

Exelon Business Services Company 2301 Market Street/S23-1 P.O. Box 8699 Philadelphia, PA 19101-8699 Telephone 215.841.4000 Fax 215.568.3389 www.exeloncorp.com



Direct Dial: 215.841.4220

April 1, 2010

Office of the Secretary Pennsylvania Public Utility Commission Commonwealth Keystone Building 400 North Street, Second Floor Harrisburg, PA 17120

#### Re: Training Certifications for Weatherization Installations and Audits PUC Docket No. M-2010-2152691

Dear Secretary:

Enclosed please find an original and three copies of Comments of PECO Energy Company on Standardizing Weatherization Training and Certification for filing regarding the above referenced matter.

I have enclosed an additional copy of this letter in the package to the Office of Secretary, along with a stamped, self-addressed letter, and ask that the Office of Secretary time-stamp and return that copy.

Very truly yours,

Michael S. Swerling Counsel for PECO Energy Company

MSS/zyr

Enc.

cc: Scott Gebhardt, Energy Program Specialist (Via e-mail) David Mick, Supervisor,, Energy Policy and Compliance (Via e-mail) Stephanie Wimer, Assistant Counsel (Via e-mail)



APR 01 2010

PA PUBLIC UTILITY COMMISSION SECRETARY'S BURLAU

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

TRAINING CERTIFICATIONS FOR	
WEATHERIZATION INSTALLATIONS	
AND AUDITS	

Docket No. M-2010-2152691

#### COMMENTS OF PECO ENERGY COMPANY ON STANDARDIZING WEATHERIZATION TRAINING AND CERTIFICATION

•

#### **INTRODUCTION**

On February 17, 2009, the American Recovery & Reinvestment Act ("ARRA" or "the Stimulus Act") was signed into law. The ARRA dedicated \$252.8 million to Pennsylvania's Weatherization Assistance Program ("WAP") to be used between Fiscal Year 2009 through Fiscal Year 2012.<sup>1</sup> According to the Department of Energy, "Pennsylvania's Weatherization Assistance Program provides weatherization and energy conservation services at no cost to low-income households. The Weatherization Assistance Program reduces household energy use and costs by improving the energy efficiency of a participant's home."<sup>2</sup>

The federal government expects that funds distributed pursuant to the Stimulus Act will assist Pennsylvania's WAP in reducing energy usage; weatherizing 29,700 homes; and creating 940 new jobs. The WAP is expected to achieve energy savings by revising its methodology for prioritizing households for weatherization measures. Expanding the program's capacity to reach the 29,700 homes will be challenging and will require additional jobs and training.<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> See minutes from the May 26, 2009, Pennsylvania Public Utility Commission's Consumer Advisory Council meeting.



PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

<sup>&</sup>lt;sup>1</sup> \$8.3 million of the 252.8 million will be spent by the Department of Community and Economic Development ("DCED") to manage and administer the program.

<sup>&</sup>lt;sup>2</sup> See the United States Department of Energy website at http://apps1.eere.energy.gov/weatherization/state\_activities\_detail.cfm/state\_abbr=PA.

In response to the Stimulus Act grant and its requirement that WAP weatherize 29,700 homes by 2012, new training standards were developed for WAP auditors and installers to achieve this milestone. These standards were jointly adopted by the Pennsylvania Department of Labor & Industry ("L&I"), which will administer the funding to establish new training, and the Pennsylvania Department of Community & Economic Development ("DCED"), which is responsible to manage and oversee WAP's new weatherization objectives.

As a result, all weatherization crew leaders and members that perform WAP work in the Commonwealth of Pennsylvania must now become certified pursuant to these new standards.<sup>4</sup> All weatherization workers participating in WAP projects must be trained and certified by a Pennsylvania Certified Weatherization Instructor. An instructor can only be certified using the curriculum of the Pennsylvania College of Technology Weatherization Training Center ("Penn College") in Williamsport, PA.<sup>5</sup> Therefore, WAP is adopting training standards developed by Penn College.

On March 02, 2010, the Pennsylvania Public Utility Commission ("PUC" or "Commission") entered an Order at Docket M-2010-2152691, questioning whether it is worthwhile to standardize training requirements for weatherization installers and auditors utilized by distribution companies. Specifically, the Commission is now considering adopting the new training requirements developed for WAP projects and applying them to Low Income Usage Reduction Programs ("LIURP")<sup>6</sup> and Act 129 weatherization programs. The Commission

<sup>&</sup>lt;sup>4</sup> Pennsylvania's Weatherization Training Plan, dated July 1, 2009.

<sup>&</sup>lt;sup>5</sup> An individual can become trained at Penn College or one of seven other locations in the Commonwealth that certify using Penn College's curriculum.

<sup>&</sup>lt;sup>6</sup> 52 Pa Code § 58.1, requires utilities to establish fair, effective and efficient energy usage reduction programs for their low income customers. The programs are intended to assist low income customers conserve energy and reduce residential energy bills. PECO's energy usage reduction program is entitled, Low Income Usage Reduction Program or LIURP.

also is interested in determining whether improved work quality and greater customer savings would result from applying these new WAP standards to utility weatherization programs.

In deciding whether to create uniform minimum standards for training utility weatherization installers and auditors, the Commission must determine the requisite level of training and certification required for work performed under the LIURP and Act 129 programs. From each utility, the Commission seeks a description of: 1) current weatherization training practices; and 2) the programmatic and cost impacts of applying state WAP standards to its LIURP and Act 129 programs.

PECO Energy Company ("PECO") agrees with the Commission's goals of improved work quality and greater customer savings and believes that another important goal to consider is customer satisfaction. These are all important measures by which programmatic success can be evaluated. PECO therefore supports these goals and believes they are best achieved by using standards with proven results.

PECO's LIURP program has demonstrated consistently successful results. In fact, PECO recently received an award from the American Council for an Energy-Efficient Economy (the "ACEEE"), in part, for having an exemplary LIURP program. This award demonstrates the programmatic successes PECO and its weatherization workers have achieved by incorporating training standards established by the Building Performance Institute ("BPI"); a nationally recognized credentialing organization for residential energy efficiency retrofit and weatherization professionals. As a leading developer of technical standards, BPI develops national standards for residential weatherization measures, retrofits and home performance.

PECO relies heavily on the excellence of BPI's training standards and recommends that they should be the focus of any training standards adopted by the Commission. In the

alternative, PECO recommends adopting standards that allow a utility to choose training methods developed by an established weatherization training entity such as BPI. PECO further recommends, however, that before the Commission adopts new training standards, empirical evidence should be developed to confirm the conclusion that the associated cost impacts are worthwhile.

#### **COMMENTS**

### I. <u>PECO recommends standardizing weatherization training in accordance</u> with its current practices to ensure quality work and a reduction in energy costs.

### A. PECO believes its weatherization training criteria achieves the Commission's objectives.

While the training standard programs used by both BPI and the Penn College are admirable, PECO believes that the Commission's goals will be better served by adopting BPI's standards. PECO recommends that the Commission adopt training standards utilized by its weatherization vendor, CMC Energy, which is a BPI training affiliate. BPI standards should be adopted because: 1) the BPI courses are comprehensive; and 2) BPI offers field training to its candidates, while Penn College does not.

PECO recommends that the Commission consider adopting BPI's training program because its courses offer a comprehensive education. BPI's training program is "a rigorous, credible, and defensible written and field examination process administered to individuals by BPI or its affiliates, to prove knowledge, skills and professional competency in the building

performance industry designations."<sup>7</sup> BPI requires that all candidates take Building Analyst Professional Courses (auditor courses) and Envelope Professional Courses (installer courses). These courses, which include field applications, involve fundamental and intermediate training levels.<sup>8</sup> Most of the installer courses offer classes that are intermediate in nature. Because BPI courses provide comprehensive teachings, PECO recommends the Commission adopt its program.

PECO also recommends that the Commission consider adopting BPI's training program because it offers field training, while Penn College does not. Observation and training exercises in the field are an important element of BPI's curriculum. Upon successful completion of the BPI courses, CMC Energy, a BPI training affiliate, also ensures candidates accompany seasoned auditors in the field to gain actual audit and installation experience. Because PECO feels the Commission's goals will be better served by individuals with field training, it recommends adopting BPI's training program.

## **B.** In the alternative, PECO recommends standardization which allows utilities the choice to accept established standards.

If the Commission determines it worthwhile to adopt or promote the WAP standards, PECO requests that utilities be given the choice to accept which established standards work best for their particular programs. PECO recognizes that utilities in the Commonwealth use different training standards. PECO also recognizes that utilities have different program designs. Because this is an evolving and growing industry in Pennsylvania with a variety of program designs, PECO feels that weatherization training should be left to a naturally competitive market.

<sup>&</sup>lt;sup>7</sup> See the BPI Small Homes Certification, Policies & Procedures Manual, page 4.

<sup>&</sup>lt;sup>8</sup> See Appendix A, attached to these Comments for a detailed listing of BPI courses.

Utilities should be allowed to choose its training standards, as long as they are established standards, keeping the best interests of their customers in mind.

# II.The Commission should not adopt new standards without empirical<br/>evidence to prove that the cost and programmatic impacts to LIURP and<br/>Act 129 programs are worthwhile.

The Commission specifically requested utilities to explain the programmatic and cost impacts for applying the WAP standards to LIURP and Act 129 programs. It is difficult to say with any specificity what those impacts are because the WAP training standards were only recently revised. These standards have not been tested, monitored or analyzed with any supporting data because not enough time has elapsed to gather any empirical evidence with which to draw conclusions. However, PECO will provide its best estimates based on the information available.

No cost impacts are expected during the period in which the stimulus grant is funding weatherization training for WAP. However, stimulus funds expire in 2012 and the federal and state governments expect that the training program will continue thereafter. In the event that the training program becomes permanent and all utility weatherization contractors are required to obtain certification from Penn College, the estimated cost impacts to PECO's vendor are significant.

The first impact is related to the costs involved with traveling to and staying at Williamsport, or one of the other seven locations, until the training is complete. The next impact is related to loss of production while the weatherization contractors are being trained in Williamsport or one of the other seven training locations. If CMC Energy's workers are all required to take the Penn College training for up to one week, CMC Energy could suffer a loss of

production by failing to weatherize 400 homes during that week of off-site training. CMC Energy estimates that its lost revenue for one week of training at Penn College would amount to \$142,000. CMC Energy also estimates that certification costs alone could amount to an additional \$40,500. These amounts could be annualized because in certain circumstances WAP recertification is required within one year of being awarded.<sup>9</sup> By contrast, CMC Energy, which is an affiliate trainer for BPI, utilizes on-site courses and on-the-job training for certification purposes. On-site learning and training allows PECO to weatherize a maximum number of homes, without delay, prior to the next winter period.

The sum of \$182,500 is expected to come from LIURP and Act 129 funds after federal funding expires in March 2012. These amounts most likely will be the subject of midstream contract renegotiations between PECO and its contractor. The cost and the trouble involved are simply not worth undertaking without empirical evidence to prove that the Commission's goals will be achieved.

# A. Because PECO's weatherization training has already achieved the Commission's goals of energy savings and quality weatherization work it should not be required to adopt different standards.

PECO's LIURP program is a leading provider of weatherization service to low income customer dwellings, especially those which house vulnerable household members. According to PECO's most recent LIURP evaluation, which covers the 2007 program year, PECO cost-effectively delivered LIURP services to 9,329 customers. This is in line with WAP's goal of weatherizing 29,700 homes within a three year period. PECO's average usage reduction for electric customers that did not have electric heating was approximately 887 kWh, or 8.1 percent

<sup>&</sup>lt;sup>9</sup> Pennsylvania's Weatherization Training Plan.

of pre-treatment usage. For electric heating customers, the average reduction was approximately 1,129 kWh, or 5.4 percent of pre-treatment usage. The average usage reduction for natural gas heating customers was 8.4% of pre-treatment usage. The evaluations also acknowledged that PECO's program has effectively administered LIURP measures to many dwellings over the years.

Based on these results, the ACEEE awarded PECO for having an "Exemplary Program" in the category of "Low-Income Programs" in October 2007. According to the ACEEE,

This project has two main objectives: (1) to recognize the individual achievements of the selected programs, and (2) to showcase these programs for emulation by other organizations interested in promoting similar energy-efficient technologies and practices.

PECO's LIURP achieved this great recognition by utilizing training and certification standards developed by BPI. Under PECO's Act 129 program, PECO expects similar achievements because it will also utilize CMC Energy's BPI training. This award also validates that PECO's LIURP, including its training standards, is a model for "other organization interested in promoting similar energy-efficient technologies and practices."

## **B.** The Commission also should consider customer satisfaction with utility LIURP and Act 129 programs

In deciding whether or not to adopt new training standards, the Commission should consider customer satisfaction with current LIURP and Act 129 weatherization programs. PECO's LIURP customers have been satisfied consistently with CMC Energy's workmanship. During the entire nineteen-year period that PECO has been contracting with CMC Energy only two incidents arose where customers felt the need to elevate workmanship complaints. Both

instances settled without the need for trial. Two complaints, out of approximately 90,000 homes weatherized, on average, over a ten year period, reveal continued customer satisfaction. PECO does not believe that adopting WAP training standards would significantly impact customer satisfaction. Since PECO's weatherization vendor has exhibited excellence without the WAP standards, PECO sees no reason to make the change.

#### **CONCLUSION**

PECO recommends that BPI's training standards should be the focus of any training standards adopted by the Commission. In the alternative, PECO recommends adopting standards that allow a utility to choose training methods developed by an established weatherization training entity such as BPI. PECO further recommends that the Commission should not adopt new training standards without empirical evidence to prove that the associated cost impacts are worthwhile.

Respectfully submitted,

Michael S. Śwerling Counsel for PECO Energy Company 2301 Market Street, S23-1 P.O. Box 8699 Philadelphia, PA 19101-8699 Direct Dial: 215.841.4220 Fax: 215.568.3389 michael.Swerling@exeloncorp.com Dated: April 1, 2010

#### APPENDIX A

#### **BPI Training Standards**

#### Building Analyst Professional Courses:

To obtain a BPI Building Analyst Professional Certification, candidates must undergo the

following curriculum:

- 1) Building Science (Fundamentals);
- 2) Buildings and their Systems (Fundamentals);
- Measurement & Verification of Building Performance (Fundamental/Application);
- BPI National Standards and Project Specifications (Fundamentals/Applications);
- 5) Analyzing Building Systems (Fundamental/Applications); and
- 6) Professional Ethics, Conduct and Communication (Fundamentals).

#### Building Analyst Professional Subject Matters Covered:

The courses cover the following subject matters:

- 1) Energy Transformation and Heat Flow;
- 2) Comfort and Climate;
- 3) Converting Energy for Home Use;
- 4) BTU, kWh and Therms;
- 5) Energy Audits;
- 6) Building Performance Goals;
- 7) Identifying Thermal Flaws in the Shell and Envelope;
- 8) Defining the Thermal-Boundary and Air Barrier;
- 9) Insulation Installation Fundamentals;
- 10) Air Sealing Fundamentals;
- 11) Health and Safety;
- 12) Air Leakage Testing;
- 13) Air Sealing Strategies;
- 14) Blower Door Principles;
- 15) Preparing for a Blower Door Test;
- 16) Blower Door Test Procedures;
- 17) Evaluating Ventilation;

18) ASHRAE 62-89 Requirements;

19) When not to Air Seal;

20) Air Sealing Materials;

21) Sealing Major Air Leaks and Bypasses;

22) Insulation Safety Procedures;

23) Attic Insulation;

24) Wall Insulation;

25) Floor and Foundation Insulation;

26) R-Values for Common Materials;

27) Calculating Loose-Fill Attic Insulation;

28) Window Repair and Air Leakage Reduction;

29) Window Shading;

30) Window Energy Specifications;

31) Installing Replacement Windows;

32) Door Replacement;

33) Door Repair;

34) Commitment to Safety;

35) Respiratory Health;

36) Hazardous Materials; and

37) Tool Safety.

#### Building Analyst Professional Field Demonstration and Training:

All candidates must complete two days of field training, which includes a field demonstration. Pursuant to the demonstration, candidates observe how the home is prepared for depressurization to perform a blower door test. The blower door is set up while accounting for combustion and carbon monoxide safety. Combustion Appliance Zone ("CAZ") testing is performed to ensure that combustion appliances are functioning properly, and that pressures within the dwelling allow for adequate ventilation. Zonal pressure and pressure pan diagnostics are performed to determine what leaks are in the home and duct work. Candidates learn what sites to seal and witness actual air sealing. Candidates also observe insulation preparation and how to repair or replace windows. Finally, candidates watch an inspection for hazardous materials and what to do if discovered.

In addition, candidates accompany experienced auditors in the field as part of a mentoring process. The energy audit test, required for certification, consists of an actual home energy audit in the field. The test also includes health and safety sections.

#### Analyst Professional Examinations:

To obtain a BPI Building Analyst Professional Certification, a candidate must take one of the following test options. The candidate either must:

1) take the 100 question test and the field examination;

or

2) take a 50 question test plus a field examination with proof of a HERS certification.<sup>10</sup>

The only real difference between these options is a 50 question test as opposed to a 100 question test.

#### Envelope Professional Courses:

To obtain a BPI Envelope Professional Certification, candidates must know the following

subject matters:

- 1) Building Science (Intermediate);
- 2) Envelope Systems and Interaction with Other Building Systems (Intermediate);
- 3) Measurement and Verification of Building Performance (Intermediate Knowledge and Application);

<sup>&</sup>lt;sup>10</sup> HERS stands for Home Energy Rating System which is a standard measurement of the home's energy efficiency. An energy rating allows a home buyer to easily compare the energy costs for the homes being considered. The Residential Energy Services Network or RESNET performs home energy ratings and certifies individuals to perform such ratings.

- 4) BPI National Standards and Project Specifications (Intermediate Knowledge and Application);
- 5) Optimizing Installation, Operation and Maintenance of Envelope Systems (Fundamentals/Application); and
- 6) Professional Ethics, Conduct and Communications (Fundamentals).

#### Envelope Professional Subject Matters Addressed:

The courses cover the following subject matters:

- 1) Energy Transformation and Heat Flow;
- 2) Energy Comfort and Climate;
- 3) Converting Energy for Home Use;
- 4) BTU, kWh and Therms;
- 5) Energy Audits;
- 6) Building Performance Goals;
- 7) Identifying Thermal Flaws in the Shell and Envelope;
- 8) Defining the Thermal Boundary and Air Barrier;
- 9) Insulation Installation Fundamentals;
- 10) Air Sealing Fundamentals;
- 11) Health and Safety;
- 12) Air Leakage and Duct Leakage Testing;
- 13) Air Sealing and Duct Sealing Strategies;
- 14) Blower Door Principles;
- 15) Preparing for a Blower Door Test;
- 16) Blower Door Test Procedures;
- 17) Evaluating Ventilation;
- 18) ASHRAE 62-89 Requirements;
- 19) When not to Air Seal;
- 20) Air Sealing Materials;
- 21) Sealing Major Air Leaks and Bypasses;
- 22) Insulation Safety Procedures;
- 23) Attic Insulation;
- 24) Wall Insulation;
- 25) Floor and Foundation Insulation;
- 26) R-Values for Common Materials;
- 27) Calculating Loose-Fill Attic Insulation;
- 28) Window Repair and Air Leakage Reduction;
- 29) Window Shading;
- 30) Window Energy Specifications;
- 31) Installing Replacement Windows;
- 32) Door Replacement;
- 33) Door Repair;

- 34) Commitment to Safety;
- 35) Respiratory Health;
- 36) Hazardous Materials; and
- 37) Tool Safety

#### Envelope Professional Field Demonstration and Training:

All candidates must complete two days of field training, which includes a field demonstration. Pursuant to the demonstration, candidates observe how the home is prepared for depressurization to perform a blower door test. The blower door is set up while accounting for combustion and carbon monoxide safety. Combustion Appliance Zone ("CAZ") testing is performed to ensure that combustion appliances are functioning properly, and that pressures within the dwelling allow for adequate ventilation. Zonal pressure and pressure pan diagnostics are performed to determine what leaks are in the home and duct work. Candidates learn what sites to seal and witness actual air sealing. Candidates also observe insulation preparation and how to repair or replace windows. Finally, candidates watch an inspection for hazardous materials and what to do if discovered.

In addition, candidates accompany experienced auditors in the field as part of a mentoring process. The energy audit test, required for certification, consists of an actual home energy audit in the field. The test also includes health and safety sections.

#### Envelope Professional Examinations:

To obtain a BPI Envelope Professional Certification, a candidate must take one of the following test options. The candidate either must:

3) take the 100 question test and the field examination; or

4) take a 50 question test plus a field examination with proof of any other BPI certification.

Again, the only real difference between these options is a 50 question test as opposed to a 100 question test.

#### Penn College Training Standards

#### Accelerated Certification:

Accelerated certification is available to incumbent WAP workers.<sup>11</sup> A candidate may

obtain accelerated certification in one of three ways<sup>12</sup>:

- Certification by mail will be granted to experienced workers that have completed Weatherization Training Center courses or equivalent courses and have performed approved weatherization procedures on at least 24 properties. These candidates may submit an application along with a letter from their employer verifying their successful procedures at 24 properties. If their application is approved, the Weatherization Training Center will send a certification by mail.
- Certification awaiting course completion will be granted to experienced workers that have not completed the required training courses. These candidates can "test out" by taking a written examination and performing limited procedures at the Training Center's laboratory.
- Certification without any prior course attendance will be granted to experienced workers that have never completed any weatherization training courses. These candidates must complete a four day condensed course available to installers and crew chiefs.

#### Normal Certification:

Candidates new to the industry and that lack industry experience must take the full

curriculum offered by the Weatherization Training Center or an approved training operation.

#### Auditor Courses:

Auditors in training must take the following courses:

1) *Diagnostic Approaches to Weatherization* –students learn to use a blower door to test air leakage and about the principles of air leakage and tightening.

<sup>&</sup>lt;sup>11</sup> Pennsylvania's Weatherization Training Plan.

<sup>&</sup>lt;sup>12</sup> Id.

- 2) Advanced Weatherization Diagnostics students learn to evaluate pressure imbalances of forced air systems and to detect air and duct leaks.
- 3) Introduction to Residential Heating Systems students learn the fundamentals of residential heating systems.
- 4) Combustion Analysis and Retrofit (Oil) students learn about oil fired combustion tests and recommended retrofits.
- 5) *Combustion Analysis and Retrofit (Gas)* students learn about gas fired combustion tests and recommended retrofits.
- 6) *Home Energy Auditing* students learn home energy auditing techniques and apply them in lab exercises.

#### Installer Courses:

Installers in training must take the following courses:

- 1) *Weatherization Tactics* students learn the theory, methods, and techniques for installation of weatherization materials such as caulking and insulation.
- 2) Lead Safe Work Practices students learn about the hazards of exposure to lead based paint.
- 3) *Weatherization Crew Safety* students will learn the value of safety in performing weatherization work.

#### Field Training:

None.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

#### TRAINING CERTIFICATION FOR WEATHERIZATION INSTALLATIONS AND AUDITS

: DOCKET NO. M-2010-2152691

#### CERTIFICATE OF SERVICE

:

I hereby certify that I have this date served a true copy of the enclosed **Comments of PECO Energy Company on Standardizing Weatherization Training and Certification** electronically upon the individuals listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

Scott Gebhardt Energy Program Specialist sgebhardt@state.pa.us David Mick, Supervisor Energy Policy and Compliance dmick@state.pa.us

Stephanie Wimer Assistant Counsel stwimer@state.pa.us

Michael S. Swerling Counsel for PECO Energy Company <u>michael.swerling@exeloncorp.com</u>

Dated: April 1, 2010

RECEIVED

APR 01 2010

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU



#### After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.

2. Fold the printed page along the horizontal line.

3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.