




Reduce Programmatic Stress Disorder for Better Results

The Building Science Conference

Bowling Green, KY March 19, 2019

Chandler von Schrader, CvS Consulting

Ken Slattery, The Building People



Agenda - of sorts

- Who are you? Contractors in the house?
- Who am I? Who is Ken Slattery?
- Identify your program – what's to love, what sucks?
- Hear story of how two contractors have worked in and out of programs
- Pros and cons of delivering HP sans utility program
- Hints for survival – it's obvious but not easy
- General discussion on what works in the trenches



Who are you?

- HP contractors / employees please stand
- HVAC contractors / employees please stand
- Utility / local / state program people say hello
- Builders please stand
- Raters please stand
- Who are the rest of you?




Who am I

- ▶ Chandler's story – I've seen it all, forgotten a bunch – but know the rigors of being a contractor and a utility program manager
- ▶ Done the audits, done the sales, done the installs, lead the crews, done the QC, done the paperwork and reporting
- ▶ Got rooftop 7.2 KW rooftop PV system – haven't paid for electricity for 25 consecutive months!
- ▶ Got a 3 yr old grand daughter – she's a big consumer of resources in a world of diminishing resources. The planet she will inherit will be less beautiful, less fair and painfully more warm. Chanpa will have some "splaining" to do...



Who is Ken Slattery?

- ▶ *Cardinal Country is home, but have worked all across Kentucky managing HP programs for State government, LGE/KU, and now the DOE*
- ▶ *Rated a BUNCH of homes in Colorado in RESNET system, have sold HVAC, LED, PV, though not as well as I'd like.*
- ▶ *Still trying to find the right way to be part of a thriving HP industry (even) in Kentucky*
- ▶ *Impressed by what contractors have shown is possible in new and existing construction, and going to do whatever it takes to make it all happen *yesterday**
- ▶ *“Meeting people where they live” is one of our most promising means of doing what needs to be done*




What programs are you in? Raise your hand

- ▶ Gas utility?
- ▶ Electric utility?
- ▶ Clipboard audits?
- ▶ Comprehensive (with diagnostics) audits?
- ▶ Direct Install?
- ▶ Home Performance?
- ▶ HVAC tune ups / replacements?
- ▶ New homes?
- ▶ Financing?



Keep raising your hands

- ▶ Experienced program stoppage or scale back?
 - ▶ Anticipate program stoppage or scale back in the future?
 - ▶ Currently do “like work” outside program?
 - ▶ Have a plan not to die if even if the program does?
- 



How two DC area contractors have thrived in and out of programs

- ▶ Interviewed Rob Minnick of Minnick's Heating and Air and Scott Donaldson of Home Energy Medics
- ▶ Both have ridden the ups and downs of participating in programs and surviving with no utility support
- ▶ They are all in – the first and biggest requirement to success, and their employees are as well



Minnick's – Rob's story

- ▶ Grandfather started HVAC business in 1954, father took over, then eventually Rob in 200??
- ▶ Dissatisfied customer post HVAC install stumped him – equipment's performance was confirmed – but still not cooling house
- ▶ Comfort Institute awakening
- ▶ Changed his business model to include HP – staff took on BPI certs
- ▶ Can now solve comfort and efficiency problems – which often translates to cleaner air and healthy home improvements



Rob's Story

- ▶ Experienced program challenges
 - ▶ Working with audit platform – cumbersome both inside the home and generating reports
 - ▶ Utility leads were often “kick the canners” seeking light bulbs... with only \$100 invested by homeowner, up-selling HP work difficult as homeowner had little skin in game
 - ▶ Utility kicks in another \$300 for completed full blown comprehensive audit
 - ▶ Often a 4-5 hour event, drive time and then paperwork... not sustainable
 - ▶ Close rate for HP and/or HVAC upgrades sucked – 20%
 - ▶ Program participation waned – platform did not make money



Rob's Story

- ▶ Yet Program did provide:
 - ▶ Marketing and increased company visibility – leads (albeit weak) generated
 - ▶ Increased homeowner's basic understanding of HP
 - ▶ BPI certification requirements, auditors understood house as a system – Rob took it further by setting up company as a BPI testing provider
 - ▶ Increased connection and relationships with others inside industry – attended HP conferences
 - ▶ Enabled some early success in making houses work – yet process too time consuming and complicated resulting in only a 20% close rate



Rob's story


- ▶ Returned to program as audit platform had improved and more freedom for contractors to deliver services
 - ▶ Tightened up initial phone lead – early screening critical
 - ▶ First visit now a clipboard audit – 1.5 hr – “set sales anchor’ that houses comfort predicaments could be finally solved
 - ▶ With approval for work - return for diagnostic audit – with guarantee of 20% incentive tied to savings prediction
 - ▶ If test out savings was less than 20% - company paid out difference (happens 10%)
 - ▶ If over 20% - company matches savings prediction (15%)
 - ▶ 75% of jobs had a audit savings rate of saving of 20%
 - ▶ Super value to homeowners – who will get a min of 20% of total job costs back via rebate – and potentially more!

Close rate now 70%



Rob's nuggets for contractors

- ▶ Reap program benefits, get trained, get recognized – work with program managers to fine tuning delivery platform that makes sense for consumers and is not too heavy
- ▶ Do remediation right – no short cuts in envelope air sealing/insulation
- ▶ Pay attention to distribution (walk the ducts – own the ducts) get air to rooms and BACK to air handler. Measure results
 - ▶ Hard pipe only – flex ducts cannot be longer than 1 foot!
- ▶ Develop sub contractor relationships that can stand alone when program constricts
 - ▶ Help subs drink the HP Kool-Aid – force feed if necessary, fire them otherwise



Scott's story

- ▶ 10 years in business, previously a veteran
- ▶ No utility incentives in VA, but plenty of big expensive houses
- ▶ Company fully vested in BPI certification, investment mandatory
- ▶ Like Rob – gained exposure and contacts inside industry, always learning
- ▶ Firm does full diagnostic audit, sells work, subs out (nearly) all work, returns to test out and do QA
- ▶ Via Pearl Certification – participating in Home Performance with ENERGY STAR – helps with homeowner education hurdle



Scott's Story

- ▶ Broad marketing plan with multiple prong exposure – with heavy reliance on digital (Yelp is free!) referral services
- ▶ Also invests time with HOAs, engages with local environmental groups and has become their local HP champion and house doctor
- ▶ Does home parties, yard signs, limited press marketing and loves Peter Troast's Energy Circle lead generation machine
- ▶ Marketing in the open market must be full on all time – when there is no program exposure – you are one of hundreds of contractors seeking attention. Cannot take foot off the marketing pedal



Scott's story



- ▶ Where programs influence what work can be done (often with limitations) Home Energy Medics can go deeper, get to the root of house failures – then solve them
 - ▶ Often there is remodeling work required – opening up walls for air sealing and insulation access requiring drywall and painting services
 - ▶ Can approach and deliver holistic house as a system improvement – Key to success, as other contractors often only have a few tools in toolbox
 - ▶ Connects the HVAC2 HP dots – digs in on distribution remediation, ensures there is a return air pathway, straight, sealed and insulated ducts
 - ▶ Controlled ventilation (often via bath fans) installed when air sealing has been super effective - can add up to \$1000 in some situations



Scott's story

- ▶ Continued success is driven by strong sub contractor relations
- ▶ All remediation upgrades are priced to an agreed unit price format
- ▶ Auditor prepares work scope, prices out each sub contractor's work (air sealing, insulation (much use of spray foam), ductwork, HVAC, DHW, drywall/painting)
- ▶ Able to do other home improvements that would normally not be part of a utility program
 - ▶ Install bath fans and controls
 - ▶ Minor electric
 - ▶ Hand rails – general repair that homeowner cannot do

With this holistic approach Home Energy Medics closes 45% of leads



Program participation – what works

- ▶ Getting consumers' attention – utility HP marketing (bill stuffers, print ads, etc.) start the process of consumer awareness/education which eventually fills the lead pipeline – albeit many leads are lazy
- ▶ Requirement for building science training (certification) elevates workforce and forces contractors to “up their game.”
- ▶ Utility approved financing and incentive increases opportunity and job size
- ▶ Contractor connectiveness to utility program – maybe even ENERGY STAR – put contractor in better position to close deals... elevating consumer trust
- ▶ Pushes HVAC contractors to learn HP
- ▶ What program benefits have you seen?



Program challenges

- ▶ Tire kicker leads – just interested in direct install
- ▶ Establishing base rates for contractors to deliver audits
- ▶ Incentives can place blinders on other more holistic improvements, leaving savings on the table. OK for work to stop at program savings threshold – hit 20% (audit calculated) savings and stop!
- ▶ Learning and using utility audit platforms – updates painful, reporting a chore
- ▶ Quality control inconsistencies, energy savings seldom confirmed at the meter
- ▶ Contractor having to let go of trained workforce and re-hire as program ratchets down then up following funding cycles
- ▶ What challenges have you had to work through?

“Light-touch” programs: Home Energy Improvement Expert

FACTSHEET

Attic Air Sealing and Insulation

U.S. DEPARTMENT OF ENERGY
HOME IMPROVEMENT EXPERT™



BENEFITS

Done correctly, attic air sealing and insulation can reduce utility costs while improving comfort, indoor air quality, and durability.

WHY HOME IMPROVEMENT EXPERT?

An easy way to get a quality job.

Research findings reveal significantly reduced energy savings and potential performance risks where home improvements are not properly installed. To help homeowners address this challenge, the U.S. Department of Energy has compiled world-class expert guidance from industry leaders and national laboratories in factsheets and checklists under the name *Home Improvement Expert*.

“Light-touch” programs: Home Energy Improvement Expert

PREPARATION

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The attic shall be inspected for water leaks and moisture, structural, or pest damage. A list of all needed repairs shall be provided to the homeowner before attic work begins so remediation can be fully addressed as necessary. |
| <input type="checkbox"/> | The attic shall be inspected for sufficient attic ventilation (e.g., ridge vents, soffit vents). Ventilation issues shall be addressed before proceeding with attic air sealing or insulation. |
| <input type="checkbox"/> | If there is active knob and tube wiring present in the attic, insulation shall not be installed until wiring is replaced or properly boxed. Work shall not proceed if existing insulation is vermiculite, which may contain asbestos. |
| <input type="checkbox"/> | All exhaust fans shall be modified as required to vent to the outside, not into the attic. |
| <input type="checkbox"/> | A combustion safety test shall be performed if any natural draft combustion equipment exists in the home to ensure there is no backdrafting or spillage of combustion emissions. Any combustion safety issues shall be addressed before proceeding with attic work. |
| <input type="checkbox"/> | The contractor shall state whether existing insulation is to be removed or moved aside for air sealing. |

ATTIC AIR SEALING AND AIR BARRIERS PRIOR TO INSULATION

- | | |
|--------------------------|---|
| <input type="checkbox"/> | All gaps, cracks, seams, and penetrations between conditioned and unconditioned space (such as gaps around lighting fixtures, HVAC duct boots, electric wiring, plumbing pipes, and flues) shall be sealed with sealants alone (e.g., caulk, foam, aerosol sealant) if the gaps are narrow enough or with rigid blocking material sealed in place with sealants, per the sealant manufacturer's instructions. Fibrous insulation is not an air barrier and shall not be used for air sealing. |
| <input type="checkbox"/> | The seams where drywall attaches to the top plate at all interior and exterior walls shall be sealed from the attic side with a caulk, spray foam, or sprayer-applied sealant. |
| <input type="checkbox"/> | Larger gaps and openings (such as uncovered dropped soffits and openings under knee walls or at the tops of balloon-framed gable walls) shall be closed off using a solid material such as rigid foam or OSB that is sealed at the edges with caulk, sealant, or mastic. |
| <input type="checkbox"/> | Gaps around masonry chimneys or gas appliance vents shall be sealed with high-temperature-rated caulk or foam and insulation dams shall be constructed around them as needed using heat-safe materials in accordance with building code requirements. |
| <input type="checkbox"/> | Attic access panels, doors, and drop-down stairs shall be insulated with a minimum of R-10 rigid foam insulation and gasketed (not |

“Light-touch” programs: Home Energy Improvement Expert

FACTSHEET Heat Pump Replacement

U.S. DEPARTMENT OF ENERGY
HOME IMPROVEMENT EXPERT™



BENEFITS

Installed correctly, a new heat pump can cut utility expenses while improving comfort.

Systems for heating and cooling your home use more energy and cost more money than any other system in your home—typically over 50% of your utility bill. High-efficiency heat pumps such as variable-speed systems save energy and last longer. However, a quality installation is integral to a well-performing system. Nearly half of all heating and cooling systems in U.S. homes are not installed to manufacturer’s instructions and therefore perform below rated capacity and efficiency.

RELATED HOME IMPROVEMENT CONSIDERATIONS

Before purchasing a new heat pump, consider working with a qualified home energy assessor to evaluate other related home performance needs and opportunities. This includes:

WHY HOME IMPROVEMENT EXPERT?

An easy way to get a quality job.

Research findings reveal significantly reduced energy savings and potential performance risks where home improvements are not properly installed. To help homeowners address this challenge, the U.S. Department of Energy has compiled world-class expert guidance from industry leaders and national laboratories in factsheets and checklists under the name **Home Improvement Expert**. Homeowners can leverage these expert recommendations to help ensure quality installation by attaching Home Improvement Expert checklists to vendor contracts and ensuring the vendor completes and signs the checklist before accepting the work.

READY TO DO MORE?

This factsheet and accompanying

“Light-touch” programs: Home Energy Improvement Expert

CHECKLIST

Heat Pump Replacement

U.S. DEPARTMENT OF ENERGY
HOME IMPROVEMENT EXPERT™



This U.S. Department of Energy checklist includes important specifications that can contribute to a complete and quality installation. All work shall comply with these specifications, all relevant codes and standards, and all manufacturer installation instructions. The contractor shall check each box on the checklist below and sign and date at the bottom to certify the work is completed.

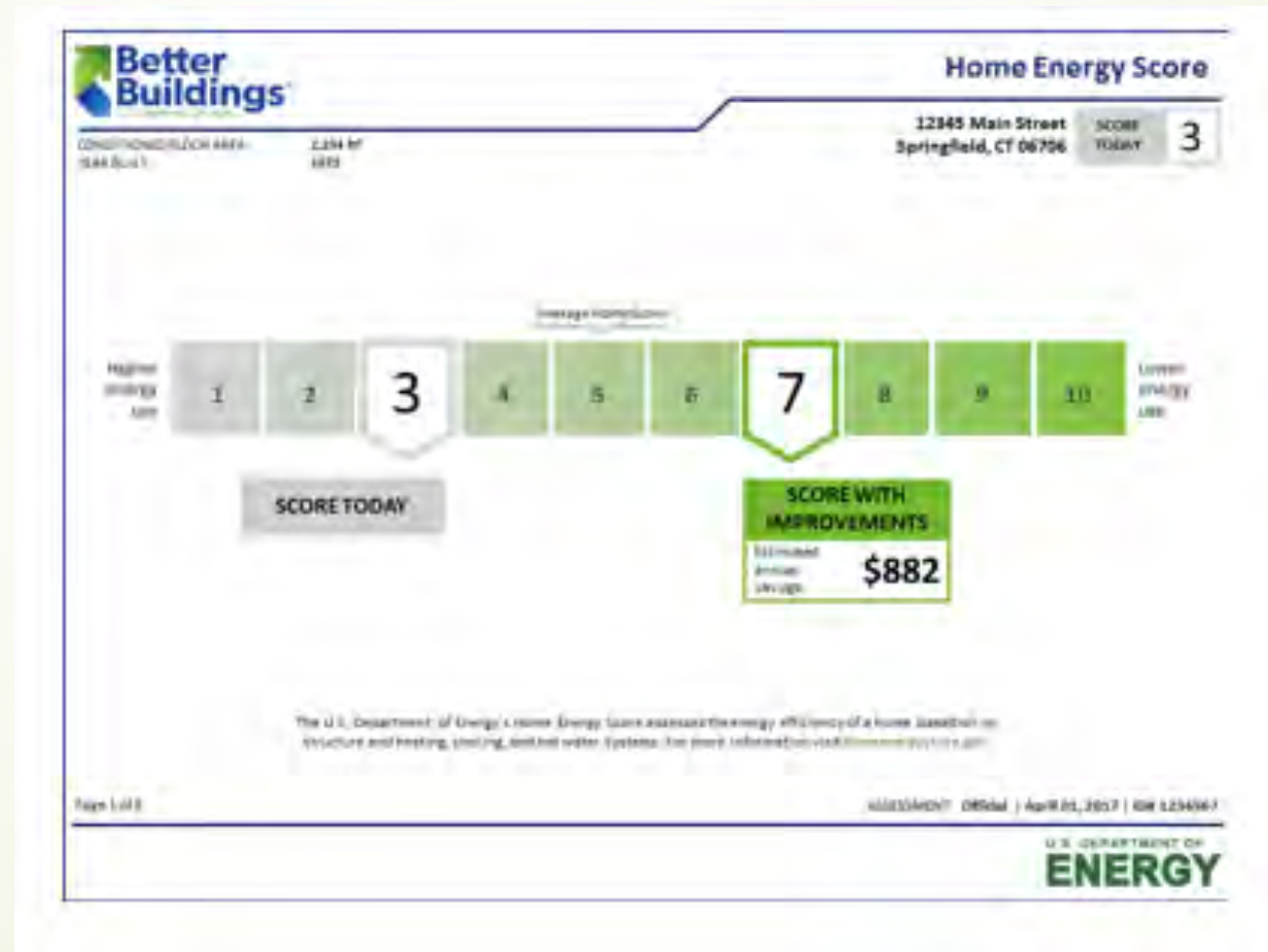
PREPARATION

- | | |
|--------------------------|---|
| <input type="checkbox"/> | All exposed ducts (e.g., attic, basement, and crawlspace) shall be inspected; all damaged or disconnected ducts shall be repaired or replaced and all visible leaks shall be sealed with UL 181 tape and/or mastic. |
| <input type="checkbox"/> | A room-by-room load calculation shall be performed in accordance with the Air-Conditioning Contractors of America [ACCA] Manual J. |
| <input type="checkbox"/> | The heat pump selected shall be ENERGY STAR certified and sized in accordance with ACCA Manual S based on ACCA Manual J load calculation results. |
| <input type="checkbox"/> | The system shall be evaluated to determine if the supply and return air flows are balanced and if ducts are properly sized. Recommendations shall be made to the homeowner if the ducts are not the right size. |

INSTALLATION

- | | |
|--------------------------|--|
| <input type="checkbox"/> | The heat pump shall be installed in accordance with ANSI/ACCA Standard 5 HVAC Quality Installation Specifications. |
| <input type="checkbox"/> | Proper refrigerant charge shall be verified in accordance with the manufacturer's instructions. |
| <input type="checkbox"/> | The air filter shall be replaced with a MERV 8 or higher filter. Air flow across the coil shall be measured using a test method approved by the air conditioner manufacturer and verified to be within 15% of design air flow. |

“Light-touch” programs: Home Energy Score





Going forward, with or without a program

- ▶ Trust your building science, use it to add value other market-based contractors (esp. HVAC, Insulation and window)
- ▶ Build value in doing what is right for customers – be prepared to offer services beyond ECMs, see yourself as an efficiency remodeler
- ▶ Price your services appropriately – hell, Starbucks sells \$5 coffee competing with 7/11's \$2 cup of joe... added value matters
- ▶ Prime the pump with digital marketing – become local expert on typical household failures – ugly crawlspaces, high humidity issues, drafty bonus rooms, hot upstairs, etc.
- ▶ Have a green presence – connect with solar firms



Going forward with less stress

- ▶ Invest in full service audit platform that tracks and manages every stage of process – and be prepared to constantly tweak and upgrade.
- ▶ Being professional attracts and keep best employees
- ▶ Build strong subcontractor base by being transparent and consistent in pricing and oversight. Share leads, success and wealth
- ▶ Seek own financing – have that resource at the table
- ▶ Keep in touch with homeowners post installation – you must know how well improvements are working – and if they are not, dig in
- ▶ Never stop marketing – shotgun approach needed, be top of mind for all remodeling opportunities
- ▶ Learn how to be the installer of smart home devices
- ▶ Sign up customers for “FilterEasy.com” – easy peasy
- ▶ Your suggestions??

