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PA PUC
SECRETARY'S BUREAU

April 1, 2010

Pennsylvania Public Utility Commission
Commonwealth Keystone Building
Attn: Secretary's Bureau
2nd Floor, Room-N201
PO Box 3265
Harrisburg, PA 17105-3265

Re: Docket No. M-2010-2152691 (DCED & L & I)
Training Certifications for Weatherization Installations and Audits

The Pennsylvania General Assembly enacted Act 129 to require Pennsylvania's seven largest electric distribution companies to develop energy efficiency and conservation plans and adopt other methods of reducing the amount of electricity consumed by customers. The General Assembly charged the Pennsylvania Public Utility Commission (PUC) with implementing Act 129 and guiding consumers and electric utilities toward achieving the legislation's overall goals of reducing energy consumption and peak electric demand by 4.5% by May 31, 2013¹. A keystone strategy to achieve this requirement is the weatherization of homes to make them more energy efficient. Act 129 is designed to complement or expand existing utility funded programs like the Low Income Usage Reduction Program (LIURP). Consideration before the PUC is the training of weatherization workers to meet a uniform minimum standard to assure that the work is completed correctly and produces the expected energy savings.

To this end, the Pennsylvania Department of Community and Economic Development and Department of Labor & Industry fully supports the Pennsylvania PUC Order: **Training Certifications for Weatherization Installations and Audits**, Docket No: M-2010-2152691.

These comments will reinforce this support by looking at: the need for training and certification, the capacity of the current training and certification structure that exists within Pennsylvania, the weatherization curriculum, how this action safeguards Pennsylvania's homeowners, and a comparison between Pennsylvania's certification program and that of a national organization.

The Need for Certification and Training

The American Recovery and Reinvestment Act (ARRA) has provided \$252.8 million for Pennsylvania's Weatherization Assistance Program (WAP). The federally funded WAP, has existed since the early 1980's, and typically has operated on a \$30 million annual budget using

¹ *Energy Efficiency & Conservation, Information for Your Home*,
www.puc.state.pa.us/General/consumer_ed/pdf/EEC_Home-FS.pdf

42 local nonprofit agencies. Though training in weatherization has been available for more than twenty years through Penn College of Technology's *Weatherization Training Center* (WTC), the extent to which workers and providers used these training resources varies significantly. Some WAPs took full advantage of this formal training while others relied on experience gained from on-the-job training. With the implementation of ARRA funded weatherization in Pennsylvania, it was determined that the workforce with this industry needed to be certified due to the rigorous performance standards set forth by the ARRA.

Many WAPs use subcontractors to complete at least a portion of their work. There are firms that have invested a considerable amount of time and money on training employees and attaining multiple industry-recognized certifications while others have decided that this investment is not a priority. Unless required by an employer or a specific section of the industry, training in weatherization is best described as sporadic with the majority relying on mentoring and field experience.

To say that no training or certification of the workforce is needed is a disservice to the industry and homeowners/taxpayers of Pennsylvania. Some may argue that individuals will learn all skills needed out in the field, or that a skilled carpenter, plumber, or heating technician can easily transfer their proficiency to weatherization. While it is accurate that most knowledge is gained through application and to some extent construction skills can transfer over to weatherization, it is also correct that the skills needed to properly weatherize a home need to be developed through formal training in weatherization techniques and technology and direct application in the field.

The option to "test-out" was given to incumbent workers when the certification process was first implemented. The WTC at Penn College has reported the following pass rates for incumbent workers:

Installers- 60%

Crew Chiefs - 32%

Auditors- 40%

Note that some of the Auditors that failed the Auditor test-out were Building Performance Institute-Building Analyst/Certified Instructor (BPI-BA/CI) certified and some failed elements of the test that, if applied to homes, could have resulted in serious injury or death. These poor passing rates are concerning for a number of reasons. First, what level of knowledge do incumbent workers have if these numbers represent the segment of the weatherization labor force with close to suitable levels of weatherization experience and/or significant experience in other building trades? Second, what is the quality of work being done on the homes in Pennsylvania? Third, what protocols are not being followed that could have serious implications on the health and safety of the homeowner?

To ensure that weatherization in Pennsylvania is performed correctly and safely by workers that have completed proper training, it should be mandated that all employees that perform weatherization work on homes be certified using a uniform set of standards. Establishing a set of uniform standards that meet the demands of the industry, Pennsylvania building codes, and the expectations of homeowners will ensure that the work is done safely, correctly, and to the

satisfaction of the homeowner. Pennsylvania does not need to recreate these standards but apply what currently exists on a State level to satisfy the demands of the industry, homeowner, and regulatory bodies.

An additional benefit to uniform standards is the identification of what skills easily transfer from the construction trades and where the gaps exist. With this information, workers and employers will then know what actions are needed to address any deficiencies.

Capacity of the Existing Weatherization Training Infrastructure

Should this Order before the PUC be approved, it is anticipated that the existing State-certified weatherization training providers would experience a significant influx in demand for training. With a total of seven training providers geographically distributed across the Commonwealth, weatherization training exists within a convenient drive for most of the State's workforce.

All seven of these local providers offer weatherization courses to incumbent workers, candidates looking to get into weatherization, those with publicly-funded training vouchers, and private pay. The largest training center in Pennsylvania and the most experienced is the *Weatherization Training Center* at the Penn College of Technology located in Williamsport. Recently expanded, WTC trained 873 students in weatherization related courses between July 1 and December 31, 2009. Between January 1 and June 30, 2010, WTC anticipates training another 1,500 students. For the other six state-certified weatherization training providers, annual training volume is estimated to be 7,200 and 9,000 students. This figure can be adjusted to meet demand by adding additional instructors, offering courses in the evening and on weekends, or by offering those courses in highest demand more often.

In addition to being flexible with schedules to meet the needs of students, the State's training providers are able to offer a comprehensive range of courses at reasonable fees. Because all of the State's weatherization training providers are schools or non-profits, they can offer high-quality instruction at an affordable price. Plus, by being local, certified workers can continue to advance within weatherization as a career and grow professionally through participation in continuing education workshops.

A final benefit to requiring certification and training of the incumbent workforce is using the training infrastructure that exists in Pennsylvania as a pathway for professional development. All workers are required to pursue continuing education with workshops and seminars directly related to their classification of Installer, Crew Chief, or Auditor and to advances in the weatherization industry as a whole. By attaining these credits at one of Pennsylvania's weatherization training providers, be it a career and technical school, a community college, or a four-year degree granting technical college, this array of training providers can serve as the catalyst for workers to advance their career.

Workers with a better understanding of career paths into such fields as energy efficiency, construction trades, applied engineering, and the emerging green building sciences may become motivated to attain post-secondary certificates and degrees. This will prove especially beneficial to workers employed and living in areas with historically low participation rates with post-

secondary institutions. With this Order, workers who thought degrees and certificates beyond a high-school diploma were unattainable may find themselves drawn to continuing their education.

Certification of Pennsylvania's Incumbent Workforce

To become a certified weatherization worker in Pennsylvania, students are trained by State-certified instructors using State-certified curriculum. The State's curriculum has been developed by WTC at Penn College using public funds and amended over the years to reflect advances in technology, home construction, application, and safety. As such, it remains pliable to accommodate ongoing advancements in energy efficiency techniques and materials. Amendments to the State's curriculum will occur during regularly scheduled meetings of the training providers.

The State's curriculum is broken out by weatherization coursework needed for each category of worker, the voucher reimbursement rate associated with each course; the limits on class size to ensure a proper learning environment in terms of material presentation and retention, sufficient attention from the instructor, safety; and number of days needed to complete the course. Embedded in the curriculum is coursework to meet the US Department of Energy lead safety requirement.

These courses are an accumulation of knowledge gleaned from field and classroom experience coupled with advances in weatherization technology. They are comprehensive in nature and tailored to provide the student with a sufficient balance of time in both the classroom and lab. This combination of instruction is conducive to the adult learner in that he/she is able to immediately apply what was just taught. Please see **Attachment 1** for more detail.

To implement a structured training and certification process into Pennsylvania's publicly-funded weatherization program, all incumbent workers are directed to submit an application for certification. Each worker is asked to complete the application by listing any formal weatherization training they have received, specifying years of experience in performing specific weatherization activities, denoting all weatherization-related certifications achieved, and lastly using space provided to list other experience that may be relevant. This application is submitted to the Application Review Committee (ARC) for review. Comprised of representatives from the PA Department of Labor & Industry (DLI), PA Department of Community and Economic Development (DCED), WTC, and two outside weatherization experts, the ARC reviews each application and then determines what, if any, additional actions are needed for certification. The ARC has reviewed 789 incumbent work applications to date. Of this amount, 247 have received immediate certification, 184 are directed to test-out, 77 are directed to take accelerated coursework, and 473 are directed to take additional coursework. For more detail of this breakout of Pennsylvania's weatherization workforce, please see **Attachment 2**.

To become a State-certified instructor, interested individuals are required to submit an application for certification to the ARC. Similar to incumbent workers, potential instructors are evaluated on experience in the field of weatherization, coursework completed, additional certifications attained, and other experience either in construction or education. The ARC grants them immediate certification, the ability to test-out, or invites them to take either accelerated

coursework or full coursework for those classes that they request to teach. To ensure quality of content and consistency of instruction, all instructors are required to complete coursework at WTC with a minimum passing grade of 80%. Additionally, instructors with experience in weatherization but limited teaching experience are asked to take *Train-the-Trainer* courses. With this course, instructors are provided with tools to assist them in communicating this material in a manner that accommodates the variety of learning styles found in adult students.

Safeguarding Homeowners

When a homeowner agrees to have their home weatherized, it is with the expectation that the work will be done by individuals competent in their knowledge and skills, to standards that result in meeting or exceeding anticipated energy savings, and in a manner that is safe for the occupant and beneficial to the structure. Sending a workforce into the field absent of formal training and certifications that meet uniform standards is cause for concern.

With a certified workforce, the homeowner can be confident that the individuals working on his/her home have been trained in proper weatherization techniques and have demonstrated the ability to apply these techniques in accordance with industry standards. The homeowner can also be confident that the work done will meet industry and State standards for health and safety. Strict adherence to safety protocols to avoid serious if not potentially deadly mistakes in the areas of heating, ventilation, and moisture management are especially important. The lack of a required training and certification program for all categories of weatherization workers puts the industry and homeowner at great risk.

Lastly, the financial interests of homeowners and utility companies funding Act 129 work are better protected when work is provided by certified individuals. The commitment of time and money needed to train and certify a workforce is one in which a legitimate contractor is willing to invest. Legitimate contractors will ensure that their employees are certified and continue to professionally develop their skills by participating in workshops and seminars. Contractors of questionable intent may find training and certification requirements too onerous and go elsewhere.

Pennsylvania's Weatherization Curriculum and other Industry-Recognized Credentials

In its deliberation on what actions a weatherization employee needs to meet certification, the ARC takes into consideration other industry-recognized credentials including BPI – BA/CI; Home Energy Rating Systems Rater or Field Inspector Certification, National Association of Home Builders Certified Instructor and Green Verifier; Residential Energy Services Network Instructor; and Leadership in Energy and Environmental Design Accredited Professional to name a few. These certifications and additional weatherization experience are counted as an equivalency toward State certification.

Much national and state attention has been placed on certifications from the BPI, in particular the Building Analyst certificate. The Building Analyst (BA) credential offered by BPI is earned through a testing process that involves a written test and field evaluation. Although the BA credential is not directly associated with specific training, training may often precede such

testing but its purpose is generally targeted to prepare candidates for the testing process. Alternate training methodologies such as the on-line training offered by Saturn Resources Inc are available but its purpose is the same.

The BA designation relies on a specific set of national standards developed by BPI plus a general knowledge of building science, math, thermodynamics, combustion safety and other related topics. **The BPI standards are primarily geared to health and safety whereas weatherization technology covers a much broader field of energy efficient retrofits plus health and safety.** BPI does not adequately cover many important technical aspects of the PAWAP and utility weatherization programs that include but are not limited to the following:

- PAWAP Standards
- PAWAP Priority List
- Specifics on base load measures and heating systems
- Decision making tools
- Installation standards and quality control
- Recommended practices
- Criteria for furnace replacement
- Work scope development

In terms of skills development, a BA credential alone does not by itself qualify a person to perform work on homes. Qualified installers, crew chiefs and auditors must have a demonstrated ability through comprehensive competency based training, work experience and mentoring. The courses offered through Pennsylvania's certified training providers offer a foundation through a process of training and testing that involves written exams and lab practicum. Pennsylvania's weatherization training is much more focused and comprehensive than BA training and dedicates considerably more in the way of lecture and one-on-one lab exercises for the purpose of assuring a high degree of competency on the part of students. A typical BA training generally provides only introductions to specific topics within the context of multiple topics given over a much shorter period of time.

BA training is inadequate in terms of preparing an inexperienced person for the broad categories of skills needed in the PAWAP program. **While BPI offers a valuable and nationally recognized credential, it is a value-add and is best used as a complement to competency based training.** The BA credential does not address many issues as outlined above nor does it cover the techniques of replacing glass, dense packing sidewalls or other carpentry applications required of an installer or crew chief and does not adequately prepare an auditor to assess health, safety, comfort and energy efficiency issues in a wide variety of housing stock and situations. It should be noted that the federal government is also considering the issuance of minimum standards for individuals employed by the weatherization industry. It is anticipated that this national certification may mirror what Pennsylvania has implemented because the primary architect of the State's certification process is assisting the federal government with developing their standards. Though federal standards are in the very early stages of development with an anticipated release being 1-2 years out, it is expected that Pennsylvania's standards would be more

level of attention given to the instruction of this material. We look forward to learning more about the federal certification and evaluating their standards against Pennsylvania's.

With this Order to have all weatherization workers meet a uniform minimum standard to assure that the work is completed correctly and produces the expected energy savings, the professionalism of the industry is enhanced, homeowners realize economic and structural benefits, utilities come closer to meeting their energy conservation goals, and all Pennsylvanians benefit from a cleaner environment.

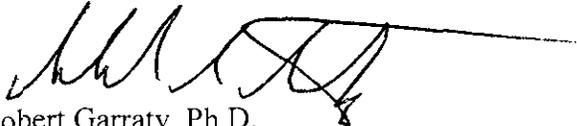
Implications on Existing PUC Programs

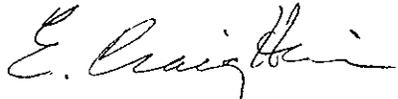
The PUC order correctly states that proper weatherization of a residence is a proven way to reduce energy consumption and control utility bills. The expansion of both state and federal energy efficiency programs, have created the need to train additional weatherization installers and auditors. A uniform set of standards to train new workers and qualify energy efficiency and retrofit workers will also ensure customers that work will be completed correctly and produce the expected energy savings and benefits. Utility funded weatherization workers will benefit from the same training and training certifications without excessive costs. The majority of current LIURP programs work is currently completed by the WAP agencies and their subcontractors. Therefore the impact on companies' doing LIURP work will be minimized.

Conclusion

Pennsylvania has, as described above, built an infrastructure of local training providers to offer weatherization courses to incumbent workers, and candidates looking to get into weatherization. This network has sufficient capacity to include workers funded by PUC programs. Students and workers are trained by these State-certified instructors using State-certified curriculum because no national standards exist for weatherization workers. In recognition of this situation, the U.S. Department of Energy is working on the creation and/or adoption of a common national standard. Pennsylvania should adopt or align with the national standard once they are created. However, it could be many months or years until DOE completes this project. As a result Pennsylvania can not afford to wait for possible action by DOE. Therefore, we recommend that the PUC move forward and require workers performing weatherization work with utility funds to have Pennsylvania worker certification.

Respectively Submitted,


Robert Garraty, Ph.D.
Acting Deputy Secretary for Workforce Development
Department of Labor & Industry


E. Craig Heim, Executive Director
Office of Energy Conservation
and Weatherization, DCED



MEMORANDUM

TO: Dr. Bob Garraty, Deputy Secretary for Workforce Development, L&I
Craig Heim, Executive Director – Office of Energy Conservation & Weatherization, DCED

FROM: David Pistner

CC: Kelly Whitman, Lynette Praster, Beverly Hudson, Hayley Frank

DATE: March 10, 2010

SUBJECT: **Weatherization – Application Review Committee (ARC)
March 5 Meeting Update**

Note: Applicants may apply for multiple levels of certification. For example, ‘Applicant A’ may apply to become certified as an installer, a crew chief, and an auditor. The ARC then acts on each of ‘Applicant A’ requests based on the information included in the Weatherization Worker Application Forms.

Certifications Awarded	3/5 ARC Meeting	Total to date
Installers	0	136
Crew Chief	0	63
Auditors	0	48
Total Certifications Awarded to date		247
Test-Out		
Installers	0	53
Crew Chief	2	66
Auditors	3	65
Total Test-Out Recommendations to date		184
Accelerated Coursework		
Installers	0	19
Crew Chief	6	45
Auditors	0	13
Total Accelerated Coursework Recommendations to date		77
Complete Coursework (may not require all courses)		
Installers	25	279
Crew Chief	11	112
Auditors	5	82
Total Recommendation to Complete Coursework		<u>473</u>
Grand Total: All Actions (multiple actions on some individuals)		981

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To date Penn College has received 845 incumbent worker applications. The Committee has reviewed 789 applications. Next ARC meeting is scheduled for March 19th. The Committee will be reviewing INSTRUCTOR applications as they are received by Penn College. A meeting to review worker applications will be held after 25 additional applications have been received.

Contact me if you have any questions:
 David Pistner
dpistner@state.pa.us
 717-787-2368

ATTACHMENT 2

PENNSYLVANIA WEATHERIZATION COURSE CURRICULUM

CERTIFICATION LEVEL	WEATHERIZATION TRAINING COURSE	TRAINING DAYS	CLASS CAPACITY
I,CC	Weatherization Tactics	4	15
I,CC	DOE Lead Safe Work Practices	2	30
CC,A	Diagnostics	2.5	12
CC,A	Advanced Diagnostics	2.5	12
CC,A	Customer Service	1	12
A	Introduction to Heat	3.5	12
A	Combustion Analysis – Oil	3.5	12
A	Combustion Analysis - Gas	3.5	12
A	Home Energy Auditing	4	12
A	Baseload Auditing	2	12

Key:

Course required for:

I - Installer

CC - Crew Chief

A - Auditor

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