Peer Review of the Federal Energy Management Program (FEMP) Energy-Efficient Product Procurement (EEPP) Portfolio

Meeting: Washington D.C., Dec. 4, 2012

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Summary

The Review Committee met in Washington, D.C., and engaged in a day-long discussion with FEMP EEPP staff and contractors. Program staff gave clear and effective presentations, and we had extensive and illuminating discussions with the staff, and to a limited extent with other interested parties who attended. The Committee worked together after the meeting and by email to produce this review.

Our review addresses:

- strategic issues with respect to the program,
- management issues concerning how best to achieve the goals established by Congress and by Executive Orders, and
- measurement of how well these goals are in fact being met.

From a strategic point of view, the scope of the program's goals is very broad, but the mandate of the agency that operates it (the Department of Energy) is even broader. One small organization with a staff of one or two and a few contractors is tasked with changing the procurement behavior of the entire federal government. And DOE has a goal of implementing "transformative science and technology solutions"—a much more inclusive mandate than merely saving money for the government sector. This observation is relevant to the EEPP because using government procurement to enhance markets for energy efficiency can be transformative for private sector and non-federal government procurement efforts as well.

The EEPP presentations suggested a goal of saving $300 million annually in energy costs for the federal government by 2015—a doubling of current levels of effectiveness—from a program whose entire annual budget is on the order of $1 million a year. Other agency programs, such as the USDA biopreferred, EPA efforts on EPEAT-registered electronics and recycled products, and DOE's own stand-by power program, with similar missions and commensurate budgets have been able to effectively impact government behavior for increasing the procurement of products that

benefit both government and non-government goals. This program could garner support from these other programs and pull or leverage resources to increase overall effectiveness of the broader procurement agenda.

Notwithstanding this comparison with other government programs, these numbers on budget compared to impact seemed incommensurate to the majority of our Committee. (They may be similarly incommensurate for other agencies, but such a hypothesis is beyond the scope of this review panel.) They suggest to most of the panel that if the program is to meet the overall policy goals that it is assigned—namely to save money for the government—it may be underfunded. The Panel does not have a conclusion concerning this hypothesis, but suggests better analysis by EEPP of the costs and benefits of the program.

Conclusions concerning program budget and size are beyond the scope of the program, or of this panel, so the first clear alternative within the program's purview is to prioritize its work so that the most important activities (those with the highest potential for energy savings) are better supported. Note that the energy saving goal is two-pronged: it embraces direct savings obtained by federal agencies and market transformation that affects energy savings throughout the private and public sectors.

This prioritization action requires minimizing effort in less effective areas where the potential for savings is less. A second alternative is to document the scale mismatch in terms of staff and/or budget and analyze what a more nearly optimal program would look like.

The Panel concluded that a considerable amount of work has been done already, and commendable progress is being made. The EEPP is tasked with educating, impacting, and monitoring the buying practices of procurement officials in all government agencies about the importance of purchasing energy efficient products and services, and the evidence staff presented showed that awareness of this goal is advancing slowly after a decade or more of effort. This review provides recommendations on how to move forward at a faster pace, take advantage of lessons learned by other similar government programs and increase the EEPP program's effectiveness within its current budget.

Overview Recommendations

The Review Panel's first recommendation can be expressed as "fish or cut bait". First, the program must do what it can with available resources but should not attempt too much (i.e., too many varied activities) and should leverage other federal programs with similar or overlapping missions.

To reiterate a concern of the majority of the Committee, we believe that the most important goal of the EEPP is to save money for the government by reducing its energy use both in the short- and long-term. EEPP staff should develop a plan for how to

achieve this strategic objective of cost savings and deficit reduction. Staff presentations suggested a goal for its $1 million budget to facilitate $300 million in savings. Another staff presentation suggested $36 of savings for each $1 spent by the program which is a promising initial estimate, but EEPP is encouraged to perform a more in-depth and complete analysis that can demonstrate the cost/benefit of the program based on accurate, validated data and how that compares to other programs' impacts, such as Energy Star. This assessment could also include analysis of what is the optimum size of a program that can maximize benefits to the government rather than relying on estimates to answer this question. Would this answer be different if the scope of the program is expanded to coordinate with and leverage state and local government procurement, and private sector efforts?.

But the key issue for this review, on which we all agree, is how, with the current resources, EEPP can focus them on highest priorities. We feel that FEMP EEPP is trying to do too much, and in doing so, is spread thin.

Below, we suggest ways to use the resources EEPP has to focus in on high priority areas.

But before that, the Panel recommends that EEPP reduce emphasis on communication (as it currently stands). We believe that the anticipated scale is much too small to have an impact on federal procurement. Results to date do not suggest that the current program scale can move the needle. The goal of this effort is to change how agencies do business, and a part-time effort by one staff member is not likely to raise ripples in the procurement pond, much less the waves that are needed.

EEPP should reallocate support to an additional federal employee(s) to leverage other agency efforts by reprogramming budget from outside-the-beltway consultants to personnel who can be present in Washington DC for inter-agency coordination, monitoring and meetings.

Coordinating government solutions should be given a higher priority. To make faster progress on federal implementation, FEMP should work with OMB/CEQ and GSA to establish a baseline from reported procurements in the Federal Procurement Data System (FPDS), develop a standardized report for agencies to report, track EE purchases quarterly, biannually, or annually and provide individual feedback to agencies that are not achieving a minimum 50% compliance rate (including EE contract requirements clauses), and move towards changing the "brown" default option to one that is "green" in the highly used federal procurement purchasing platforms.

Detailed Recommendations

- Place less priority on designating efficient products where the product/equipment is part of a system and the system performance depends strongly on system design and operation. The most prominent example is chillers, where the efficiency designation of the chiller product has relatively little effect on the energy use of the cooling system compared to other choices. (For example, most buildings can save more energy by using a water-cooled chiller than an air-cooled chiller compared to simply selecting the more efficient product within the air-cooled category. Or a chiller system can save far more energy by matching the size and efficiency of the cooling tower to the chiller product than it can by incrementally improving the rated efficiency of the chiller. Many, many other aspects of cooling system performance are far more influential than the choice of rated chiller efficiency.)
    - For products that are system components rather than self-contained energy users, shift focus to higher-level design guidance, both for replacement and for new construction. Several reference sources for design guidance are available.
    - Focus product designations on free-standing products that c/should be purchased individually as opposed to a bigger system.
- EEPP should conduct further research about how procurement officers currently view and use the FEMP designated categories, and whether this needs to change (beyond simply expanding their use, which EEPP plans to do in any event). How do they currently use it (if at all)? On the one hand, providing a product listing would be very beneficial to procurement officers who may not have the time or understanding to make decisions that the EEPP program expects them to make with the information that is provided. On the other hand, if it is not used by those making procurement decisions, alternatives should be explored.
    - A first step towards understanding the ‘consumer’ would be to conduct research by surveying procurement officials, attending procurement meetings, and/or holding focus groups of agency procurement officers so that the EEPP program can better understand what procurement officers need in terms of information and motivation to actually both request and purchase the energy-efficient product. It would also be useful to understand what motivates them currently to buy the products they select (upfront cost, name brand, listing, past experiences with vendor, quality, contractor selection, etc.).
    - The results of this research would be the identification of the major barriers that the program needs to overcome. These barriers may be beyond the scope of what EEPP or FEMP can do, but the results would

still be useful and could be shared with others who may be able to affect policy changes. For example, during the review one presenter suggested that the one-year budgets used by federal agencies confound the policy mandates to save money over the long term. To what extent is this problem fundamental, and how would EEPP "customers" propose solving it?

- Focus efforts on making big impacts where you can to find some short term successes. Existing programs that should automatically include the purchase of EE products include the Energy Savings Performance Contracts (ESPC), Utility Energy Savings Contracts (UESC), FEMA emergency contracts, OWIP grants that assist the energy efficiency of residential housing, which may or may not be incorporating the requirement to purchase Energy Star or FEMP-designated products. As these types of contracts are more centrally controlled, EEPP could focus initial efforts on ensuring that these contracts are appropriately requesting the EE designated-products.
- Another possibility would be working with OFPP and GSA to designate EE designated-products for a strategic sourcing initiative or to ensure that all strategic sourcing initiatives include requirements and strategies for obtaining energy-efficient products.
- Develop a list of other contract types where EE products definitely should be required and purchased and make those a second level priority. For example, all building maintenance contracts should be targeted to include requirements to purchase Energy Star and FEMP-designated products. Construction contracts for military housing may be an area where compliance could be improved. Food services, laundry service, and Operations and Maintenance contracts may also be viable contracts for increasing the procurement of these designated products on a larger scale.
- Reconsider the role of the FEMP 'rated' products list. We were not given a list of products, but there seem to be different technology recommendations (sort of verbal road maps), vs. rated products. Right now, there are about ten products including:
    - Five lighting products (exterior, fluorescent ballasts, and three luminaire categories). Why do these need a separate, poorly-funded FEMP procurement program when this is covered in EnergyStar Qualified Lighting? http://www.energystar.gov/ia/partners/manuf_res/downloads/Commercial_Lighting_and_ENERGY_STAR.pdf
    - Two commercial kitchen products (water-cooled ice-makers and pre-rinse spray valves). Again, why are these not just part of the EnergyStar commercial kitchen product set?

https://www.google.com/search?q=EnergyStar+commercial+kitchen+products&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a&channel=fflb.

- Three HVAC products:
  - Boilers (boilers are also used for central service hot water). Here design guidance (default = condensing boilers, and explain with case studies such as Durkin, or commission an essay by an expert such as Martha Hewitt, MNCEE) is essential, because often the design of the system both affects the economics of the choice of efficient products and also can offer greater savings or synergistic savings compared to a focus on product characteristics.
  - Air-cooled and water-cooled chillers. First, chillers are components of large building a/c systems, they are not free-standing products. We could also split (as ASHRAE does) between positive displacement (screw, scroll, reciprocating) vs. centrifugal). Or by capacity, or a lot of other variables. In any case, system design is needed, and guidelines can be developed. Just giving minimum kW/ton and IEER will get us a lot of bad but expensive systems.
- Commercial gas water heaters. If this is the only thing left, integrate it into the recently announced EnergyStar program for commercial water heaters. http://energystar.gov/products/specs/node/407.

- Work with Energy Star to develop a product list and portal of qualified designated products– the vendors should validate and verify and supply their product list to a third party but FEMP or Energy Star should be in charge with oversight and QA/QC; Database Listing of products – could be very useful to stakeholder communication.
- Redistribute current budget to increase federal support and use federal resources to develop ongoing dialogues with other agencies– with the goal to better collaborate/leverage involvement by these agencies – and decrease contractor support, especially for low return efforts (which would include the current communication plan of pledges).
- Ensure that all agencies are using Integrated Procurement Teams for all large projects, especially retrofit and construction projects, and promote the criterion that all such Teams should include an Energy Expert who has been trained and understands *integrated system design,* Energy Star, and FEMP-designated mandates; Designated Federal Energy Managers (EISA 432) should be trained on purchasing requirements. The panel suggests that perhaps EEPP offer technical support from FEMP where needed for the largest procurement opportunities.

- Coordinate with OMB's Office of Federal Procurement Policy on reporting and enforcement as well as getting the word out that EE procurement is a priority of overall Sustainable Acquisition efforts and 95% compliance goal.
    - Could add "stick" by adding sustainable acquisition to the public OMB scorecard (as it is already included in internal deliberations on progress). Agencies self-report but could DOE could help by conducting random 1% reviews to verify accuracy of agency self-reporting. The Panel observed that the EEPP currently relies exclusively on "carrots", which is not often as successful as a combination.
    - Another carrot, EEPP could consider is awarding one of its annual FEMP energy saver awards to the agency/program that does the best job purchasing EE products or the one that has most improved.
- Identify opportunities to lead by example by initiating dialogues with state and local government agencies involved in procurement, and with large companies.
- In the long term, EEPP and FEMO should consider partnering with NIST or EPA on conducting life cycle analysis (LCA) on all products and structures to see if there are other environmental factors that should be incorporated into purchasing decisions. LCA refers to energy uses farther up the supply chain from the purchasing agency, such as the energy used to produce the steel or concrete used to construct a new building. This would be lower on our recommended priority list given the amount of work that would be involved in creating a system for quantifying LCAs for specific products, and in light of the fact that many companies and agencies are already starting to develop such systems. However, it would be a good long-term goal to think about LCA during product procurement.
- Building Technologies is doing technology road mapping. FEMP is a stakeholder who should participate actively to shape federal direction.
- Identify opportunities to lead by example by initiating dialogues with state and local government agencies involved in procurement, and with large companies.