measured and monitored at each shelter
- DAS installed at the site by the contractor
- DAS will measure, record, and transmit by internet all required data



System Requirements: Warranties

- Contractor to provide warranties to school
 - Five year complete system-level with service contract for no-cost replacement of defective parts
 - PV modules minimum 20 years manufacture at 80% of rated output
 - Batteries minimum of 5 years to deliver 50% of rating
 - Inverter and charge controllers minimum 5 years



Reporting: *Payment*

- Three payments to contractor upon receipt of defined and scheduled milestones or deliverables
- Contracted amounts at 20%, 30% and 50%



Acceptance Test

- All project specifications must be met
- FSEC verify compliance through inspections and acceptance testing
- Contractor shall be present
- If the contractor fails first acceptance test due to non-compliance with requirement(s), each revisit will result in a charge up to \$1000 to cover FSEC costs
- Acceptance test form will be available on FSEC Web site on June 14



Key Dates

- June 8, 2010, 4 p.m. – Requests for Explanation
- June 18, 2010, 2 p.m. – Bids Received and Opened
- February 28, 2012 – All Work Must Be Completed
- April 20, 2012 – Program Ends



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