

# Health & Safety Guidelines for In-Premise and Customer-Facing Energy Efficiency Audits and Upgrades

## Applying to:

Residential (1-4 Units) Buildings  
Commercial & Industrial Buildings  
Multifamily Buildings (5+ Units)

### ❖ **Background:**

Throughout New England, many energy efficiency programs suspended field activities as directives were enacted by the governors in various states to stop the spread of COVID-19. Previous Health & Safety Guidelines were developed to detail recommended protocols for on-premise work outside customer-occupied areas. This new document provides recommended practices for customer and worker health and safety once programs resume energy-efficiency field activities within customer-occupied areas. All energy-efficiency work should be performed in compliance with applicable local and state COVID-19 orders and guidelines in effect when the work is done. As these guidelines may change over time, it is the responsibility of the contractor to confirm compliance with such orders and guidelines.

These Guidelines have been developed through a collaborative process to provide direction for the performance of energy-efficiency evaluations and installations. Input was incorporated from several energy-efficiency market actors, contractors, health & safety specialists, and a third-party health & safety consulting firm, Environmental Health & Engineering, Inc. (EH&E). EH&E did not develop or modify generally accepted work practices for the evaluation or installation of energy-efficiency upgrades, but relied upon the input of the collaborating parties for incorporation of these work practices.

The Guidelines below detail the process for performing interior and exterior energy-efficiency evaluations and related services in 1-4 family residential, multifamily residential, and commercial & industrial buildings. The details presented here are not intended to provide comprehensive instructions covering all possible energy-efficiency activities. Rather, they are presented as recommended health and safety practices for the identified activities.

A supplemental training module will also be available to those who wish to train existing staff and trade ally partners on these Guidelines. It is envisioned that each Program Administrator will develop and include associated content specific to their respective programs, layering in a compliance monitoring process and any follow-up processes required.

❖ **Objectives:**

- Define field activities that can take place in interior and exterior spaces, regardless of customer occupation, during the performance of energy-efficiency program work.
- Develop new guidance to define the levels of personal protective equipment (PPE) recommended during the performance of these activities, as well as to define any amended procedures and supplemental health & safety guidelines.
- Train workers and management teams on new procedures.
- Provide a pathway for Vendor implementation of the recommended guidelines.
- Offer a proposed approach to monitor compliance with the recommended guidelines.

❖ **Prerequisites:**

• **Employers**

- Must provide workers with all required personal protective equipment (PPE) for the specific job to be performed (**See Tables 3-6**) and require them to use it as directed at all times while on the work site.
- Must assure that employees successfully complete the Health & Safety training associated with these Guidelines prior to coming into contact with the customer while performing work onsite.

• **Field Personnel (Evaluation/Installation/Inspection)**

- Must participate in remote health & safety training on these Guidelines conducted by industry professionals and abide by all guidelines set forth.
  - All energy auditors, installation crew members, QA inspectors, or other personnel performing on-site work must successfully complete the training, including passing the associated quiz, and abide by these same guidelines.
- It is recommended that workers not have any physical conditions that would place them at a higher risk. Workers should consult with their healthcare providers to decide if a pre-existing condition puts them at too great a risk to work safely. A healthcare provider's evaluation should be the determining factor when questions arise.
- Workers must be cleared by their own organization's occupational health service or health consultant to wear any type of tight-fitting respirator (e.g., N95, N100, cartridge-type, etc.). Workers then must be fit-tested annually to wear any type of tight-fitting respirator.
- Employees who are feeling ill should not report to work
- Employees must follow any state or local requirements regarding health screening to clear them to begin work.

❖ **Training & Monitoring:**

1) **Mandatory Health & Safety Guideline Training**

- a) All personnel resuming field activities must participate in mandatory health & safety training associated with these Guidelines, including, but not limited to:
- i) Energy Auditors
  - ii) Installation contractor workers
  - iii) Inspectors
  - iv) On-site supervisors
- b) Specifications for acceptable PPE for work activities will be included in the training to facilitate contractors' procurement of the equipment. Examples of items to be specified are:
- i) Coveralls (may be Tyvek® suits or lighter-weight coveralls) – single use or washable/reusable
  - ii) Reasonably tight-fitting rubber-like gloves (e.g., Nitrile®) – single use
  - iii) Utility gloves, cut-resistant, to be worn over tight-fitting gloves (to prevent damage to underlying gloves) – reusable  
*NOTE: Any gloves intended for re-use must be disinfected after each use.*  
*NOTE: Snug-fitting, cut-resistant gloves, such as electrician's gloves, may be worn without an under-glove to maximize dexterity.*  
*NOTE: Utility gloves may be removed temporarily, if wearing tight-fitting under-gloves, when a task requires enhanced dexterity or touch.*
  - iv) Cloth or dust masks
  - v) Respirator masks equivalent to N95 protection or better (e.g., N100, P100, cartridge-type)
  - vi) Safety glasses/Safety goggles/Face-shields
- c) Selection of virucidal disinfectants will be based on the EPA's list of disinfectants (List N) registered as being effective against COVID-19.

2) **Monitoring**

- a) Strict adherence to these health & safety guidelines must always be maintained.  
*NOTE: If state or local orders or guidelines are more stringent, workers should comply with those orders or guidelines.*
- b) Compliance will be monitored by a QA inspector team designated by the Program in which the work takes place.
- c) Training and observation by QA team will include:
- i) the donning, doffing, and disposal of PPE
  - ii) the replacement of damaged PPE in the field
  - iii) the appropriate use of disinfectants in the field (e.g., on potentially contaminated material and equipment used; during PPE changes)
  - iv) the observation of appropriate physical distancing in the field based on level of PPE worn
  - v) the use of appropriate routes to access work areas, if limitations are imposed by customer or physical barriers

❖ **Task-Specific Guidelines:**

**1) General Onsite Health & Safety**

- a) COVID-19 guidelines must be strictly adhered to at all times in order to protect the health of workers and customers
- b) Support crews responding to unforeseen emergencies will be subject to the same PPE requirements as the assigned crew.
- c) Proper PPE must be donned for each work activity (**See Tables 3-6**) and prior to approaching any other worker or the customer.
- d) Donning (putting on PPE) and doffing (taking off PPE) must be performed as follows:
  - i) Steps for donning and doffing must be followed strictly to prevent self-infection, as shown in the training.
  - ii) Steps will include repeated use of disinfectants, touching only specified surfaces on PPE, final personal disinfection, and proper disposal of PPE.
- e) Six-foot advisory physical distance between workers can be decreased with proper PPE. (**See Table 2**).
  - i) As noted in the table, the limit of proximity will be determined by the lowest level of PPE being worn by the parties. As recommended by the CDC, the 6-foot advisory physical distance should be maintained whenever possible.
- f) All workspaces must be disinfected with a disinfectant that appears on the EPA's list of disinfectants (List N) registered as being effective against COVID-19.

*NOTE: External surfaces of a residence or building do not require disinfection.*
- g) Workers must remove PPE according to strict adherence with the COVID-19 guidelines, dispose of it in bags, bins, or other receptacles designated for the purpose. PPE receptacles must be closed at the site and then removed from the site.
- h) Closed PPE receptacles may be disposed offsite in regular trash and should not be opened prior to disposal.

**2) Workflow**

- a) To the extent practicable:
  - i) The size of the crew at a job site should be limited to a number that will allow the workers to maintain the 6-foot advisory physical distance during the work as much as possible.
  - ii) The same crew should be used from start to finish on a project to minimize the number of different employees who work at the site.
  - iii) Only one trade/subcontractor at a time shall be working on a jobsite, if possible, and 6-foot physical distancing should be maintained for each member of that trade. If more than one trade/subcontractor must be on the job to complete the work, then, at a minimum, all trades and subcontractors must maintain physical distancing policies in accordance with this guidance.
- b) Prior to the beginning of site activity each day, a designated supervisor/lead crew member shall conduct a safety stand-down meeting to review site conditions, the planned work scope, and any special considerations. At that time, each employee will be required to self-certify to their supervisor that he/she:

- i) Has no signs of a fever or a measured temperature above 100.3 degrees or greater, and has not had a cough or trouble breathing within the past 24 hours.
  - ii) Has not had “close contact” with an individual diagnosed with COVID-19. “Close contact” means living in the same household as a person who has tested positive for COVID-19, caring for a person who has tested positive for COVID-19, being within 6 feet of a person who has tested positive for COVID-19 for about 15 minutes, or coming in direct contact with secretions (e.g., sharing utensils, being coughed on) from a person who has tested positive for COVID-19, regardless of whether that person was symptomatic or not.
  - iii) Has not been asked to self-isolate or quarantine by their doctor or a local public health official.
- c) When delivering and arranging temporary storage of materials at the site:
- i) Minimize interactions when delivering or picking up materials from the site, maintaining physical distancing, to the degree possible, and using PPE as recommended.
  - ii) Organize the material placement so as to minimize movement on the work site and maximize physical distancing between crew members.
  - iii) Ensure any materials left on a job site at the end of each work shift are securely stored to prevent access to it.
  - iv) Store potentially hazardous materials in appropriately sealed, labeled containers and store in a secure area.
  - v) Remove all unused materials and waste generated by the work activities from the job site by the end of last day of site work, or as early as practicable following the completion of the installation.
- d) Covid-19-safe work practices to be followed during the course of work activities for all projects:
- i) Identify choke points where workers may be forced to stand together, such as hallways, hoists, and elevators, ingress and egress points, break areas, and buses, and put in place policies to maintain physical distancing.
  - ii) Job site break times should be staggered to prevent congregating of employees in spaces where appropriate social distancing cannot be maintained. Crews should be encouraged to bring their own food and beverages from home to minimize external contamination, and sharing is not permitted.
  - iii) Designate a receptacle where used PPE can be disposed of (if single-use) and an area for reusable PPE to be stored.
  - iv) Make appropriate disinfectants available to workers on the job site and ensure that the supplies are replenished as necessary. The disinfectants should include an abundant supply of hand-sanitizer containing at least 60% alcohol.
  - v) Crews may choose to bring a large container of water to the job site for washing. If water is available, soap should be provided for hand washing. If water is not available, hand-sanitizer containing at least 60% alcohol should be used for cleaning hands. Workers should be encouraged to leave their workstations to wash or sanitize their hands regularly, i.e., before and after going to the bathroom, before and after eating or drinking, and after coughing, sneezing or blowing their nose. Hand washing or application of hand-sanitizer is required any time that gloves in contact with skin are removed or replaced for any reason.
  - vi) Prior to beginning work, disinfect all surfaces that will be modified or disturbed during the work. Also, disinfect any surfaces that will be used to hold or support tools or equipment.

*NOTE: External surfaces of a residence or building do not require disinfection.*

- vii) As work proceeds, and upon completion, disinfect only those surfaces that will remain in contact with the air-side environment of the space. Surfaces that will be permanently covered or sealed do not need to be disinfected.
- viii) Periodically disinfect surfaces that come in contact with workers during site activities and again upon completion of the project. Particular attention should be paid to disinfecting points of frequent contact, such as, but not limited to, door handles, switches, elevator buttons, machines, rest room fixtures, desk tops, and stair rails.
- ix) Tools, equipment, and ladders used by workers should be disinfected when they are moved to different locations at the site during the work period and at the end of each day's work.
- x) Upon project completion, follow standard Program site cleanup practices.
- xi) Disinfect the work area. Then disinfect equipment, tools, and materials before they are removed from the work site.

*NOTE: External surfaces of a residence or building do not require disinfection.*

- xii) Remove PPE and dispose of safely following COVID-19 guidelines described in the training.
  - xiii) Prepare documentation of as-built conditions, noting any differences from the "as-contracted" conditions. Prepare Certificate of Completion and email it to the customer for signature.
- e) Blower-door testing
- i) Blower-door testing may be conducted in single family, detached residences without attestation regarding the health status of occupants.
  - ii) Blower-door testing may be conducted in multifamily residences housing no more than 4 dwelling units if attestation is provided by at least one tenant of each unit that:
    - No one in the household, or recent visitors, have tested positive for COVID-19, have shown symptoms consistent with or confirmed to be COVID-19, or have been in close contact with someone who has tested positive or is ill with COVID-19 in the last 14 days.
  - iii) Personnel conducting blower door testing in any type of structure should stand away from the airstream exiting the structure and should wear Level 3 personal protective equipment, as described in these Health & Safety Guidelines.
- f) Guidance for customer contact and entering the living space
- iii) Limit the need for face-to-face contact with customers at the site to the degree possible.
  - iv) Contact the customer by cell phone for discussions, if possible.
  - v) If face-to-face discussions with the customer are necessary, arrange to have discussions outdoors, if possible.
  - vi) If face-to-face discussions indoors are necessary, maintain at least 6-foot physical distancing and wear appropriate PPE. Advise customer to wear a cloth or dust mask.
  - vii) If entering occupied space in a home or building for any reason, regardless of whether the customer is present, Level 3 PPE must be worn.
  - viii) If conducting work in the living space, disinfect any surfaces that will be worked on before and after the work. Advise the customer to not enter the area during the work unless necessary. Advise the customer to wear a cloth or dust mask if he/she must enter an active work area.

### 3) PPE Levels

Levels of PPE to be worn for different levels of protection are listed in Table 1. (Level 3 is the most protective.)

Table 1: Personal Protective Equipment Levels			
Required PPE	Level 1	Level 2	Level 3
<b>Long Pants</b> <i>NOTE: In warm weather, shorts may be worn under coveralls.</i>	X	X	X
<b>Close-toed Shoes</b>	X	X	X
<b>Cloth Mask or Dust Mask</b>	X	X	
<b>Tight-fitting Gloves</b> (see below for exception)	X	X	X
<b>Cut-resistant utility gloves over tight-fitting gloves</b> <i>NOTE: If snug-fitting, cut-resistant gloves provide adequate skin barrier (e.g., electrician's gloves), under-gloves are not necessary.</i> <i>NOTE: Utility gloves may be removed temporarily, if wearing tight-fitting under-gloves, when a task requires enhanced dexterity or touch.</i>		X	X
<b>Coveralls (Tyvek® or other lighter-weight material)</b> <i>NOTE: If wearing other full-body protection (e.g., fire-resistant suit), coveralls are not necessary.</i>		X	X
<b>N95 Mask or Equivalent or Greater Protection</b> (e.g., N100, P100, cartridge-type respirator)			X
<b>Face Shield, Safety Glasses, or Safety Goggles</b>			X

If necessary, physical distancing between workers may be reduced as shown in Table 2, based on the level of PPE worn by each worker.

Table 2 Allowed Physical Distancing for Different PPE Levels			
	Level 1	Level 2	Level 3
<b>Minimum Physical Distance between workers if wearing similar PPE. Worker wearing lowest level PPE determines minimum physical distance</b>  <i>NOTE: These are <u>estimated</u> distances based on protection provided by PPE. Workers should try to maintain a 6-foot physical distance if possible.</i>	6 feet	4 feet	2 feet

## PPE Levels Recommended for Specific Tasks

The tables presented in this section are as follows:

**Table 3:** Recommended PPE Levels for Residential Tasks (1-4 Units):  
Observation and Communication

**Table 4:** Recommended PPE Levels for Residential Tasks (1-4 Units):  
Installations and Upgrades

**Table 5:** Recommended PPE Levels for Commercial & Industrial and Multifamily (5+ Units) Tasks:  
Observation and Communication

**Table 6:** Recommended PPE Levels for Commercial & Industrial and Multifamily (5+ Units) Tasks:  
Installations and Upgrades

<b>Table 3: Recommended PPE Levels for Residential Tasks (1-4 units)</b> <b>-- Observation and Communication --</b>			
Task	Level 1	Level 2	Level 3
<b>Visual pre-screening (single worker performing walkaround, not entering residence)</b>	X		
<b>Visual pre-screening (single worker performing walkaround, and entering residence)</b>			X
<b>Speaking directly with customer indoors or accompanying customer on an indoor audit</b>			X
<b>In-process inspection (PPE compliance monitoring only, outdoors only)</b>	X		
<b>In-process inspection (PPE compliance monitoring only, indoors)</b>			X

<b>Table 4: Recommended PPE Levels for Residential Tasks (1-4 units)</b> <b>-- Installations and Upgrades --</b>			
Task	Level 1	Level 2	Level 3
<b>Performing activities indoors (or combustion safety testing of a heating system)</b> Note: All trades must wear same Level 3 PPE as the assigned crew if they enter the occupied space.			X
<b>Visual monitoring indoors for possible issues during energy efficiency work outdoors or in adjacent areas (e.g., blow-by or wall blow-out)</b>			X
<b>Installations outdoors by a single worker without entering residence</b> Note: Cut-resistant gloves should be worn with or without under-gloves for physical protection.	X		
<b>Installations outdoors by multiple workers without entering residence. (Level depends on distance between workers.)</b> Note: Cut-resistant gloves should be worn with or without under-gloves for physical protection if wearing Level 1.	X	X	X

<b>Table 5: Recommended PPE Levels for Commercial &amp; Industrial, Multifamily (5+ Units)Tasks -- Observation and Communication --</b>			
<b>Task</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Visual pre-screening (single worker performing walkaround, not entering building)</b>	X		
<b>Visual pre-screening (single worker performing walkaround and entering building)</b>			X
<b>Speaking directly with customer indoors or accompanying customer on an indoor audit</b>			X
<b>In-process inspection (PPE compliance monitoring only, outdoors only)</b>	X		
<b>In-process inspection (PPE compliance monitoring only, indoors)</b>			X

<b>Table 6: Recommended PPE Levels for Commercial &amp; Industrial, Multifamily (5+ Units) Tasks -- Installations and Upgrades --</b>			
<b>Task</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Performing activities indoors (or combustion safety testing of a heating system)</b> Note: All trades must wear same Level 3 PPE as the assigned crew if they enter the occupied space.			X
<b>Visual monitoring indoors for possible issues during energy efficiency work outdoors or in adjacent areas (e.g., electrical issues)</b>			X
<b>Delivery and removal of materials to and from the site (unoccupied areas of the building)</b>			X
<b>Installations outdoors by a single worker without entering building</b> Note: Cut-resistant gloves should be worn with or without under-gloves for physical protection.	X		
<b>Installations outdoors by multiple workers without entering building. (Level depends on distance between workers.</b> Note: Cut-resistant gloves should be worn with or without under-gloves for physical protection if wearing Level 1.	X	X	X