

Getting enough ... but not too much 20 years of M&V in federal ESPCs

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- **It doesn't offer more savings, yet it costs \$\$\$**
 - “Cost center”
 - **And over-investment sometimes is an issue**
- **What does it provide?**
 - **Savings (and sometimes performance) assurance**
- **What can happen when it's under-done**
 - **Classic problem: site receives its annual M&V reports showing 100% realization, but other indicators (e.g., energy bills) suggest otherwise**

- **Too much reliance on Option A**
 - 67% of ECMs in FEMP IDIQ ('98-'13)
 - Even on complex measures (controls, chillers, etc.)
- **Vague measurement commitments**
 - Lots of “monitoring” and “trending” without real measurements
 - “The first thing I ask myself when I review these plans is ‘how could the ESCO fail?’ If there’s no answer, there’s a problem.” (John Shonder, Oak Ridge N. L.)
- **Other dubious practices**
 - E.g., simulation w/out calibration ... and called Option A???

- **Some agencies (inc. VA and some GSA regions) ceased all ESPC for long periods**
 - “We just don’t believe in them.”
- **Some instituted tight controls, stifling quantity and quality**
 - 3rd-party audits as basis for projects
 - Selection by preliminary assessment (from multiple ESCOs) – and no changes allowed
 - Only large infrastructure projects – no lighting, motors, etc. – and only Option C

But what's the right amount?

- **M&V on ECM should be proportional to:**
 - **Dollar savings**
 - E.g., don't spend \$10K measuring \$20K!
 - **Risk, i.e., uncertainty that savings will materialize**
- **What factors drive that risk?**
 - **Complexity: lots of things have to go right**
 - **Fragility: how easy is it to screw up?**
 - **User interaction: how dependent is it on proper behavior by users?**

- **Are the IPMVP options (A-D) the problem?**
 - Just a menu – IPMVP doesn't tell you what you'll like or how it should be prepared
- **Antidote: FEMP Guidelines v. 4.0**
 - Provides M&V plan outlines for 21 diff. ECMs:
 - From lighting to renewables to TES
 - **Strengthening of Option A**
 - Default is annual measurement *throughout* term
 - N.B.: Better M&V doesn't have to mean a higher letter

- **GSA HQ attempt to re-engage w/ ESPC**
 - Past (late-'90s/early-'00s): **ESPC disappointments**
 - Low savings, O&M problems, dubious M&V
- **Key features of pilot**
 - Project mgmt. by central office
 - Strong push for deep savings
 - Clear signal that M&V had to be legitimate
- **Results – better M&V and more savings**
 - Option C in 2/8, but for short-term (2-3 yrs.)
 - Almost no Option A (cf. 67% across FEMP IDIQ)
 - Avg. 38% savings (cf. 19% in recent gov't. ESPCs)

- **ESCOs see value in strong M&V too**
 - **Credibility – and procurement rules exemptions – at stake (esp. in state/local sector)**
 - **And new entrants are threatening**
 - Controls contractors and others undaunted by prospect of savings guarantee if M&V is weak and short-term
- **NAESCO's assembled an M&V cmte.**
 - **Should industry fortify M&V practices?**
 - **What about when customers don't want to pay for it?**

Conclusion

- **M&V on federal ESPC used to be weakness**
 - And turned off some federal customers
- **Some agencies giving ESPC a new look**
- **And M&V thinking is turning corner**
 - Key theme: IPMVP options, but w/ more direction
 - Key breakthrough: new FEMP Guidelines (v. 4.0)
 - Federal customers (e.g., GSA) pushing for better
 - Industry making noises too
- **This should lead to increased savings realization and persistence ...**
 - ... and help credibility of ESPC