



The Parker Ranch installation in Hawaii

Strategies for Managing Construction Contractors

Phil Jones

ICF International

Monday, February 7, 2011

DOE's Technical Assistance Program (TAP) supports the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs.



TAP offers:

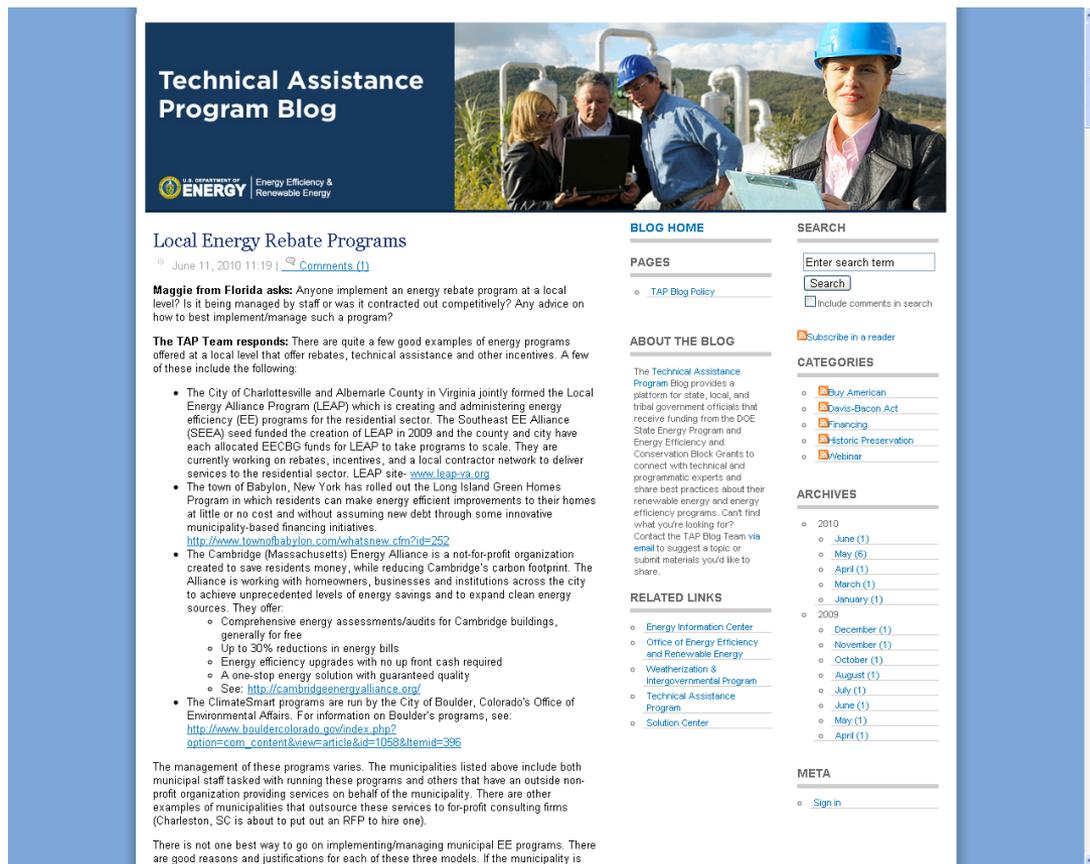
- One-on-one assistance
- Extensive online resource library, including:
 - Webinars
 - Events calendar
 - TAP Blog
 - Best practices and project resources
- Facilitation of peer exchange

On topics including:

- Energy efficiency and renewable energy technologies
- Program design and implementation
- Financing
- Performance contracting
- State and local capacity building

Access the TAP Blog!
<http://www.eereblogs.energy.gov/tap/>

Provides a platform for state, local, and tribal government officials and DOE's network of technical and programmatic experts to connect and share best practices on a variety of topics.



Technical Assistance Program Blog

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy

Local Energy Rebate Programs

June 11, 2010 11:19 | [Comments \(1\)](#)

Maggie from Florida asks: Anyone implement an energy rebate program at a local level? Is it being managed by staff or was it contracted out competitively? Any advice on how to best implement/manage such a program?

The TAP Team responds: There are quite a few good examples of energy programs offered at a local level that offer rebates, technical assistance and other incentives. A few of these include the following:

- The City of Charlottesville and Albemarle County in Virginia jointly formed the Local Energy Alliance Program (LEAP) which is creating and administering energy efficiency (EE) programs for the residential sector. The Southeast EE Alliance (SEEA) seed funded the creation of LEAP in 2009 and the county and city have each allocated EECBG funds for LEAP to take programs to scale. They are currently working on rebates, incentives, and a local contractor network to deliver services to the residential sector. LEAP site- www.leap-va.org
- The town of Babylon, New York has rolled out the Long Island Green Homes Program in which residents can make energy efficient improvements to their homes at little or no cost and without assuming new debt through some innovative municipality-based financing initiatives. <http://www.townofbabylon.com/whatsnew.cfm?id=252>
- The Cambridge (Massachusetts) Energy Alliance is a not-for-profit organization created to save residents money, while reducing Cambridge's carbon footprint. The Alliance is working with homeowners, businesses and institutions across the city to achieve unprecedented levels of energy savings and to expand clean energy sources. They offer:
 - Comprehensive energy assessments/audits for Cambridge buildings, generally for free
 - Up to 30% reductions in energy bills
 - Energy efficiency upgrades with no up front cash required
 - A one-stop energy solution with guaranteed quality
 - See: <http://cambridgeenergyalliance.org/>
- The ClimateSmart programs are run by the City of Boulder, Colorado's Office of Environmental Affairs. For information on Boulder's programs, see: http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=1058&Itemid=336

The management of these programs varies. The municipalities listed above include both municipal staff tasked with running these programs and others that have an outside non-profit organization providing services on behalf of the municipality. There are other examples of municipalities that outsource these services to for-profit consulting firms (Charleston, SC is about to put out an RFP to hire one).

There is not one best way to go on implementing/managing municipal EE programs. There are good reasons and justifications for each of these three models. If the municipality is

BLOG HOME

PAGES

- [TAP Blog Policy](#)

ABOUT THE BLOG

The Technical Assistance Program Blog provides a platform for state, local, and tribal government officials that receive funding from the DOE State Energy Program and Energy Efficiency and Conservation Block Grants to connect with technical and programmatic experts and share best practices about their renewable energy and energy efficiency programs. Can't find what you're looking for? Contact the TAP Blog Team via email to suggest a topic or submit materials you'd like to share.

RELATED LINKS

- [Energy Information Center](#)
- [Office of Energy Efficiency and Renewable Energy](#)
- [Weatherization & Intergovernmental Program](#)
- [Technical Assistance Program](#)
- [Solution Center](#)

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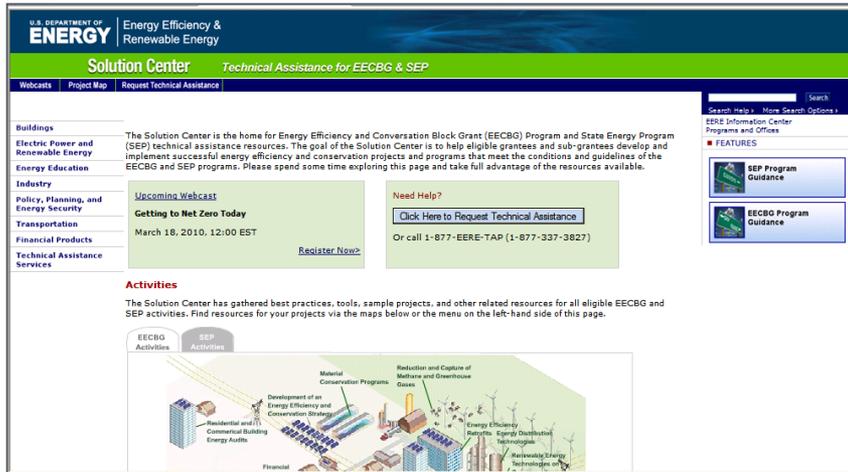
- 2010
 - [June \(1\)](#)
 - [May \(6\)](#)
 - [April \(1\)](#)
 - [March \(1\)](#)
 - [January \(1\)](#)
- 2009
 - [December \(1\)](#)
 - [November \(1\)](#)
 - [October \(1\)](#)
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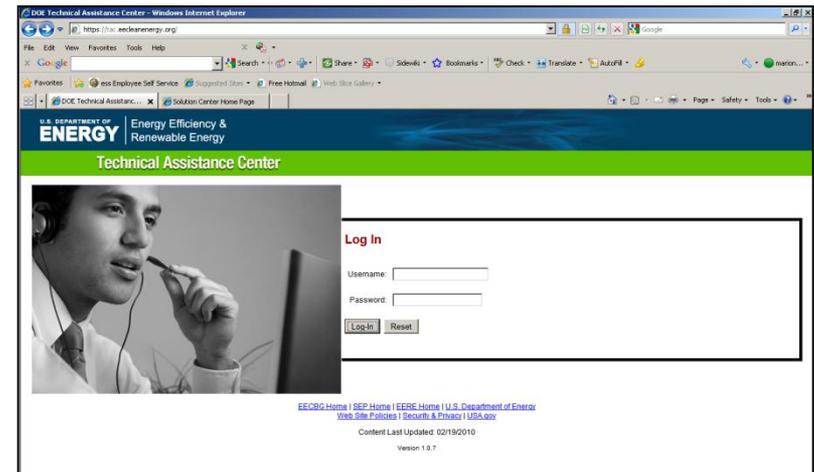
We encourage you to:

1) Explore our online resources via the [Solution Center](#)



The screenshot shows the 'Solution Center' website for Energy Efficiency & Renewable Energy. The header includes the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. Below the header, there are navigation tabs for 'Webcasts', 'Project Map', and 'Request Technical Assistance'. The main content area is titled 'Solution Center Technical Assistance for EECBG & SEP'. It features a sidebar with categories like 'Buildings', 'Energy Education', 'Industry', 'Policy, Planning, and Energy Security', 'Transportation', 'Financial Products', and 'Technical Assistance Services'. The main content area includes a 'Need Help?' section with a 'Click Here to Request Technical Assistance' button and a phone number '1-877-EERE-TAP (1-877-337-3827)'. There is also a 'Get to Net Zero Today' section with a date 'March 18, 2010, 12:00 EST' and a 'Register Now' button. At the bottom, there is an 'Activities' section with a diagram showing various energy efficiency and conservation strategies.

2) Submit a request via the [Technical Assistance Center](#)



The screenshot shows the 'Technical Assistance Center' website for Energy Efficiency & Renewable Energy. The header includes the U.S. Department of Energy logo and the text 'Energy Efficiency & Renewable Energy'. Below the header, there is a navigation bar with 'Technical Assistance Center' and 'Programs and Offices'. The main content area is titled 'Technical Assistance Center' and features a 'Log In' section with 'Username:' and 'Password:' input fields, and 'Log In' and 'Reset' buttons. There is also a 'Need Help?' section with a 'Click Here to Request Technical Assistance' button and a phone number '1-877-EERE-TAP (1-877-337-3827)'. At the bottom, there is a footer with links for 'EECRG Home', 'SEP Home', 'EERE Home', 'U.S. Department of Energy', 'Web Site Policies', 'Security & Privacy', and 'USA.gov', along with the text 'Content Last Updated: 02/19/2010' and 'Version 1.0.7'.

3) Ask questions via our call center at 1-877-337-3827 or email us at solutioncenter@ee.doe.gov

Please join us again:

Title: Developing an Evaluation Measurement and Verification Plan for Your Energy Efficiency Project/Program

Host: Jonathan Kleinman

Date: February 9, 2011

Time: 2:00 – 3:00 PM EST

Title: Financing Programs: RFP & Contract Terms and Conditions

Date: February 15, 2011

Time: 1:00 PM - 2:30 PM EST

Title: U.S. Dept of Energy's EECBG/SEP TA Program Webinar - Integration of Renewables and Efficiency: Leveraging Interest and Funding

Date: February 17, 2011

Time: 2:00 PM - 3:00 PM EST

Title: Optimizing Solar Installations – Tools and Strategies Webinar

Host: Ian Metzger and Lars Lisell, NREL, and Joanne Bachmann, New Jersey Clean Energy Program

Date: February 23, 2011

Time: 3:00 – 4:00 p.m. ET

For the most up-to-date information and registration links, please visit the Solution Center webcast page at www.wip.energy.gov/solutioncenter/webcasts

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Construction Trainer and Program Director for South Central
Indiana WAP 1980-1988

Construction Management Trainer for HUD National Training
Institute 1991-present

Advisor to HUD-funded Energy Star and LEED projects

- Questions will be taken verbally at designated intervals. If you have a question, please use the tool to raise your hand to alert the presenter. When we break for questions, we will individually unmute participants lines to allow them to ask their question.
- Specific materials and links will be recommended during the Webinar

- Maintain maximum quality and regulatory compliance with . . .
- Minimum administrative stress and cost

- Our tools will be:
 - Effective program design, staffing and communication
 - Clear, accurate and thorough standards and specifications
 - Knowledge and communication of regulatory requirements
 - Transfer of risk and effort to contractors
 - Enforcement through effective documents and procedures

- Know and communicate the right
 - Goals
 - Products
 - Funding
- Pick the right
 - Staff
 - Subrecipients
 - Developers
 - Professional service contractors
 - Construction contractors
- Be prepared to learn and change



- How would I measure:
 - Energy Savings
 - Durability
 - Productivity
 - Quality
 - Value
 - Aesthetics
 - Customer satisfaction
- What is feasible to measure?
- How will I use the information?
- Use contract conditions for payment



Key Objectives:

1. Define work items to be done
 2. Define the quality of materials and workmanship required.
- Know your products and installations or hire a contract professional
 - Be alert to what you need to know to develop effective standards for your program
 - Understand standards and be able to communicate them
 - Ongoing, evaluate the quality and relevance of your standards and specifications

- Impose clear program standards:
 - Quality of workmanship
 - Quality and grade of materials
 - Exact description of tolerances or allowable flaws
 - Use reduction or air leakage reduction required



- Provide regular training
- Provide adequate written materials, drawings, pictures and references
- Monitor periodically
- Use contracts that provide for enforcement

- Understand different types of inspections
- Be able to evaluate quality of inspections being done
- Understand the skills, procedures and tools necessary
- Impact on:
 - Program Design
 - Staffing
 - Systems

- See the job as the contractor might see it
- Note all conditions, unseen items, and access issues
- Use pictures, diagrams and standardized approach
- If feasible make guide marks for locations
- Use pre-bid and pre-construction walk-throughs if feasible (not required)
- Review key items and your criteria for approval of payment

- Examine inspection procedures and reports
- Inspection reports should be:
 - Well documented
 - Easy to understand
 - Address issues

- Specification process varies by project size and type.
- Assign roles for team members and establish habit of getting help
- Evaluation Criteria:
 - Clearly written and organized so workable for all users
 - Specific measurements and material quantities
 - Describe how work is to be constructed, diagrams
 - Provide reference to standard
 - Performance vs. Descriptive vs. Prescriptive
 - Line item bids with alternates and additions if appropriate
 - Specify inspection points and payment schedule
 - Require unit pricing for any item where end quantity is unknown

- Cost reasonableness
 - Appropriate charge according to market and special conditions such as Davis Bacon and Buy American
- Independent cost estimate
- Hard costs
 - Labor, materials, overhead
- Soft costs
 - Financing, design, management, etc.

- Advantages
 - Consistency and standardization
 - Easy to retrieve specs
 - Build knowledge base
 - Reduction of paperwork
 - Clear documents
 - Easily customized
 - Save time, put staff in the field



- Advertise your money and mission
- Know the local business; Professional references
- Trade journals
- Build contractor capacity
 - Offer technical and business training
 - Offer guidance on meeting insurance requirements
 - Demystify program procedures

- Seek feedback from participating contractors
- Market to local contractors; limit # of bidders
- Offer prompt payments and simple procedures
- Exclude the low-ballers, poor performers and change order specialists, and let everyone know it.

- Must be open, including during a procurement period
- Determine qualifications, limit bidding if appropriate
 - Experience
 - Insurance; Financial security
 - Available staff and equipment
 - Knowledge specific to project
 - Demonstrated ability to document compliance
- Periodic meetings
- Training and demonstrations
- Check productivity and client satisfaction

- READ the rules for grantees in 10 CFR 600.236
http://edocket.access.gpo.gov/cfr_2008/janqtr/pdf/10cfr600.236.pdf
- READ the procurement guidances from DOE re ARRA projects (read to the end)
http://www1.eere.energy.gov/wip/pdfs/eecbg_procurement_guidance.pdf
- Requirements for grantees “flow down” to subrecipients
- Local option whether requirements flow down to private entities

- Local requirements may apply
- Cost reasonableness
- Clear and accurate technical specifications
- Open competition
- Responsible contractors able to perform successfully under the conditions of the procurement.
- Consideration will be given to integrity, compliance with public policy, past performance, and financial and technical resources

- Small purchase requires an adequate number of quotes
- Projects totaling $\geq \$100,000$ require formal sealed bid competitive bidding if conditions are appropriate
 - Publish invitation for bids in local paper
 - Sealed bids, public bid opening
 - Select lowest responsible bidder
 - 100% bond payment and performance
- Competitive proposal requires technical factors for award
- Non-competitive negotiated requires special conditions

- All bids outside of acceptable range
- Only one bid received
- No responsible bids received
- Evidence of collusion



- General Requirements
- Taxes, permits, fees, and notices
- Lists of documents
- Design documents - Scope of work
- Schedule of work – completion date
- Contract amount
- Payment Schedule
- Insurance, bonding, and indemnification requirements
- Responsibility for providing labor and materials
- Warranties



- List of all subs – must be modified if changes
- Allowances, alternates, and change orders
- Contractor representative
- Site conditions
- Conflict resolution, arbitration, termination



- Davis Bacon and related laws
 - Best first source August 24, 2010 Webinar slides
http://www1.eere.energy.gov/wip/docs/recipient_subrecipient_dba_training_08242010.ppt
 - Be sure wage determinations from DOL are current
- Buy American
 - Grantees are required to flow down the Buy American requirements to subrecipients, and in any subawards or subcontracts.
 - Contractors and vendors should be held **LIABLE** for complying with the Buy American provisions.
 - Require contractors and vendors to provide documentation and letters of certification.

- Transfer your risk and cost to contractors
- (or at least to the project lines of your program budget)

- Bonding provides assurance of job completion
 - Cash bonds
 - Retainage
 - Letter of credit

- Grantees require owners and contractors to carry sufficient insurance

- Planning inspections
- Conformance to plans and specs
- Payment schedule and disbursement standards
- Monitoring project schedule and program production
- Watching for collusion and fraud
- Wage and labor rules must be followed
- Liens must be waived
- Prepare for dealing with unexpected issues
- Warranties and information delivered

- Environmental review and Release of Funds (ROF) must be complete
- URA status of owners and tenants must be determined and addressed
- Be aware of EPA lead hazard requirements for all renovators and remodelers – anyone other than an owner occupant who is disturbing paint in a pre-78 property
- Pre-construction walk-through is recommended
- Use a written notice to proceed

- Work performed
- Personnel on site – confirm subs are listed
- Take photos
- Materials delivered
- Delays or problems
- Weather
- Non-conforming work
- Who is present for inspection
- Job site discussions that involve corrective measures
- Any code inspection problems
- Anticipated scheduled deliveries

- Detailed payment processing procedures and documentation are essential.
- Whose money?
 - Grantee or owner
- Disagreements and misunderstandings
 - Owner or developer typically negotiates with contractor
- How long does payment take?
 - Critical to agree with contractors at start

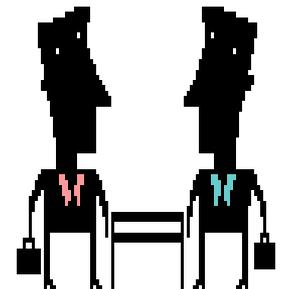
- Required in writing even if no cost implication
- Expected part of most projects to provide flexibility as project moves forward
 - Unforeseen items
 - Improvement in technique or approach
- May signal problems
 - Poor work write-up or estimates
 - May signal irregularities
- Grantee should check each order for:
 - Its effect on cost
 - Its effect on timeframe
 - Its appropriateness
 - Its completeness

- Poor quality or non-conforming work
- Premature requests for payment
- Excessive change orders + cost overruns
- Delays; weather?
- Security of site
- Disputes among other parties

- Establish conditions and corrective steps for:
 - Initial probation
 - Payment withheld
 - Performance Probation
 - Increased retainage
 - Penalties
 - Liquidated damages
 - Suspension
 - Debarment



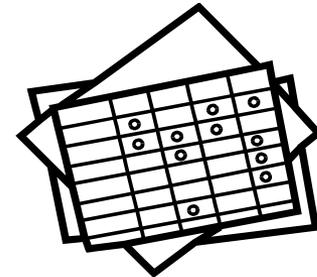
- Grantee establishes procedures
 - Explain to contractor and owner early
 - State in contract
- Mediation first
- Professional arbitration
 - Less expensive than legal action
- Legal action may still be possible



- Final only when it is right
- Final code inspection
- Certificate of occupancy
- Cost certifications
- Warranties and guarantees
- As-built drawings
- Owner's manuals
- Release of liens
- Commissioning installations where applicable



- Compile and track
 - Elapsed time
 - Dropped jobs
 - Estimated cost - bid award – completed cost
 - Number of inspections and change orders
 - Violations, Complaints and Disputes
 - Compliments and successes!!!
 - Staff and contractors responsible



- Develop some method for verifying results
- For EE upgrades, Portfolio Manager or similar utility bill tracking may be used
- Consider retaining funds until results verified

- Questions from webinar attendees
- Please raise your hands to ask questions
- If your hand is raised, you will be un-muted to ask your question

