The Department of Energy’s Weatherization Program: Taxpayer Money Spent, Taxpayer Money Lost

STAFF REPORT

U.S. HOUSE OF REPRESENTATIVES

112TH CONGRESS

March 20, 2012
Executive Summary

The Department of Energy’s (DOE) $5 billion Weatherization Assistance Program is a stunning example of how the Obama Administration has wasted billions of taxpayer dollars in a misguided effort to achieve energy savings but ultimately commissioning work that put people’s lives and homes at significant risk. The Weatherization Program, as administered by Energy Secretary Steven Chu, has resulted in excessive waste, fraud, and abuse of taxpayer dollars with very little benefit to show for it.

The Weatherization Program represents the kind of failure that materializes when you have an economic stimulus strategy contingent on asking the federal bureaucracy to absorb billions of dollars when the structural infrastructure to administer, disseminate and manage that influx of new money is not put in place. This report reveals how the Weatherization Program has suffered from poor administration and lack of effective oversight, which resulted in the hiring of unqualified subcontractors who performed shoddy work that left homeowners worse off.

Secretary Chu referred to this program as “one of our signature programs” and President Obama stated it was “exactly the kind of program that we should be funding.” The reality is this program is the signature example of how the Obama Administration’s government-first philosophy has resulted in significant waste of taxpayer dollars and brought very real material harm directly into the homes of the American people.

This report details how DOE contractors left exposed wires in a home, installed windows that were easily pushed out of their frames, left a home with raw sewage standing in a crawl space, sealed a basement that accumulated mold and cat feces, left a hole in a wall, damaged a ceiling, replaced a door with a hollow door and left a house with an unvented kerosene heater.

The reality is the rush to blindly spend billions of taxpayer dollars resulted in organizations with no previous experience weatherizing homes receiving contracts. Entities like the African Heritage Center for African Dance and Music and Prosperity Media Inc. received grants despite not having any previous experience to justify receiving millions of taxpayer dollars.

The stunning lack of oversight of this program by DOE created a situation where no one was checking the quality of the work performed, allowing poor workmanship to go undetected and undeterred. Many DOE contractors did not do the work promised by DOE and many of them actually damaged homes, created hazards and actually made houses less energy efficient. Even the Inspector General for the DOE said the weaknesses of the program “pose health and safety risks to resident.”
Introduction

In February 2009, President Obama declared, “We’re going to weatherize homes, that immediately puts people back to work and we're going to train people who are out of work, including young people, to do the weatherization. As a consequence of weatherization, our energy bills go down and we reduce our dependence on foreign oil. What would be a more effective stimulus package than that?” However, evidence gathered by the Committee on Oversight and Government Reform suggests that the Department of Energy’s (DOE) Weatherization Assistance Program (Weatherization Program) is a stunning example of a management failure which has wasted billions of dollars, done little to achieve energy savings, and may have put people’s lives and homes at risk. With some states exhibiting a failure rate 80% (12 out of every 15 homes fail inspection) due to substandard workmanship, this program is far from being a shining example of what the government can do for its citizens. The Weatherization Program, as administered by Energy Secretary Steven Chu, has resulted in excessive waste, fraud, and abuse of taxpayer dollars with very little benefit to show for it.

In an effort to jump start the economy and create jobs, President Obama advocated for the American Recovery and Reinvestment Act (the “stimulus”). Under this law, DOE received $41.7 billion to allocate to loan and grant recipients. These funds were to be spent quickly in hopes of creating government sponsored jobs. The Weatherization Program received $5 billion of DOE’s stimulus money, a 2,000% increase over the prior year, which was to be spent on the weatherization of 600,000 homes. The Weatherization Program’s previous annual allocation was only $225 million. At a hearing before the Committee in November, the DOE Inspector General described pushing this much money through the weatherization program as being akin to hooking up a garden hose to a fire hydrant.

Providing federal funds to weatherize homes of the economically disadvantaged is not a new concept. This practice was first authorized under the Energy Conservation and Production Act of 1976 (“ECPA”), with the goal of mitigating the pain of high energy prices for low income households. Between 1976 and 2008, the Weatherization Program had funded the weatherization of approximately six million homes. This program had been administered on a small scale using known subcontracting partners for over three decades. Within six months of

3. Id.
4. Id.
7. Id.
ARRA passage, all fifty-eight grantees received massive increases in funding, exceeding most grantees’ prior Weatherization Program budgets by an order of magnitude.\textsuperscript{8} Despite the massive surge in WAP spending, DOE failed to adequately ramp up its oversight of this program.

Through the Weatherization Program, DOE awarded large sums of money to state-level entities, who in turn hired sub-grantees responsible for much of the work. Often the sub-grantees contracted the work out to a third party, after subtracting an administrative fee. In too many cases, these sub-grantees received little or no supervision, and therefore ignored program goals and conducted haphazard work. But beyond the poor value obtained by the expenditure of taxpayer dollars, in some cases poor workmanship may actually have endangered the health and safety of the individuals whose homes were weatherized.

Building on the prior work of the DOE Inspector General (IG) and the Government Accountability Office, this report explores the ways in which the Weatherization Program has failed to accomplish its mission, while succeeding in wasting billions of taxpayer dollars.

\textbf{Weatherization: A Failed Anti-Poverty Program}

“The nine most terrifying words in the English language are, ‘I’m from the government and I’m here to help.’”
--Ronald Reagan, August 12, 1986

During an interview with CBS News in his first few weeks in office, President Obama stated that “we’re going to weatherize homes; that immediately puts people back to work…as a consequence of weatherization, our energy bills go down and we reduce our dependence on foreign oil. What would be a more effective stimulus package than that?”\textsuperscript{9} The Administration’s focus on weatherization has continued over the past three years. In August 2010, Vice President Biden traveled to New Hampshire to tour a weatherized house and announce that DOE contractors had weatherized 200,000 houses to date.\textsuperscript{10} Energy Secretary Steven Chu also labeled weatherization as “one of our signature programs.”\textsuperscript{11}

DOE’s web site for the Weatherization Program asserts that the program “enables low-income families to permanently reduce their energy bills” by an average of around $437 annually.\textsuperscript{12} In an op-ed in the \textit{Huffington Post}, Secretary Chu argued that the $5 billion in funding for weatherization through the stimulus would help “low-income families who are hit

\textsuperscript{8} U.S. DEP’T OF ENERGY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY WEATHERIZATION AND INTERGOVERNMENTAL PROGRAM, MONITORING PLAN FOR WEATHERIZATION ASSISTANCE PROGRAM STATE ENERGY PROGRAM ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANTS (Aug. 14, 2009) [hereinafter Monitoring Plan].
\textsuperscript{9} Couric, supra note 1
\textsuperscript{11} Id.
hardest by high utility bills” by “putting money back” in their pockets.13 Energy Secretary Chu even teamed up with Housing and Urban Development (HUD) Secretary Shaun Donovan to sign a Memorandum of Understanding to allow DOE and HUD to work together closely “to streamline and better coordinate federal weatherization programs” and make it easier for people living in public housing to have their homes weatherized.14

Cathy Zoi, former Assistant Energy Secretary for Energy Efficiency and Renewable Energy, summed up the Administration’s vision for weatherization:

Right now across the country, folks are getting a knock at the door from someone who is going to make their lives and homes better. As part of the Weatherization Assistance Program, low-income families are having their homes tuned up by energy experts. These weatherization ‘tune-ups’ are improving comfort and saving money for householders from Florida to Utah, from Maine to Arizona—and every state in between.15

On paper, this program seems sound in theory. With a one-time investment by the government, lower income households receive the benefit of a more energy efficient home that will cost less to heat in the winter or cool in the summer. As a result of this investment, low income households will save on utility bills years into the future, freeing up scarce dollars to pay for other household needs. In theory, the federal government could potentially reduce other anti-poverty spending over the long run (such as heating assistance) because of the investment made in weatherization spending.

However, since the influx of stimulus dollars, the Weatherization Program has suffered from poor administration and lack of effective oversight, which led to the hiring of unqualified subcontractors who performed shoddy work. For many of the recipients, the DOE contractor who showed up at their door did not “make their lives and homes better,”16 and in most cases even left the homeowner worse off.

The Promise of a Newly Weatherized House Turns into a Nightmare for Many

It appears that DOE’s failure to put in place effective oversight mechanisms in the Weatherization Program created a situation where no one was checking the quality of the work performed, allowing poor workmanship to go undetected and undeterred. As a result, many DOE contractors did not do the quality work that DOE promised, and many DOE contractors actually damaged houses, created new hazards, or made houses less energy efficient. This

16 Id.
concern is echoed by DOE’s IG. After spending nearly two years auditing the Weatherization Program stimulus spending, the DOE IG, Gregory Friedman, testified before Congress that the program suffers from significant problems relating to workmanship quality, cost controls, and performance monitoring of grantees and contractors. The IG also reported that weaknesses in the Weatherization Program sometimes “pose health and safety risks to residents, hinder production, and increase program costs.”

The IG reports reveal how sub-grantees’ poor workmanship impeded the program’s ability to provide an actual benefit to recipients. Friedman testified that substandard work caused 9 of 17 weatherized homes in Illinois to fail inspections (53% failure rate). The IG noted that in some states, the failure rate was as high as 12 out of 15 homes in the program that failed subsequent inspection due to substandard workmanship (80% failure rate).

According to the IG, the core problem was lack of accountability within the WAP program. For example, sub-grantees – those groups hired by the states to perform the weatherization services – needed proper training before they began to provide the services. However, the grantees – the states – faced immense pressure to hire new staff quickly to meet weatherization deadlines. As a result, auditors found that the “rapid expenditure of Recovery Act funds prevent[ed] the normal learning curve for new auditors and contractors.” As such, states failed to uniformly train contractors, assessors, and inspectors, which predictably resulted in substandard work and program waste. The losers were the American taxpayer, who funded shoddy work, and the recipients, who in some cases were left worse off.

The Committee’s investigation independently examined DOE monitoring reports, which were conducted by a third party auditor, and uncovered a troubling pattern of low quality or even potentially dangerous work product in the homes of low income Americans. A small sample of examples contained in this report include:

- DOE contractors in Alabama sprayed insulation on wires in a furnace compartment in a legally blind woman’s kitchen in a way that could have caused a fire.

- DOE contractors in Kentucky left exposed spliced wires posing the risk of electrocution to the home’s inhabitants.

---

17 Friedman Oversight Hearing, supra note 5.
19 Id.
20 Id.
21 Id.
22 Id.
24 See exhibits below.
• DOE contractors in Arkansas installed windows in a home in such a shoddy way that they could easily be pushed out of their frames, creating a potential hazard for small children.26

• DOE contractors in New York weatherized a basement without addressing major health hazards. According to a monitoring report: “basement extensively air sealed in spite of possible mold and large, obviously long-standing accumulation of cat feces in basement sump hole.”27

• DOE contractors in Massachusetts chiseled a large hole into an interior wall to insulate it. Rather than fix the problem they had created inside of a house, the contractors left the huge hole in the wall.28

• DOE contractors in New York damaged the interior kitchen ceiling of a house in such a way that parts of the ceiling were stained and other parts fell down.29

• DOE contractors in Tennessee did such a poor job weatherizing a home that the homeowner had to use rags to plug holes under the sink and around three doors where air leaked into the home and negated any weatherization energy efficiency savings.30

• DOE contractors in North Carolina left a house with an unvented kerosene heater and created a potential carbon monoxide hazard.31

These stories are just a small sample of the failures of the Weatherization Program. In many situations, the homeowners had no way of knowing that the contractors had done substandard work or had created health hazards in their home. In some cases, DOE auditors inspected the homes weeks or months later and only then discovered these significant problems.32 Even when contractors had advanced warnings of inspections, these egregious problems were still left unresolved, only to be discovered after the fact by an auditor. Ultimately, the homes discussed in this report only represent a small fraction of homes weatherized through the program, as DOE auditors only inspected a very small fraction of weatherized homes.33 Given the large size of WAP and the speed with which funding was expended by DOE and state grant recipients, it is likely that thousands of other problems and hazards have yet to be discovered and corrected in weatherized homes. Furthermore it is unclear if the conditions described above have subsequently been remedied by DOE since documented.

25 Id.
26 Id.
27 Id.
28 Id.
29 Id.
30 Id.
31 Id.
33 Id.
Factors that Lead to DOE’s Mismanagement of the Weatherization Assistance Program

The dramatic increase in funding for the Weatherization Program altered the framework of the program in ways that encouraged grantees and sub-grantees to mismanage funds. Dramatic increases in dollars in the system as a whole and on a per unit basis created incentives for wasteful spending. Early distribution of stimulus funds removed incentives for grantees to meet DOE goals, and a lack of monitoring and oversight encouraged poor workmanship. Finally, the pressure to rapidly distribute funds forced states to look beyond qualified sub-grantees, and to rely on non profit programs that had no prior experience to help administer the program. Instead, the management and distribution of weatherization funds created the perfect storm that led to widespread failures in the program.

Dramatic Increase in Weatherization Funds

The Recovery Act more than doubled the amount of funds available to renovate a single unit, increasing per unit limits from $2,500 to $6,500. It is questionable whether this amount of money was necessary to fully weatherize the average home. The steep increase in per unit funding predictably created an incentive for grantees and sub-grantees to spend more money than was necessary. In some cases, the additional measures funded under the per unit allocation failed to increase a unit’s energy efficiency in a cost effective manner. While $6,500 was available for each unit, DOE reported spending an average of $4,900 to weatherize a single unit in September 2011. But in California, state auditors determined that most homes could be weatherized for $3,600 (and often less). Accordingly, California pushed sub-grantees to use the surplus funds to weatherize more units. Minnesota and Oregon also made an official determination that weatherization services cost less than DOE appropriated. Accordingly, the generous allocation on a per unit basis created an incentive for waste.

In 2009, the Weatherization Program received $5 billion of DOE’s stimulus money, a 2,000% increase over the prior year, which was to be spent on the weatherization of 600,000 homes. The overall increase in funding also increased the opportunities for wasteful spending. For instance, a Missouri audit revealed one sub-grantee used nearly $400,000 in funds to purchase 24 more vehicles than needed to reach Missouri’s planned goal. The sub-grantee claimed both the state and DOE approved the acquisition of vehicles based on the amount of

---

36 GOV’T ACCOUNTABILITY OFFICE, GAO-12-195, PROGRESS AND CHALLENGES IN SPENDING WEATHERIZATION FUNDS (2011) [hereinafter GAO Report].
37 Id.
38 Id.
39 Id.
40 Id.
41 Missouri Audit, supra note 23.
projected staff and usage.\textsuperscript{42} However, the IG found that the vehicles had been driven less than an average 100 miles each per week (i.e. about 2 hours a week per vehicle).\textsuperscript{43} The flood of money into the weatherization program clearly created an opportunity for unscrupulous subcontractors to spend more than necessary to meet the program goals.

\textit{Perverse Incentives}

At the outset, DOE management of stimulus funds for the Weatherization Program created a perverse incentive for grantees to not reach project goals. DOE implemented a three-year project period for grantees that ends March 31, 2012,\textsuperscript{44} and announced a goal to weatherize approximately 600,000 homes before the project ended. Before collecting funds to start the project, grantees had to submit a Weatherization Program Recovery Act plan to DOE. DOE’s project plans implemented two 50 percent disbursements to grantees. After DOE approved a grantee’s Weatherization Program Recovery Act plan, they scheduled the first disbursement. By the end of 2009, DOE approved each grantee’s Recovery Act weatherization plans and distributed 50 percent of the allocated funds.\textsuperscript{45} The second and final disbursement of Recovery Act funds to grantees, however, required a grantee to complete only thirty percent of its approved weatherization plan.\textsuperscript{46} Accordingly, DOE’s disbursement plan enabled a grantee to take all three years just to reach thirty percent completion, yet the grantee still received all of its allotted Recovery Act funds. Furthermore when the subcontractors are paid with taxpayer money no incentive exists to produce adequate work product. This disbursement plan did not produce the weatherization rates DOE anticipated and as of March 2011, two years into the project, only 44 out of 58 of the grantees had reached thirty percent completion.\textsuperscript{47}

In instances where grantee states reached its Weatherization Program stimulus goal, DOE Inspector General (“IG”) audits demonstrate that grantees circumvented or violated guidelines to meet their quota. For example, Tennessee reached its program goal of 10,500 homes; however, audits reveal seventy percent of homes inspected did not meet DOE standards and sixty-five percent of homes violated state directives.\textsuperscript{48} As a result, the State Auditor questioned Tennessee’s use of $371,770 in Weatherization Program Recovery Act funding.\textsuperscript{49}

\textit{WAP Oversight and Monitoring System}

Although the stimulus provided unprecedented funding for the Weatherization Program, the Administration failed to put in place sufficient mechanisms to monitor and oversee the disbursement of billions of taxpayer dollars. The Committee tried to obtain all monitoring reports

\textsuperscript{42} Id.
\textsuperscript{43} Id.
\textsuperscript{44} Monitoring Plan, supra note 8.
\textsuperscript{45} Id.
\textsuperscript{46} Id.
\textsuperscript{47} GAO Testimony, supra note 2.
\textsuperscript{48} Tennessee Audit, supra note 18.
\textsuperscript{49} Id.
conducted by DOE in order to review the agency’s due diligence. However, DOE provided very few actual audits and instead delivered to the Committee work done by Simonson Management Services, a contractor DOE hired to assist with DOE audits. This distinction is important because the Committee tried, for months, to obtain complete information regarding DOE monitoring to no avail. The Committee has not been able to determine the extent of DOE’s monitoring work outside of the IG’s audits.

Evidence gathered by the Committee does suggest that states did a poor job of meeting program monitoring requirements. On the state level, DOE advised grantees to monitor each sub-grantee once a year, to inspect five percent of completed units a year, and to submit their findings in a report to DOE. Grantees, however, frequently ignored their obligations to conduct inspections. In Ohio, for example, the state failed to inspect five percent of weatherized homes because Ohio’s WAP budget quadrupled and the state had insufficient staff to keep up with inspections. But even grantees that did conduct inspections did a poor job. According to a Tennessee state audit, local agencies had passed 28 homes that should have failed. In Missouri, IG audits revealed 11 of 20 homes, or 55 percent, failed final inspections in cases where the state had initially rated the work as acceptable. Furthermore, failure to re-inspect homes revealed another problem with sub-grantee monitoring. In Ohio, for example, the state required sub-grantees to follow up with 25 percent of all weatherized units, but auditors found only three percent of homes had a documented follow-up inspection.

Another example of failed oversight is the program’s inability to track past recipients of weatherization services, who would have been ineligible under this program. Prior to ARRA enactment, homes that had already received weatherization services were ineligible for future weatherization services. However, ARRA expanded eligibility to include homes weatherized before September 30, 1994. In order to implement this change, federal regulations required each grantee and sub-grantee to maintain records of the homes that had received weatherization services in the past. Despite these regulations, the IG audits revealed numerous instances where states kept poor track of homes that had already been weatherized. Indiana, for instance, weatherized homes that were most likely ineligible due to past assistance because the state only began keeping a record of weatherization services after 2000. In Tennessee, the state did

50 See Letter from the Hon. Darrell E. Issa, Chairman, H. Comm. on Oversight and Gov’t Reform, to Steven Chu, Sec’y, U.S. Dep’t of Energy (Sep. 9, 2011) (on file with author).
51 Id.
52 Eggert & Caruso, supra note 32.
53 Id.
54 Tennessee Audit, supra note 18.
55 Missouri Audit, supra note 23.
58 Id.
59 Id.
60 Id.
61 Id.
maintain a Weatherization Program database of homes previously weatherized, but auditors found sub-grantees gave weatherization services to ineligible homes regardless of their eligibility status. 62 Even in cases where homes had never received weatherization services, auditors identified sub-grantees that were providing weatherization services to homes ineligible for service. Specifically, the IG testified that “one sub-recipient gave preferential treatment to its employees and their relatives for weatherization services over other applicants, thus disadvantaging eligible elderly and handicapped residents.”63

_Dubious Sub-grantees_

Because the Stimulus Act flooded the existing weatherization infrastructure with billions of additional taxpayer dollars that needed to be spent on an expedited basis, grantees had to look beyond sub-grantees that met the standards set by a federal statute, such as cities, counties, community service centers, and housing services organizations. As a result, organizations with no previous experience weatherizing homes received contracts to weatherize homes and significantly increased the probability of mismanagement of taxpayer dollars. The Weatherization Program grants often dwarfed these organizations’ primary operating budgets and introduced a new administrative burden of responsible monitoring for sub-grantees, including monthly reports, records of expenses, and whatever additional records the DOE deemed necessary. 64 A survey of grantees in 2009 reported that 90% found complying with federal reporting requirements “challenging.”65

One unusual WAP recipient is the African Heritage Center for African Dance and Music organization (“Heritage Center”) and Prosperity Media Inc., both located in Washington D.C.. 66 Each organization received nearly one million dollars through WAP in late 2011.67 Melvin Deal, Director of the Heritage Center, claims that his organization is a “natural fit” for WAP: “The Greening of America has to be led by people with artistic and flexible minds…money is not something that excites us. Our art excites us.”68 Deal’s statement raises many questions; among them is whether an artistic perspective is a sufficient qualification for an organization tasked with dispersing nearly one million dollars of taxpayer funds. There does not seem to be any other reason why this group should be eligible for distribution of weatherization funds. Without a demonstrated base of knowledge for administering the weatherization assistance program, the wisdom of putting these groups in charge of millions of taxpayer dollars is highly questionable.

In addition to these administrative challenges, it appears that the general lack of experience among new sub-grantees also contributed to poor workmanship. For example,
inexperienced sub-grantees also exercised poor decision-making and commonly failed to purchase reasonably priced home-improvement materials, contrary to state policies. For example, Tennessee instructed sub-grantees to avoid replacing windows and doors, but the IG audit revealed sub-grantees spent approximately $40,000 replacing those items. Tennessee’s audit also questioned about $100,000 in spending not deemed cost-effective. In New York, 13% of purchases auditors randomly sampled violated the New York Weatherization Program Policies and Procedures Manual because they failed to obtain the necessary price quotes. In Ohio, auditors questioned $70,080 in stimulus funds after they discovered one sub-grantee procured weatherization materials, equipment, and services without conducting any cost-analysis. Where a sub-grantee needed to purchase common items such as smoke alarms, thermostats, and fire extinguishers, auditors revealed they used stimulus funds to purchase the items at costs exceeding retail by as much as 200 percent. More speculative spending took place in Indiana where 22 of 23 homes sampled by IG auditors had received work by contractors who billed over $8,000 for “special circumstance charges” not included on the price list. One of the “special circumstance charges” included a $350 draft inducer motor that on retail sells for only $75. Clearly, the reliance on inexperienced sub-grantees came at a significant cost to the program in terms of efficacy, customer satisfaction, and simple waste of taxpayer dollars.

Documented Evidence of Failures of the Weatherization Assistance Program

This section includes a sampling of the photographic evidence the Committee has obtained documenting the numerous failures of the Weatherization Program. This section highlights examples of weatherization work that led to health hazards, is an example of shoddy workmanship, or is simply a waste of taxpayer dollars. The images used in this section come from Technical Assistance Reports (TARS), compiled by Simonson Management Services (SMS), a company that received a contract from DOE to help with the monitoring of weatherization projects. The TARS highlighted both above average and substandard weatherization work across the country as it was performed by numerous sub-grantees. While the Committee believes the public has a right to know about the numerous examples of shoddy workmanship reported in the TARS, it is important to note that the Committee does not have information connecting the work shown below with particular subgrantees.

70 Tennessee Audit, supra note 18.
71 Id.
72 Action for a Better Community Report, supra note 34.
73 Dayton Area Report, supra note 56.
74 Friedman Energy Hearing, supra note 71.
75 Indiana Audit, supra note 57.
76 Id.
77 SIMONSON MGMT. SERV., TECHNICAL ASSISTANCE REPORTS (2012).
This section groups the images by type of problem (e.g., electrical hazards). Committee staff composed the descriptions that introduce each type of problem; the descriptions contained inside of each picture box come directly from the TARS monitoring reports.

**Electrical Hazards**

The following series of images feature examples of electrical hazards left in place by subcontractors. The pictures display various electrical shock hazards and unprotected spliced wires in contact with insulation creating a fire hazard.
Uncovered electrical junction box

Unit #6, Job Identifier ARRA-A-901, open electrical panel box.

Unit #2, Job Identifier ARRA-C-199, exposed spliced wires

Unit #6, Job Identifier ARRA-A-901, exposed spliced wires in attic.
Unvented Gas Heaters

The following series of images features numerous examples of unvented gas heaters observed in residents’ homes. Unvented heaters release combustion byproducts into homes including carbon dioxide, carbon monoxide, and sulfur dioxide. The residents are at risk of carbon monoxide poisoning.  

Left: unvented gas space heater left for back up heat. Right: in same room, new window heat pump and vented wood stove.

An unvented gas heater is observed in the bathroom.

An unvented gas stove remains unvented post-weatherization. This could be a health & safety issue.

Unvented gas fireplace, CO detector resting on mantle, not installed.

Ventless kerosene heater in living room.
Dangerous Hot Water Heaters

The follow series of images illustrates dangerous hot water heater installations. The images include examples of insulation installed too close to the exhaust vent creating a fire hazard, examples of poor craftsmanship installing insulation, examples of pressure relief valves not in place, and examples of exposed electrical wiring to hot water heater.

Fire hazard where HWT jacket was installed too close to vent

DHW pipe insulation was dangerously close to heat source. Proper clearance was ensured during site visit.
CAA installed pressure relief valve on domestic hot water tank. – No discharge tube as required by national plumbing code.

Tank wrap installed over pressure relief valve. Impossible for valve to “blow-off” – very dangerous.

DWH installed in master bedroom closet by WX. Relief valve open near clothing, poor quality workmanship for this electrical and plumbing on this measure (above and below).
Tank wrap is unprofessionally installed.

A hot water tank is observed to be poorly insulated once the exterior closet door was opened.

This is a picture of several batts of insulation jammed around the water heater.
Open Ended Gas Lines

The images below capture an open ended gas line attached to a propane tank outside the resident’s home. There is no shut off valve visible on the interior end of the gas line. With no way of shutting off the flow of propane inside the home, a significant health hazard exists.
**Wasteful Expenditures**

Solar panels were installed on a resident’s home in New York, costing $17,453. Technician noted the roof of the structure will need to be replaced during the lifetime of the solar panels. The house itself is also noted to need overall weatherization measures including the replacement of a shattered window. The estimated savings calculated by onsite staff is estimated at $80 per month for this application; it will take approximately 27 years before the cost of installation is recaptured.\(^7^9\)

---

\(^{79}\)The above calculation is based on a discounted cash flow model that assumes a 3\% rate of inflation as the discount rate.
In the example below, DOE contractors spent $1,200 to weatherize a basement, but SMS personnel noted that they had not done the work that they had billed for and claimed to have done.
An example of a poorly installed air conditioner unit. The contractor did not seal the gaps around the unit and therefore failed to provide a barrier to the outside elements.
Non-Weatherization Expenditures that Misuse Taxpayer Money

DOE had guidelines for work that contractors could do with Weatherization Program funding. Weatherization Program funding could only be used for work that actually improved the energy efficiency of a home. Unfortunately, due to poor management of the program, many contractors did work using Weatherization Program money that did not improve energy efficiency and violated DOE rules. In this Rhode Island example, DOE contractors installed a grab bar in a shower that does not improve the energy efficiency of the home and violates DOE rules. Also in Kentucky the contractor installed siding on the residence with no justification.

Grab bar funded by WAP but is not an allowed cost.

Unit 3 – No file justification for replacing siding on home
Poor Craftsmanship and Shoddy Worksmanship

The next series of images demonstrate a variety of examples of poor craftsmanship or shoddy work. These examples range from work that endangered lives of inhabitants, work that damaged homes, and work that simply left a mess in the person’s house.

Creating a Fire Hazard in a Blind Woman’s House

The images below document poor craftsmanship weatherizing the home of a legally blind Alabama resident. The auditor notes sealing materials used by the contractor dirtying the food and canned goods in close proximity to weatherization measures. The technician also notes liberal use of foam sealer, used to insulate holes and piping. The foam is observed on wires in the resident’s furnace room creating the potential for the wires to overheat and become a fire hazard.

- It should be noted that the client is legally blind and is unaware of these conditions.
Not Venting Clothes Dryers Properly

The following images illustrate improper dryer venting. Dryers vented to locations inside the home cause interior moisture build up and dangerous conditions. All mobile homes require dryer venting to extend outside the perimeter of the structure. Examples of improper dryer venting include crushed dryer vents and dryer vents with no clear end destination.

---

Installing Solar Screens in Places that Do Not Have Direct Sunlight

The following images are examples of installed solar screens. The screens are designed to reduce heat created by direct sunlight contacting windows. Heat is reduced by reflecting direct sunlight, and dispersing heat between the window and screen. The screens are only effective in direct sunlight applications. The images below show solar screens installed under a shaded porch and on shaded sides of Florida homes rendering the screens ineffective.
Creating an Electrical Shock Hazard by Using Indoor Light Bulbs Outside

The following series of images document the improper use of Compact Fluorescent Bulbs (CFL). CFL that were not rated for wet locations were installed in exterior locations and increased the risk of electrical shock. In addition, the light fixture wiring is unsafe. Simonson Management Service developed a lighting training reference guide, shown below, because of the number of CFL violations observed.

Exterior light fixture with wrong CFL’s installed and non-functional sensor control.

Unsafe wiring connections are cause for deferral of lighting retrofit.
- **Lighting training:** (At the request of NETL, SMS will develop a lighting training reference guide as a starting point)
  - Several applications were observed where spiral CFL’s not rated for wet locations were installed in exterior, non-enclosed fixtures. Such installations may reduce the useful life of the bulb, cause malfunction, or create a safety issue.

  ![Image of a bulb with CAUTION label]

  **Wording on bulb reads:**
  "CAUTION: Risk of electrical shock. Do not use where directly exposed to water. Not for use in luminaries fixtures controlled by a dimmer or in totally enclosed recessed fixtures".

  - More than one Auditor recommendation suggested removal of the dimming capability of a lighting fixture. Installing dimmable CFL’s might be a more appropriate solution. Suggest recommending that contractors install dimmable CFL’s instead of removing dimmer switch.
Endangering Children’s Lives While Installing a Window

In the following image, a Simonson on site technician observed a second story window removed from the frame but not installed by on-site crew. The Simonson technician also observed small children playing in close proximity to open window frame without supervision. The contractor created a dangerous environment at the residence.
Leaving Appliances in the Homeowner’s Backyard

The onsite contractor did not remove the old water heater and refrigerator from this Florida resident’s property. Both items are left on residents back patio documented below.
Creating a Hazardous Situation with Cat Feces

In the images below, the contractor installed weatherstripping used to create a barrier to the elements when door is shut. However, the resident had cut a hole in the door for a cat to enter. The large hole renders the installed weatherstripping useless. Additionally, the contractor left a large amount of cat feces, leaving a potentially hazardous situation in the house.

New weatherstrip installed on door with "cat-port" hole partially covered with loose hanging piece of old carpet.

Open basement sump filled with cat feces.
Replacing a Window with Plywood and Foam

The following images document a resident’s windows replaced with plywood and foam board.
Installing a Faulty Air Conditioning Unit

Contractor installed new air conditioning unit incorrectly at this Florida residence causing the unit to malfunction and continue to cycle wasting electricity.

Newly installed air conditioning unit. Unit was malfunctioning upon arrival at dwelling. Unit was cycling on/off every 5 seconds. Agency staff contacted contractor.
Covering a Broken Window with Plastic

A broken window is overlooked in the image below. A replacement window should have been installed in this New Jersey residence.

A broken basement window which someone tried to cover with plastic. Note the large holes by the lower left corner of the window where bricks were crumbling. This window represents a large area of air infiltration which should have been addressed as part of weatherization.
Installing a Dryer Vent that Allows Critters to Enter the House

The image below documents a dryer vent installed inches from the ground making it vulnerable to being covered with snow or allowing an animal to enter the house.

Installed dryer vent kit installed very close to the ground in the skirting of the mobile home. This lends itself susceptible to critter access as well as being covered up by snow in the winter months.
Drilling a Hole in the Wall and Leaving it Untreated

Contractors made a hole in this Massachusetts resident’s wall when installing insulation. The contractor made no attempt to repair the hole.

Hole made in interior wall to blow insulation……left unrepaired.
Creating a Water Leak Inside a Home

This image captures poor craftsmanship repairing the ceiling damaged by a water leak from when the contractor pumped insulation into the ceiling.
Leaving a Large Gap Under the Door

A noticeable gap below a door is observed in the image below. The gap allows for significant outside air infiltration and caused the home owner to attempt to use rags to fix the draft problem.

A 3” gap is visible at the bottom of this door. This major source of air infiltration was not solved as part of the weatherization work performed. Rags that the client was continuing to use to block the draft are visible in the forefront.
Allowing Ice to Form Inside a Home

A line of ice formed on the interior wall of a residence in the image below. Weatherization measures did not fix this problem and demonstrate a missed opportunity for effective weatherization.

A line of ice is observed on the interior side near the bottom of this door. Towels used by the client to prevent drafts are observed on the floor by the door.
Not Fixing a Rickety Window

In this picture, a window in a weatherized home is falling apart, demonstrating shoddy workmanship.
Allowing Water to Pool Under a Home

In this example, DOE contractors installed a new ground cover for a home but their shoddy work allowed a large puddle to develop on top of it.
Installing an Outdoor Light that Prevents the Front Door From Shutting

In this example of shoddy work, DOE contractors did not replace an outdoor light fixture leaving a power cord running from inside the house to outside, preventing the front door from closing properly.
Leaving an Interior Water Leak Untreated

In this example, water stains and a hole in the ceiling indicate this weatherized home has a significant water leak in the main part of the house.

Water stains and a small hole in the ceiling are indicative of a water leak. This is a H&S issue that remains unresolved for this client.
Installing a New Window but Not Sealing it Properly

In this example, DOE contractors installed a new window in this home but did not properly seal it, and air continues to leak into the house, partially negating the energy efficiency improvements.

New window not trimmed out – Severe air leaks into cement block wall.
Leaving a Hole in the Ceiling

In this example below, DOE contractors did not repair a hole in the ceiling.

One of two holes in rear BR ceiling both ignored.
Caulking a Sink that Falls Apart

In this example, DOE contractors caulked an area under the sink to weatherize it but did such a shoddy job that the caulk fell through, minimizing the energy efficiency improvements of the work.

Air sealing around plumbing penetrations will not be effective without patching damaged areas like this under the sink. Was caulked but caulk fell through the large hole.
Causing Someone’s Bathtub to Fall

In this example, it is not clear exactly how it happened, but the TARS report notes that the homeowner’s bathtub dropped after weatherization work was done.

Tub dropped after Wx – new opening.