

Welcome!

The webinar will start momentarily...

Indeterminate savings ECMs: Getting more savings from your performance contracts
May 24, 2023

Mentimeter

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Indeterminate savings ECMs: Getting more savings from your performance contracts

Phil Coleman, Lawrence Berkeley Nat'l. Lab; Kurmit Rockwell, FEMP

May 24, 2023



Webinar Logistics

- Please ensure your phone/computer is muted throughout the webinar
- Logistical issues: wbdg@nibs.org
- Send questions to all panelists in the Q&A window
- [Contact us through the FEMP Assistance Request Portal](#)
- [IACET-certified CEUs available](#)
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Agenda

- Welcome and introductions
- Targeted audience and training focus
- Why the push for more savings?
- What do we mean by “indeterminate” savings?
- The key: reserve accounts
- Contractual considerations, and issues with UESCs
- FEMP ESPC resources
- Obtaining CEUs for this course
- Questions & Answers



Denotes FEMP online resource or tool.



Phil Coleman
Lawrence Berkeley National Laboratory



Kurmit Rockwell
Federal Energy Management Program

Welcome!

Who is this training for?

- Contracting officers (COs/KOs)
- Contracting officer's representatives (CORs)
- Anyone involved in ESPC development:
 - Energy managers
 - Resource efficiency managers (REM)
 - Facility managers
 - Contract specialists
 - Headquarters ESPC leads
 - Energy service providers



Learning Objectives

- Recognize examples of indeterminate savings ECMs and understand why they rarely appear in PCs despite their typically short payback periods.
- Identify the advocated contractual techniques to incorporate these ECMs in PCs and the key issues to raise with agency legal and contracting colleagues.
- Identify the generally accepted rules around the use of reserve accounts.



Why the push for more savings?

- **ESPCs and UESCs are great!**
 - Usually involving many ECMs
 - Generally having fairly deep savings
 - FEMP IDIQ project ~ 20% (avg.)
 - And they usually pay for themselves!
- **But is it enough?**
 - Not to get to net zero, 100% CFE, de-carbonization/electrification
 - Not to provide all needed energy and water resilience
 - Not to solve the climate problem ...
- **And we know we can do better**
 - EX: One agency (GSA) consistently achieves > 30%
 - And in office buildings, which don't use much energy

What do we mean by “indeterminate”?

- **ECMs whose flow of savings is:**
 - Unknown (before deep audit): e.g., whole-building retro-/re-commissioning (RCx)
 - Highly variable: e.g., demand response
 - Payouts depend on auction results or wholesale market prices
- **Problem: poor fit w/ guaranteed savings**
 - Deeper audit required– time, \$\$\$
 - Annual savings need to be low-balled
- **Result: ESCOs steer clear in ESPCs**
 - Whole-bldg. RCx: ~ 6% of 400+ IDIQ projects
 - ISO 50001: two projects ...
 - “Economic” DR programs: never (to our knowledge)
- **Is same true of UESCs?**
 - Our hunch is yes, but maybe less so

Reserve accounts (RAs)

- **Fund set aside to pay for expected need**
 - E.g., “energy sales agreement” (ESA) – solar array at end of term
 - Small portion of savings set aside annually to pay “fair market value” for array
 - RAs have also been created to replace equipment expected to fail
 - E.g., 18-year-old chiller (fine now, but think year 10-12)
- **We think RAs can be used to capture add’l. savings**
 - Where M&V reveals savings beyond original estimated amount
- **And same rules would apply**
 - E.g., agency doesn’t own RA, utility or ESCO does
- **Key: in annual mod, adjust savings estimate to actual amount saved (per M&V) in that year**
 - Any amount beyond low-balled estimate assigned to RA

EX: Participation in “economic” DR program

- **ESCO estimates \$100K/yr savings ... on average**
 - BUT: savings expected to be volatile from year to year
 - EX: \$125K (yr. 1), \$75K (yr. 2), \$60K (yr. 3), \$150K (yr. 4) ...
- **So, savings estimated at just \$50K/yr**
 - \$50K devoted to TO payments
- **But when M&V reveals extra savings, the surplus gets devoted to RA**
 - EX: year 1 savings of \$125K minus \$50K to financing payment, \$75K to RA
- **And RA funds can be used toward future need**
 - E.g., a new boiler to replace one that's old, but not yet at end of life

Significance

- **These ECMs generally have quick paybacks**
 - And some have substantial savings
 - e.g., RCx – Crowe et al. (2020) meta-study found 14% avg. savings with 1.1-year simple payback (non-utility projects)
- **Thus, they can “help” project finances**
 - Cross-subsidizing desired but long payback ECMs (chillers, building envelope, microgrids ...)
- **And considerably deepen project savings**
 - Increase average savings from ~ 20% to 25-30%?

RA Contract Language (DOE OGC reviewed)

If determined appropriate by the ordering agency CO/KO and legal counsel, a task order under this contract may provide for the establishment of a reserve account by the Contractor. Such a reserve account may accumulate funds from contract payments made by the ordering agency to the Contractor from guaranteed savings. Funds from the reserve account must be used by the Contractor for an identified future expense related to an energy conservation measure or water conservation measure implemented under the ESPC project. Funds from such reserve account shall not be used to offset any guaranteed savings shortfall. All excess funds in the reserve account at the end of the ESPC project period shall be applied to the ordering agency's outstanding balance under the ESPC. Any such reserve account shall be in accord with Federal fiscal law and not alter the rights and responsibilities of the Contractor or ordering agency under this IDIQ contract.

FEMP resource:



[Enhancing Performance contracts with Monitoring-Based Commissioning](#)

Contractual considerations

- **Identify requirement for use of RA savings in TO award**
 - E.g., to purchase additional boiler sometime after year 10
- **Use Section H “special provision” to communicate intent**
 - Particularly, how indeterminate savings are accrued and will be used
- **Work with agency counsel to ensure compliance**
 - E.g., with agency and fiscal law requirements

Contractual considerations (cont.)

- **This has not been done yet, but DOE OGC has okayed the approach**
 - And other gov't. lawyers – and COs – have shown they're amenable
- **There are some unresolved issues around RA use, e.g.:**
 - Could it be defined very broadly, e.g., for “HVAC”?
 - Could there be a list of possibilities, e.g., chiller, boiler, pumps?
- **Takeaway: Approach should be addressed with agency lawyers**
 - E.g., with agency and fiscal law requirements

Possible issues for UESCs

- **Does absence of guarantee deem added effort superfluous?**
 - I.e., could utility/ESCO instead just use avg. savings and not sweat the year-to-year variability?
- **Does absence of M&V mean annual savings adjustment is non-starter?**
 - For ESPCs, annual M&V identifies add'l. savings and forms basis of add'l. payment to reserve account
- **Are reserve accounts permissible in UESCs?**
 - We know of one instance, but for different purpose

These UESC-specific issues are unresolved – stay tuned!

Variation on theme (specifically for RCx): add scope

- **During construction, expand scope of existing RCx ECMs using “monitoring-based” Cx (MBCx)**
 - MBCx software analyzes building energy system data, identifies performance issues, and optimizes system operations
 - Add’l. scope and guaranteed savings reflected in schedules, prior to acceptance
 - Agency and contractor need to agree on terms of mod
 - Also: If savings sufficient, could allow inclusion of ECMs that didn’t cash-flow
- **Additional savings from new scope could also be identified during performance period**
 - And then applied to reserve account, without changing financing (schedules)
 - Can buy add’l. services (like maintenance, repairs, replacements) or ECMs

Conclusion

- **Indeterminate savings ECMs have traditionally been left out of PCs**
 - Difficult to estimate and guarantee
- **Proposed solution: capturing excess savings with reserve accounts**
 - Approach has passed muster with key legal and contracting audience
- **We think this could allow for deeper projects**
 - By introducing short payback indeterminate savings ECMs
- **And FEMP is eager to help agencies pursue it!**

Online Trainings

- [FEMP Training Catalog](#)
- [Monitoring Based Commissioning in Performance Contracting](#)
- [Energy Savings Performance Contracts \(ESPC\): Five Phases to Success](#)
- [Just in Time ESPC Webinars Session 4: ESPC Implementation/Construction Period - Not Your Conventional Design, Build](#)
- [Just in Time ESPC Webinars Session 5: Ensuring ESPC Project Performance after Acceptance](#)
- [Long-term Management of M&V in Performance Contracts](#)

What are IACET-Certified CEUs?

What is a CEU?

According to the International Association for Continuing Education and Training (IACET), a CEU is a unit of credit equal to 10 hours of participation (contact hours) in an accredited program designed for professionals with certificates or licenses to practice various professions (e.g., engineers, lawyers, accountants, educators, nurses, architects, mental health professionals, and social workers). The CEU provides a standard unit of measurement for continuing education and training, quantifies continuing education and training activities, and accommodates for the diversity of providers, activities, and purposes in adult education.

What is the IACET?

The IACET offers the most industry-wide accreditation of official continuing education units (CEU). IACET worked with the U.S. Department of Education to create and define the CEU in 1970. The Federal Energy Management Program (FEMP) is an authorized provider of CEUs under the ANSI/IACET 1-2018 Standard. IACET Course Accreditation is an industry-recognized training quality control system; FEMP is utilizing this system to ensure our trainings meet the highest standards for professional development.

How do I earn CEUs for a training I've taken?

When you take a FEMP IACET-certified training, you will be provided with a link to the assessment and evaluation for the training completed. To earn CEUs, attendees must score 80% or higher on the assessment and complete the course evaluation.

To Receive IACET-Certified CEUs:

- To Receive IACET-Certified CEUs:
- Attend the training in full – no exceptions
- Within six weeks of the training:
 - Complete the assessment (a minimum score of 80% is required)
 - Complete an evaluation of the training



The screenshot shows the WBDG (Whole Building Design Guide) website. The header includes the WBDG logo and navigation links: DESIGN RECOMMENDATIONS, PROJECT MANAGEMENT - O & M, FEDERAL FACILITY CRITERIA, CONTINUING EDUCATION, and ADDITIONAL RESOURCES. The main content area displays the course title 'Indeterminate Savings ECMs: Get More Savings from Performance Contracts'. Below the title is a brief description of the training. To the right, there is a sidebar with course details: Education Type (Live Online), Duration (1.25 hours), Level (Intermediate), Date (05-24-2023), Time (1:00 PM - 2:15 PM (ET)), and Prerequisites (fempodw075). Below this, it shows 'FEMP IACET: 0.2 CEU' with an IACET logo. A 'PROCEED TO COURSE' button is visible. At the bottom, there are sections for 'Instructors' (Kurmit Rockwell and Phil Coleman) and 'Learning Objectives'.

Access the Training Assessment and Evaluation

[Indeterminate Savings ECMs: Getting more savings from your performance contracts](#)
[WBDG - Whole Building Design Guide](#)

*For logistical questions related to the assessment or evaluation,
email FEMP Training at femp_training@hq.doe.gov.*



Questions and Answers



Next Up - Mentimeter

Thank you for attending!



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