



Department of Energy
Washington, DC 20585

WEATHERIZATION PROGRAM NOTICE 08-4
EFFECTIVE DATE: March 3, 2008

SUBJECT: SPACE HEATER POLICY

PURPOSE: To update the policy relating to space heaters for the Low-Income Weatherization Assistance Program (Weatherization). This policy supersedes the previous space heater policy issued by memoranda on March 18, 1992.

SCOPE: The provisions of this guidance apply to all grantees applying for financial assistance under the Department of Energy (DOE) Weatherization Assistance Program. This policy applies to electric and gas- and liquid-fueled space heaters only. Wood-burning stoves are addressed in separate guidance, which will be updated at a later date and will likely be expanded to include coal-burning stoves. This policy applies to electric and gas- and liquid-fueled space heaters whether the appliance is the primary or secondary heat source.

LEGAL AUTHORITY: Title IV, Energy Conservation and Production Act, as amended, authorizes the Department of Energy to administer the Low-Income Weatherization Assistance Program. All grant awards made under this program shall comply with applicable law including regulations contained in 10 CFR Part 440 (most recently issued June 22, 2006), and other procedures applicable to this regulation as DOE may from time to time prescribe for the administration of financial assistance.

INTRODUCTION: An estimated three million low-income households in the United States rely on space heaters as their primary method of heating their homes. An additional four million low-income households use space heaters as a secondary method of heating. Potential health and safety risks associated with the use of space heaters, especially portable and unvented devices include elevated levels of carbon monoxide, fire hazards, and excessive moisture resulting in mold and rot.

The previous space heater policy was issued March 18, 1992. Since then, Weatherization providers have improved their ability to reduce air infiltration in weatherized dwellings, which can exacerbate carbon monoxide and moisture hazards. Within the past ten years, local jurisdictions in at least 48 and 44 States have adopted the International Residential Code (IRC) and International Fuel Gas Code (IFGC), respectively, that include requirements related to space heaters. Most of these States have adopted the codes and enforce them statewide. The space heater policy issued by this Weatherization Program Notice (WPN 08-4) is consistent with the IRC and IFGC and clarifies how to best address eligible dwelling units containing space heaters.

INCIDENTAL REPAIRS: Incidental repairs under the Weatherization Program are not affected by the policy contained herein. Agencies may continue making incidental repairs necessary to allow weatherization work to proceed safely, including to space heaters.

SPACE HEATER POLICY: Separate guidance is provided for vented space heaters and unvented space heaters.

Vented Space Heaters: Vented gas- and liquid-fueled space heaters should be treated the same as furnaces in terms of repair and replacement, as well as combustion appliance safety testing. This policy applies to vented natural gas-fired space heaters, vented propane-fired space heaters, and oil-fired space heaters (which are always vented).

Unvented Space Heaters: Separate guidance applies to electric space heaters and unvented gas- and liquid-fueled space heaters.

Electric Space Heaters – DOE will not permit any DOE-funded weatherization work other than incidental repairs on electric space heaters. DOE will not preclude the use of other funding sources for the replacement or major repair of electric space heaters, but the Department does not encourage it because of:

- The high cost of electricity as compared to fossil fuels;
- Lower output ratings (size);
- Risk of fire hazards; and,
- Inadequate electrical systems in older homes frequently cannot safely carry the power required to operate an electric heater.

Work on such systems may make local agencies liable for inadequate electric wiring and damages that may result.

Unvented Gas- and Liquid-Fueled Space Heaters – DOE will not permit any DOE-funded weatherization work where the completed dwelling unit is heated with an unvented gas- and/or liquid-fueled space heater as the primary heat source. This policy applies to unvented natural gas-fired space heaters, unvented propane-fired space heaters, and unvented kerosene space heaters. This policy is consistent with the IRC and the IFGC.

DOE strongly encourages removal of all unvented gas- and liquid-fueled space heaters and replacement with vented, code-compliant heating systems as a prerequisite to weatherization. However, DOE will allow unvented gas- or liquid-fueled space heaters to remain as secondary heat sources in single-family houses provided they comply with the IRC and the IFGC. DOE is allowing this flexibility primarily to provide low-income clients an emergency back-up source of heat in the event of electrical power outages. Therefore, preference should be given to code-compliant units that do not require electricity.

Specifically, any unvented gas- and liquid-fueled space heaters that remain in a completed single-family house after weatherization:

- Shall not have an input rating in excess of 40,000 Btu/hour;
- Shall not be located in, or obtain combustion air from sleeping rooms, bathrooms, toilet rooms, or storage closets, unless:
 - Where approved by the authority having jurisdiction, one listed wall-mounted space heater in a bathroom:
 - Has an input rating that does not exceed 6,000 Btu/hour;
 - Is equipped with an oxygen-depletion sensing safety shut-off system; and
 - The bathroom meets required volume criteria to provide adequate combustion air;
 - Where approved by the authority having jurisdiction, one listed wall-mounted space heater in a bedroom:
 - Has an input rating that does not exceed 10,000 Btu/hour;
 - Is equipped with an oxygen-depletion sensing safety shut-off system; and
 - The bedroom meets required volume criteria to provide adequate combustion air.
- Shall require the enforcement of minimum ventilation guidelines as determined by the greater of:
 - 15 cubic feet per minute (CFM) per person,
 - 15 CFM per bedroom plus one [(# of bedrooms + 1) x 15 CFM], or
 - .35 air changes per hour.

The above minimum ventilation guidelines are natural ventilation rates, not with the house depressurized to -50 Pascal with a blower door.

Alternately, the minimum ventilation guidelines in the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, may be used if the State desires.

DOE funds may only be used to replace the primary heating source. DOE funds may not be used to replace unvented space heaters to be left in the weatherized dwelling unit as secondary heating sources. For example, a home has several older gas- or liquid-fueled, unvented space heaters that do not comply with the International Residential Code because they do not have oxygen-depletion sensing safety shut-off systems. The Weatherization Program can replace the primary unvented space heater with a vented unit, but cannot expend DOE funds to replace one of the existing secondary space heaters with a code-compliant unvented unit with an oxygen-depletion sensing safety shut-off system. DOE will not preclude the use of other funding sources to replace secondary space heaters with code-compliant units.

The Manufactured Home Construction and Safety Standards require all fuel-burning, heat-producing appliances in mobile homes, except ranges and ovens, to be vented to outside. Further, all fuel-burning appliances in mobile homes, except ranges, ovens, illuminating appliances, clothes dryers, solid fuel-burning fireplaces and solid fuel-burning fireplace stoves, must be installed to provide for the complete separation of the combustion system from the interior atmosphere of the manufactured home (i.e., to draw their combustion air from outside).

Cost Effectiveness: Current regulations governing weatherization activities require that measures installed in a dwelling unit be selected on the basis of cost effectiveness, with the most cost effective installed first. Unvented space heaters have very high efficiency ratings because they discharge their exhaust gases directly into the space being heated rather than outside, allowing the energy embodied in the hot exhaust gases to be released into the heated space. Vented space heaters exhaust combustion products and considerable amounts of energy out of the residence, and, therefore, are far less energy efficient.

The replacement of an unvented space heater with a vented one may not be cost-justified through energy savings. However, DOE strongly encourages States to combine other weatherization measures and health and safety considerations with vented space heaters as replacements for unvented space heaters. In such instances, the heat energy demanded by the structure can be lowered by energy-saving, cost-effective weatherization measures so that total energy costs are less or the same, while the indoor air quality is greatly improved through the use of a vented space heater paid for with health and safety funds.

Smoke and Carbon Monoxide Detectors: Any space heater replacement or repair procedure should include inspection to ensure that working smoke and carbon monoxide detectors are installed on the same floor as the space heater. In instances where smoke and carbon monoxide detectors are not present or are not operating properly, new detectors may be purchased and installed with DOE funds. The purchase and installation cost of the smoke and carbon monoxide detectors may be charged to the health and safety category or to program operations at the State's discretion.

Client Education: Client education, including information on the proper operation of the heating equipment and installed smoke or carbon monoxide detectors, should be provided. Of critical importance is strong client education regarding the dangers of carbon monoxide and excessive moisture levels, particularly if any unvented space heaters are left in the dwelling as a secondary heat source, or emergency back-up.

Other Health and Safety Consideration: Electrical wiring and chimneys should be checked to ensure they are in good condition and that no obvious building code violations are evident. Masonry chimneys used by vented space heaters should be properly lined in compliance with the IFGC. Safety inspection related to the space heater should include, but not be limited to, a check for adequate floor protection and code-compliant clearances to walls and other combustible materials. Even though many vented space heaters are manufactured with spill switches, it is still a requirement that a worst-case depressurization draft test be performed on all vented units.

Compliance with Local Code, Permitting, and Inspection Requirements: Installation of space heaters requires knowledge of appropriate industry standards and adherence to all aspects of the applicable building code(s) in the municipality where installation is taking place. Building permits should be secured, where required, (this is a program operations cost) for all space heater work and final inspection by competent professionals should take place before any heater is put into operation. States are reminded that even licensed heating contractors may not be aware of the stringent requirements of the Weatherization Program, so their work should be reviewed by Program staff.

IMPLEMENTATION: Grantee health and safety policy, especially as it relates to space heater repair and replacement, in compliance with the above guidance, must be explained in the applicable State plan or appropriate amendment in order to permit Project Management Center review and approval. Funds to address these items as part of weatherization work will be allowable costs. It is especially important to insure that adequate inspection, safety, liability, and insurance procedures exist and are followed. In all cases, an education component for clients should be a part of the space heater work. Further, testing for indoor air quality, especially carbon monoxide levels in homes with unvented space heaters, should be performed. The cost to purchase the testing device and mechanical tools necessary to check for indoor air quality and to train personnel to do the testing are allowable program expenses. These charges may be made to the program operations cost category.

RELATED MATERIALS AND DOCUMENTS:

The following pamphlets and fact sheets may be useful for educating clients and training staff.

CONSUMER PRODUCT SAFETY COMMISSION PAMPHLETS (CPSC,
http://www.cpsc.gov/cpscpub/pubs/pub_idx.html):

Smoke Detectors Can Save Your Life (English and Spanish versions)
Carbon Monoxide Detectors Can Save Lives
Carbon Monoxide Questions and Answers (English and Spanish versions)
The Invisible Killer (CO) (English)
The Senseless Killer (CO) (Spanish)
What You Should Know About Space Heaters
Product Safety Fact Sheet - No. 98: Electric Space Heaters
Product Safety Fact Sheet - No. 97: Kerosene Space Heaters
Product Safety Fact Sheet - No. 99: Ground-Fault Circuit Interrupter (GFCI)
Product Safety Fact Sheet - No. 566: Home Fire Safety Checklist (English and Spanish versions)



Ronald Shaw
Acting Program Manager
Office of Weatherization and Intergovernmental Program
Energy Efficiency and Renewable Energy