



ENERGY EFFICIENCY PROGRAM

Health & Safety Measures Guide (RES-HSM-22)
Specifications for Residential Program Health & Safety Measures
Jan. 1, 2022

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RES-HSM-22 Residential Health & Safety Measures Guide for PY22

Description: The intent of this document is to provide information regarding the Health & Safety related measures that are considered allowable costs as part of an eligible energy efficiency project within the Ameren Illinois Residential Energy Efficiency Programs. This guide provides objectives as well as initial and final conditions expected for each listed measure. Reference to supplemental Program guidance such as the Health & Safety Field Guide and applicable White Papers may be required for further definition on listed items.

All measures are required to be installed by a registered, active, and qualified Program Ally or Program Ally approved sub-contractor unless otherwise noted.

Acronyms Utilized in this Document:

- BPI = Building Performance Institute
- CAZ = Combustion Appliance Zone
- FES = Field Energy Specialist
- HEIQ = Home Efficiency Income Qualified
- HVAC = Heating, Ventilation, and Air Conditioning
- IDPH = Illinois Department of Public Health
- MF = Multifamily
- NFGC = National Fuel Gas Code
- NFPA = National Fire Protection Association
- OSS = One Stop Shop
- SACM = Suspect Asbestos Containing Material

General requirements reminder for the Single Family Offerings:

- Refer to the Available Residential Measures guide for further requirements

General requirements reminder for Multifamily Offerings:

- All Multifamily projects require the creation of an OSS number and eligibility review if an OSS number is not already in place. CMC Energy Services will notify the Program Ally of the OSS number to include on the application.
- All Multifamily projects require approved reservations prior to project commencement.
- Quality control site inspections performed in the Multifamily Offering require coordination between Program Staff and the Program Ally. Program Staff may need to be onsite with the Program Ally's testing agent. Please allow for this coordination with the Program. Target inspection rate for the Multifamily Offering is 100%.
- All HVAC equipment, ductwork, supply registers, and return registers within an attached garage (a room with an overhead door still present) must be sealed (registers sealed over) if they are also a part of the system conditioning the dwelling space (i.e. residence) air.
- Review the Energy Audit Disclaimer Form for site considerations that may disqualify the building/dwelling unit from certain building envelope measures.

Program approved Health & Safety related measures for PY22 are listed below. For an overview of individual measures, reference the Current and New H&S Measures located in the Appendix.

Documentation of existing issue(s) is required. Acceptable forms of documentation include photographs with descriptions, write-ups, and/or proposals from qualified professional contractors.

RES-HSM-22.1 – HVAC System Repair & Replacement

[HEIQ]

Objective: Restore heat and/or correct an un-safe heating system condition.

Initial Conditions: Dwelling is without working, permanent, and safe primary heating.

Final Conditions: Primary heating system is in a safe, operable condition, with replacements meeting Program savings requirements per the appropriate Available Residential Measures Guide entry.

Additional Considerations and Specifications: Electric or other space heating devices are not considered a safe primary heating source.

RES-HSM-22.2 – Bulk Moisture

[HEIQ] [MF]

Objective: Correct or prevent water accumulation and/or associated adverse effects within the building envelope.

Initial Conditions: Bulk moisture and/or evidence of an active bulk moisture concern exist within or adjacent to the building envelope.

Final Conditions: Source(s) of bulk moisture are controlled or eliminated, preventing moisture infiltration into the building structure. Building components and indoor air quality are not being adversely effected by moisture.

Additional Considerations and Specifications: The

term moisture encompasses all forms of liquid or vapor. Moisture is a measurable amount of water in air or another material. Refer to BPI-1100, Section 9, Moisture control and the Building Envelope Field Guide for further guidance.

HSM-RES-22.3 – Suspect Asbestos Containing Material (ACM)

[HEIQ] [MF]

Objective: Remediate asbestos containing material or suspect asbestos containing material that has the potential to be disturbed during the process of completing project work or related activity.

Initial Conditions: Suspect friable asbestos containing material exists in an area that could be disturbed by the proposed project scope of work or related activity.

Final Conditions: Remediation of suspect asbestos containing material must be completed by a licensed contractor. Licensed contractors must meet all qualifications to be listed as an Illinois Department of Public Health (IDPH) Licensed Asbestos Contractor, and must be listed as such within the IDPH Licensed Asbestos Contractors Directory.

Link -

https://data.illinois.gov/dataset/376idph_asbestos_licensed_contractors

Additional Considerations and Specifications: All instances of the identification of suspect ACMs require notification to be provided to the customer and to the Program through the use of a signed form (currently the Energy Audit Inspection Disclaimer) and inform both as to how it effects the project disposition. The documentation for proof of abatement can be found on page 3 and page 4 of the Energy Audit Inspection

Disclaimer Form. Page 4 can serve as a stand-alone document to leave with a customer as necessary. Refer to the Suspect ACM White Paper for further guidance.

RES-HSM-22.4 – Repair from Damaging Incident

[HEIQ] [MF]

Objective: Repair pre-existing damage not related to the act of assessing or completing energy efficiency related work. Facilitate a safe level of heating/cooling can be maintained. Prevent or stop moisture or pest entry and associated damage and indoor air quality concerns.

Initial Conditions: Damage to the building envelope or adjacent building components that cannot be corrected through other means. Damage to the building envelope or adjacent building components that prevent or stop moisture or pest entry and associated damage and indoor air quality concerns.

Final Conditions: Damage is repaired in a professional manner meeting industry standards.

Additional Considerations and Specifications: For case-by-case consideration only. All cases must be approved in advance.

RES-HSM-22.5 – Combustion Safety

[HEIQ] [MF]

Objective: Correct un-safe operating conditions and/or venting issues with combustion appliances.

Initial Conditions: A qualified professional records presence of an un-safe condition or venting issue.

Final Conditions: Combustion appliances are safely operating within manufacturer's specifications and all applicable professional standards such as BPI, NFPA, & NFGC.

Additional Considerations and Specifications:

Unsafe condition(s) must be determined and documented by qualified Program Staff, qualified Program Ally or sub-contractor, Ameren Illinois gas operations personnel (journeyman or equivalent), or professional HVAC contractor.

RES-HSM-22.6 – Fuel Distribution System

[HEIQ] [MF]

Objective: Ensure safe distribution of combustible fuels.

Initial Conditions: Leak(s), improper installation, or damage exists within the customer responsible portion of their fuel distribution system.

Final Conditions: A leak-free fuel distribution system that is safely delivering fuel to permanently installed appliances.

Additional Considerations and Specifications:

Repairs must be made by a qualified professional as defined by the program. Refer to BPI-1200 for further guidance.

RES-HSM-22.7 – Depressurization

[HEIQ] [MF]

Objective: To alleviate pressure imbalance(s) associated with reducing depressurization to correct or prevent combustion appliance spillage or drafting concerns or to alleviate local condensation issue(s).

Initial Conditions: Combustion appliance(s) combustion safety failure or local condensation issue with depressurization as a contributing factor.

Final Conditions: Depressurization is reduced enough that combustion appliance(s) are passing combustion safety testing and/or local condensation issues are resolved.

Additional Considerations and Specifications:

Consult with your [Field Energy Specialist](#). Consider solutions in the order of cost effectiveness.

RES-HSM-22.8 – Ventilation Related

[HEIQ] [MF]

Objective: Remove moisture and indoor air contaminants.

Initial Conditions: Appliance or ventilation equipment is not properly vented to the exterior.

Final Conditions: Appliance or ventilation equipment is vented to the exterior per ASHRAE 62.2 and Program guidelines.

Additional Considerations and Specifications: Refer to ASHRAE 62.2-2016 and the Building Envelope Field Guide for further guidance.

Appendix: Current and New H&S Measures

Health & Safety Item	Metric Measurement	Item H&S Description	Current H&S Measure	New H&S Measure
HVAC System Repair & Replacement	-	Un-safe operating condition or non-working system	-	-
Minor Repair of primary heating source	Each	Restore heat and/or correct un-safe condition with heating system	Y	N
Major Repair of primary heating source	Each	Restore heat and/or correct un-safe condition with heating system	Y	N
Service Calls & diagnostics	Each	Directly related to line items 3-9. First step in correction of many H&S related concerns such as, but not limited to: no heat, a/c related water damage to furnace or surrounding area, spillage, water heater issues, thermostat issues, gas leaks, & carbon monoxide concerns.	N	Y
Related central air conditioner repair	Each	Directly relates to the heating system not working properly or water damage to the connected heating system and/or surrounding area, or line set leak.	N	Y
<ul style="list-style-type: none"> Clean indoor evaporator coil 	Each	Directly relates to the heating system not working properly or water damage to the connected heating system and/or surrounding area.	N	Y
<ul style="list-style-type: none"> Replace indoor evaporator coil 	Each	Directly relates to the heating system not working properly or water damage to the connected heating system and/or surrounding area.	N	Y
<ul style="list-style-type: none"> Condensate Pump (Plus related items) 	Each	Correct or prevent water damage issues resulting from improper condensate removal.	N	Y
Disclaimer Related	-		-	-
Bulk Moisture - leads to many issues including but not limited to: mold, degradation of building materials, & IAQ concerns.				
Vapor Barrier	Square foot	Prevent communication of ground moisture into building envelope and/or onto building components.	Y	N

Sump pump repair or replacement	Each	Correct or prevent water accumulation within the building envelope.	N	Y
New sump system installation (Pit, trenching, & drainage tile)	Each/Per Square Foot	Correct or prevent water accumulation within the building envelope.	N	Y
Crawlspace dig out - create enough height for accessibility	Each	When necessary for vapor barrier installation & potentially other measures to be completed within the crawlspace.	N	Y
Horizontal guttering	Linear Foot	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components.	N	Y
Gutter accessories (downspout & extensions)	Linear Foot	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components.	N	Y
Exterior water management	Case by Case	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components.	N	Y
Roofing, Siding, other minor exterior work to prevent water from entering building	Case by Case	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components.	N	Y
Drain clearing (typically floor)	Each	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components. Sewer back-ups present other H&S related concerns as well.	N	Y
Minor plumbing repair	Each	Correct or prevent water accumulation within the building envelope. Correct and/or prevent water related damage to building components.	N	Y
Water heater repair	Each/ Case by Case	Correct and/or prevent water related damage to building components.	N	Y
Water heater replacement	Each/ Case by Case	Correct and/or prevent water related damage to building components. Correct an un-safe operating condition or consider when the cost of the initial or multiple repairs are substantially close to replacement cost.	N	Y
Asbestos: Duct Wrap and Flue Pipe				
Encapsulation and Enclosure (duct wrap)	Each (or each joint)	Address friable suspect asbestos that could be disturbed during the course of a project. Friable asbestos is known to cause respiratory issues and is a carcinogen.	N	Y

Remediation	Each House	Remove/Replace wiring that can create a fire hazard if insulation is added around it.	N	Y
Repair from Damaging Incident	-		-	-
Interior pressure boundary surface (ceilings, walls) repair	Per Square Foot	Unforeseen damage not attributable to the Program Ally or Program staff. Ensure a safe level of heating/cooling can be maintained. Prevent/stop moisture or pest entry.	N	Y
Removal/replacement of existing unfit (compromised) insulation	Per Square Foot/Case by Case	Alleviate potential indoor air quality concerns. Establish a safe environment for those entering spaces containing insulation that is damaged in some way, typically moisture or pest related. Maybe previous mold or fire damage.	N	Y
Combustion Safety and Fuel Distribution System	-		-	-
Venting system repair & replacement	Each	Correct an un-safe operating condition. Ensure combustion appliance exhaust is properly vented outside.	N	Y
Draft assist & power venting kits	Each	Correct an un-safe operating condition. Ensure combustion appliance exhaust is properly vented outside.	Y	N
Service calls & diagnostics	Time	Correct an un-safe operating condition. Ensure combustion appliance exhaust is properly vented outside.	N	Y
Water heater repair/replacement	Each/Case by Case	Ensure combustion appliance exhaust is properly vented outside. Correct and/or prevent water related damage to building components. Correct an un-safe operating condition or consider when the cost of the initial or multiple repairs are substantially close to replacement cost.	Y	N
Work Intended to Reduce Depressurization / Correct backdrafting & Spillage / Resolve interior ambient CO concerns				
Transfer/passive air grilles	Each	To alleviate pressure imbalance(s) associated with reducing depressurization to correct or prevent combustion appliance spillage or drafting concerns. Sized per NFPA 54.	Y	N
• Make up air	Each or Volume Required	Correct an un-safe operating condition. Ensure combustion appliance exhaust is properly vented outside.	Y	N
• Combustion air	Each	Correct an un-safe operating condition. Ensure combustion appliance exhaust is properly vented outside.	Y	N
Combustion safety testing (non project)	Each	Validate combustion safety. Address a related concern that develops post project or in the case of no project being eligible for another reason.	N	Y

Gas leak repair	Each	Resolve customer health & safety related concerns attributable to acute or chronic exposure and potential ignition of gas.	Y	N
Appliance gas line replacement or removal and disposal	Each	Resolve customer health & safety related concerns attributable to acute or chronic exposure and potential ignition of gas.	Y	N
Gas line replacement or removal and disposal	Linear Foot	Resolve customer health & safety related concerns attributable to acute or chronic exposure and potential ignition of gas.	Y	N
Adding shut-off valves where none are existing	Each	Establish a way to shut off gas to individual appliances without shutting off gas to whole home when there is a gas leak in the home.	N	Y
Carbon monoxide alarms	Each	Provides assurance that customers will be alerted to hazardous CO levels on an on-going basis.	N	Y
Ventilation Related				
Vent exhaust fan outside	Each	Remove moisture and indoor air contaminants from the home	Y	N



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