



# Memorandum

<b>DATE:</b>	August 21, 2013
<b>TO:</b>	Tennessee High Performance Building Requirements (TN HPBr)- STREAM Training Session Attendees
<b>CC:</b>	
<b>FROM:</b>	SSR- Eric Sheffer, Clark Denson, Martha Reynolds, Jonathan Barzel
<b>RE:</b>	HPBr Questions and Answers from STREAM Training Sessions

## Session 1

### **Q: Can eQUEST still be used to calculate energy cost savings as a part of the HPBr?**

A: eQUEST was referenced in the Sustainable Design Guidelines (SDG) because it is a free program and contains easy to use, although very high level, modeling tools like the Schematic Design Wizard. This is still an acceptable choice of energy modeling program. Alternately, other industry standard programs are acceptable as long as they comply with the simulation program requirements in ASHRAE 90.1-2007, section G2.2.

### **Q: How is life cycle cost effectiveness to be measured? If the discounted net present value is a positive 1 cent, does that make the decision for go/no-go?**

A: Given a number of project alternatives, where the Base Case is the alternative with the lowest first cost, any alternative with a Savings-to-Investment Ratio (SIR) greater than 1 is considered to be life cycle cost effective. Another way to look at it is that the alternative with the best net present worth would be the most cost-effective.

If the Life Cycle Cost Analysis (LCCA) shows that a project alternative will make a 1 cent net gain over the other alternatives over the LCCA study period, it would still be considered LCC-effective. However, other factors should be considered in making the decision for whether to implement any given project alternative. For example, the availability of first-cost funding, availability of operating budget, practicality/tenant disturbance involved in implementation, etc.

### **Q: Regarding the Checklist's use as a reporting tool, where should the completed checklists be sent?**

A: To the Office of the State Architect, specific email or address to be determined.

### **Q: Is Basic Commissioning in a designer's Basic Services?**

A: Designers will often include Basic Commissioning in their quoted fees, however, the owner should explicitly state the requirements to avoid it being left out. Basic Commissioning has been a requirement for projects with HVAC scope since the roll-out of the original SDG.

**Q: Who determines what type of M&V (IPMVP Options A,B,C, or D) to do?**

A: For New Construction projects where Measurement and Verification (M&V) is pursued, Option D “Calibration Simulation”, as defined in the International Performance Measurement and Verification Protocol (IPMVP), is the prescribed M&V method. For Renovation or Capital Maintenance projects where M&V is pursued, the Designer may choose either IPMVP Option D or Option B “Retro-fit Isolation” based on the type and scope of project. Further details are provided in EE5.2 and EE5.3 in the HPBr Manual.

**Q: Regarding the TN harvested/manufactured products - are we saying to sole source?**

A: No, project may still make their own decisions regarding the vendor source for materials to be used. The HPBr purposefully incentivizes local/regional sourcing of materials, but again the final decision on where products come from must be made by the Owner and should be based on multiple criteria (e.g. source location, cost, quality, etc). Furthermore, these are not required credits, so if multiple TN providers cannot be identified, and a competitive bid is required, these credits may not be pursued.

**Q: When is the rollout of the HPBr?**

A: The team is aiming to roll out the new requirements around the end of August or beginning of September 2013.

**Q: How do we implement the HPBr where projects budgets have already been set?**

A: It is expected for all projects that the HPBr is to be applied in the most sensible way possible. If the budget for a given project has already been set this year, that project is not expected to rework its financials to accommodate credits which increase first-costs. Where credits may be incorporated without causing undue issues with the budget, it is encouraged to make this happen.

**Q: How do we consider the HPBr when determining the budget?**

A: When determining budgets for future projects, yes, any credits in the HPBr which are being pursued and that may increase fees, material cost, etc., will need to be taken into account. It is a broader goal of this initiative that the HPBr is examined as soon as possible for a project, ideally in pre-planning.

**Q: Also, is there any change in the Contractors role?**

A: The contractor has always acted as the party responsible for tracking, documenting, and confirming implementation of their respective credits claimed for each project. This will remain the contractor’s main role for the HPBr.

As with the SDG, credit documentation for which the contractor is responsible should be maintained in case of an audit of the HPBr process.

## Session 2

*System Integration: We have a large complicated project with multiple computerized systems for submetering, building automation, water management, security, fire alarm. All seem to be incompatible with one another and often running on different computers as well as panels, enunciators, etc. Additionally, battery backups are required for all these individual systems. Everything is done separately.*

### **System Integration Q: Is there a way to integrate these all into one system, accessible by one computer workstation?**

A: Although each project will have its own integration challenges, in many cases it is possible for these systems to talk to each other and be integrated onto one computerized system. However, it is not something that most contractors will know to do without direction/guidance from the Owner and Designer.

### **System Integration Q: How does the Owner drive this to occur? Can the HPBr process assist in this?**

A: Currently, the best way to make sure this integration is a priority in a given project would be for the Owner to write it into the OPR in the spaces set aside for Special Requirements.

### **System Integration Q: Can you add a point to encourage integration / centralization of all these systems?**

Currently, the HPBr does not have a credit specifically intended to encourage system integration. However, adding a credit is a possibility for next revision of the HPBr. These requirements should be included in the Owner's Projects Requirements (OPR) document. And, Integrated Building Systems can be used as a project-specific Innovation in Design and Construction credit. By adding this requirement to the OPR and specifying it in the HPBr Checklist, the project team highlights its importance to the Designer, Commissioning Agent, and the Contractor.

### **Q: Does the HPBr encourage looking at the abilities of staff and FM resources before making system decisions?**

A: It is encouraged to get the Facilities Management staff involved early and often in the design process, so their input on system decisions can be factored, but this is not something directly required by the HPBr. The Owner or owner's representative handles a majority of the decisions for which credits will be targeted and what requirements for the project will be set. If the Owner is made aware of the abilities and limitations of FM resources, this would be a good way for FM requirements to be considered by the design team.

### **Q: How will additional service fees be paid if not in the allocated budget? How should we determine adequate funding during the pre-planning budget development process.**

A: The cost of additional services, material, etc. should be accounted for in the budgeting process. Recommended fees will be examined during this next fiscal year.

**Q: Why give a point for something required by the TCA or Building Codes, such as smoking-free buildings or evaluating on-site renewable energy?**

A: While some credits include code-requirements, in many cases there are additionally requirements to these credits not addressed by building codes. In other cases, a Tennessee Code Annotated (TCA) requirement is included in the HPBr to highlight its importance and increase the number of projects that comply with these particular statutes.

**Q: Should Commissioning be performed for both heating and cooling season?**

A: Advanced Commissioning is supposed to cover testing of systems in both heating and cooling seasons. This should already be captured in the commissioning requirements in the Attachment 6.6 commissioning requirements. Basic Commissioning, conducted by the Designer of Record, typically does not include opposed-season testing.