



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
OFFICE OF PUBLIC AND INDIAN HOUSING

SPECIAL ATTENTION ON:

Public Housing Agencies;
Hub Directors of Public Housing;
PIH Program Center Coordinators;
Public Housing Division Directors;
Resident Management Corporations;
Regional Environmental Officers
Field Environmental Officers
Regional Energy Coordinators

NOTICE: PIH-2010-41 (HA)

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Cross Reference

24 CFR 85.36

24 CFR 965.306

24 CFR Part 941

24 CFR 990

Supersedes PIH Notice 2009-9

SUBJECT: Using ENERGY STAR to Promote Energy Efficiency in Public Housing

- PURPOSE** This Notice updates guidance encouraging ENERGY STAR as the standard for Public Housing Agencies (PHAs). HUD is interested in promoting and expanding the use of energy-efficient equipment, appliances and standards in public housing in order to reduce energy consumption and control operating costs. PHAs are encouraged to purchase ENERGY STAR equipment (if available) as replacement needs occur, adopt *Home Performance with ENERGY STAR* as part of any rehabilitation or modernization initiative, and construct ENERGY STAR qualified homes as part of any new construction project, if economically feasible. This approach supports the goals of the President's National Energy Policy by reducing the burden of public housing energy costs while increasing comfort and reducing health risks among public housing residents.
- APPLICABILITY** This Notice applies to all PHAs administering the public housing program.
- BACKGROUND** Nationwide, for PHA fiscal years ending between 6/30/08 – 3/31/09, PHA-paid utilities totaled \$1.6 billion or 24 percent of the total costs to operate public housing. It is estimated by the Office of Public Housing and Voucher Programs that \$452 million in utility costs are paid by residents, an amount subsidized by PHAs in the form of utility allowances that reduce resident rents. The use of ENERGY STAR equipment and techniques, with proper maintenance, can significantly reduce energy consumption and expenditures.

In accordance with 24 CFR 965.306, when purchasing original or, when needed, replacement equipment, PHAs shall acquire only equipment that meets or exceeds the minimum efficiency requirements established by the U.S. Department of

Energy (DOE). In the operation of their facilities, PHAs shall implement operating practices that maximize energy conservation.

The Energy Policy Act of 2005 indicates that either ENERGY STAR rated equipment or Federal Energy Management Program (FEMP)-designated equipment shall be selected whenever appliances are replaced unless it is not cost effective to do so. According to the DOE's website, equipment that has been rated by either program is within the top 25% of their class in energy performance¹.

Executive Order 13123 requires federal agencies to select ENERGY STAR rated equipment or products where available. If such equipment is not available in that product category, the federal agency is required to select FEMP-designated equipment. This Notice encourages PHAs to do the same and purchase ENERGY STAR products where available and when cost effective, and when such products are not available, to purchase FEMP-designated equipment if available and cost effective.

4. **ENERGY STAR PRODUCTS** In 1992, the U.S. Environmental Protection Agency (EPA) introduced the ENERGY STAR label to identify and promote energy-efficient products that exceed minimum efficiency requirements and reduce greenhouse gas emissions and other pollutants caused by inefficient energy use. In 1996, EPA partnered with DOE for particular product categories. The ENERGY STAR label is now on major appliances, heating and cooling equipment, windows, lighting, and over 60 other product categories. More than 70% of American households recognize the ENERGY STAR label. In 2009, ENERGY STAR successfully delivered energy and cost savings across the country, saving businesses, organizations, and consumers about \$17 billion in 2009.

Through the EPA's partnerships with more than 17,000 private and public sector organizations, ENERGY STAR delivers the technical information and tools that organizations and consumers need to choose energy efficient solutions and best management practices. ENERGY STAR has successfully delivered energy and cost savings across the country. Over the past decade, ENERGY STAR has been a driving force behind the more widespread use of such technological innovations as efficient fluorescent lighting, power management systems for office equipment and low standby energy use.

ENERGY STAR provides PHAs with an easy to implement specification for energy efficiency that is intended to be more energy efficient than minimum efficiency requirements under 24 CFR 965.306. This can significantly reduce public housing energy costs and provide residents increased comfort and reduced health risks. Moreover, specifying ENERGY STAR when purchasing equipment eliminates any confusion caused by different energy-efficiency thresholds. By focusing energy efficiency initiatives on ENERGY STAR, PHAs can build on the momentum

¹ http://www1.eere.energy.gov/femp/technologies/eep_fempdesignatedproducts.html

established in the marketplace and take advantage of bulk purchasing initiatives, energy-efficient construction expertise, and combined heat and power systems.

If equipment is not available, FEMP-designated equipment can also help a PHA to achieve energy savings. FEMP does not rate a specific product, such as a brand of appliances, as FEMP-designated. Instead, FEMP identifies required purchasing specifications and performance requirements for a category of products, such as compact fluorescent bulbs. The equipment must meet certain performance standards while consuming a set amount of energy, which is typically an energy consumption level within the upper 25% of the product category. These standards can be found at the DOE's website.²

5. **APPLICATION TO ASSET MANAGEMENT** In accordance with 24 CFR 990, HUD has shifted the focus of the public housing program from the "agency" to the "project". In keeping with these changes, each project receives its own Utility Expense Level (UEL) and PHAs are required to maintain utility costs and consumption at the project level. PHAs should plan for energy conservation measures on a project-by-project basis. To the extent that a project can achieve energy savings, that will mean more funds available to the project to support overall operating costs.
6. **USING ENERGY STAR IN PUBLIC HOUSING** PHAs should use ENERGY STAR effectively in existing public housing as well as in the modernization or development of public housing where practicable and cost effective. In existing housing, purchasing energy efficient appliances and equipment provides an opportunity to conserve energy and reduce operating costs.

ENERGY STAR provides a label indicating energy savings information on over 60 product categories and numerous models for residential applications. ENERGY STAR products are 10 to 30 percent more efficient than products that meet the minimum DOE standards if operated correctly. For example, replacing a clothes washer made before the year 2000 with a new ENERGY STAR model can save up to \$130 per year. Replacing a refrigerator made before 1993 with a new ENERGY STAR model can save up to \$65 per year. For more permanent savings that return energy savings many times longer than the life of an appliance, PHAs can also adopt the whole-house approach of *Home Performance with ENERGY STAR* as outlined in paragraph 8 of this Notice.

Several states have begun requiring that new affordable housing units be built to ENERGY STAR specifications. In the development of public housing, PHAs should specify that the house/unit at a minimum, meet the ENERGY STAR requirements for new construction provided that it is within the cost requirements in 24 CFR Part 941. PHAs should also specify that the house/unit be built to meet the ENERGY STAR requirements for new construction which is at least 15 percent more energy efficient than homes built to the 2004 International Residential Code (IRC).

² http://www1.eere.energy.gov/femp/technologies/eep_purchasingspecs.html

Purchase of ENERGY STAR equipment, as with all procurement transactions, must be consistent with the standards set forth in 24 CFR 85.36.

7. **PURCHASING COST EFFECTIVE ENERGY EFFICIENT EQUIPMENT/PRODUCTS**

PHAs should purchase ENERGY STAR equipment such as appliances when economically feasible and cost effective, and when such equipment is available. The incremental additional costs for the more energy efficient equipment will be recoverable from energy savings over the expected life of the equipment and the equipment must be cost effective to maintain.

There are several ways to calculate the cost effectiveness of equipment when energy savings are accrued over a specific amount of time. ENERGY STAR products provide specific information about savings that can be obtained by reduced energy use.

A PHA should purchase ENERGY STAR-labeled products such as windows and ensure that any new buildings are constructed according to ENERGY STAR standards, unless the PHA's cost analysis (required by 24 CFR Part 85 and 24 CFR Part 941) finds that the incremental cost of ENERGY STAR products or building standards yields a negative life-cycle cost savings and exceeds HUD's Total Development Cost (TDC) limits.

8. **HOME PERFORMANCE WITH ENERGY STAR** *Home Performance with ENERGY STAR*, sponsored nationally by EPA and DOE, offers a comprehensive, whole-house approach to improving energy efficiency and comfort at home, while helping to protect the environment. An increasing number of utilities, state energy offices, and other agencies are using *Home Performance with ENERGY STAR* as an important part of their residential energy efficiency portfolio.

Promoting energy efficiency by using *Home Performance with ENERGY STAR* is an excellent place to start a home towards becoming green and more energy efficient. An efficient building envelope, coupled with an efficient air distribution system, efficient equipment, lighting and appliances save on utility bills, provides a more comfortable living environment with better indoor air quality and helps protect the environment.

Home Performance with ENERGY STAR has several key components including a whole-house approach, a home energy inspection, diagnostic testing, installation and quality assurance inspections.

The home energy inspections include a complete visual and diagnostic evaluation of all of the home's thermal and mechanical efficiency components such as attic insulation, exterior walls, windows, basements, and heating systems. Diagnostics include air infiltration testing and duct leakage testing, combustion safety testing, and where possible, electric base load analysis. The results of the inspection can lead to targeted advice based on the home's energy and maintenance problems.

Participating contractors can perform any or all of the recommendations using best practices including:

- installation of energy efficient lighting products;
- insulation;
- windows;
- Heating, ventilation and air conditioning (HVAC) equipment;
- water heater insulation blankets; and
- Air and duct-sealing.

Home Performance with ENERGY STAR lists locations that provide energy efficiency assessment services and can assist with coordination and quality assurance inspections. To earn the ENERGY STAR rating, a home must meet strict guidelines for energy efficiency set by the EPA. These homes are at least 15% more energy efficient than homes built to the 2004 IRC and include additional energy-saving features that typically make them 20–30% more efficient than standard homes. Additionally, EPA is proposing new guidelines for ENERGY STAR qualified new homes for 2011. See http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_2011_comments.

9. **ENERGY STAR IN THE DEVELOPMENT OF PUBLIC HOUSING** The memorandum of understanding between HUD, EPA, and DOE addresses the implementation of “strategies to achieve an ENERGY STAR rating in new housing financed through HUD’s HOPE VI program, unless a sponsoring housing authority demonstrates the higher standard cannot be achieved within TDC limits” referenced in 24 CFR Parts 941.306. The HUD Energy Action Plan suggests that new housing built through the program achieve an ENERGY STAR rating for new construction, unless the PHA demonstrates that the higher standard cannot be achieved within TDC limits.

These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of building envelope upgrades, high performance windows, controlled air infiltration, upgraded HVAC systems, tight duct systems, and upgraded water-heating equipment.

Any single-family or multi-family residential home that is three stories or less in height can qualify to receive the ENERGY STAR label. This includes traditional site-constructed homes as well as modular or systems-built homes with insulated concrete forms or structurally insulated panels. The ENERGY STAR label is earned only after the home's energy efficiency is verified, either by an independent third-party such as an accredited home energy rater or Builder Option Package (BOP) verifier. BOPs present a set of construction specifications for a specific climate zone. For the purposes of using BOPs, the United States has been divided into 19 separate climate zones, and each county is associated with a specific climate zone. BOPs can help simplify the process of constructing an ENERGY STAR qualified new home. They specify performance levels for the thermal envelope, insulation,

windows, orientation, HVAC system, and water heating efficiency for each specific climate zone that meet the ENERGY STAR standard.

BOP ratings typically entail at least one on-site inspection of the home to test the leakiness of the envelope and ducts. Once construction is complete, the PHA will need to locate a BOP verifier in the region to test the tightness of the house envelope and ducts. The scores derived from these tests are compared with the pre-determined specification of the BOP to either pass or fail the house as an ENERGY STAR qualified new home. Further information is available at www.energystar.gov/homes.

10. **SPECIAL OFFERS AND REBATES FROM ENERGY STAR PARTNERS** To encourage purchase of energy-efficient products, ENERGY STAR partners occasionally sponsor special offers such as sales tax exemptions, credits, or rebates on qualified products. The American Recovery and Reinvestment Act of 2009 provide funding rebates worth \$300 million. Eligible consumers can receive rebates to purchase new energy efficient appliances when they replace used appliances. For rebate information go to <http://www.energysavers.gov/financial/70020.html>. Check with your state to see if funding is still available. PHAs must follow established procurement requirements when making purchases using special offers.
11. **PROCUREMENT** HUD recognizes the benefits of streamlining the purchase of ENERGY STAR products. If a PHA's procurement policy allows, the PHA is encouraged to use the DOE's Quantity Quotes website, <http://quantityquotes.net>, for procurement purchases above \$2,000 and below \$100,000. If at least three quotes are received using DOE's ENERGY STAR Quantity Quotes, then both the 24 CFR 85.36(d) (1) small purchase procedures and the guidance provided in the Procurement Handbook 7460.8 REV 2, paragraph 5.2 are satisfied. If less than three quotes are received using DOE quotes, then the PHA must supplement the difference with other quotes which may include telephone quotes.

PHAs can specify the use of ENERGY STAR measures in RFPs and other purchasing and procurement processes used for operating and maintaining public housing. For additional key tools and resources for PHAs go to http://www.energystar.gov/index.cfm?c=affordable_housing.affordable_housing_phas.

If an agency procures centrally for ENERGY STAR equipment over \$100,000, then formal purchase procedures shall be followed.

12. **FUTURE OPPORTUNITIES FOR PHAS** EPA, DOE and HUD will work to provide value for ENERGY STAR in public housing. In addition to expanding the bulk purchasing initiative, PHAs should also consider specifying, whenever cost effective, ENERGY STAR when replacing appliances and equipment in an energy performance contract.

13. **CONTACTS** Questions regarding this Notice should be directed to Leroy Ferguson, Housing Program Specialist at (202) 402-2411. More information on ENERGY STAR can be found at www.energystar.gov. You can also contact Brian Ng, Affordable Housing Coordinator for ENERGY STAR with EPA at (202) 343-9162 or by email at ng.brian@epa.gov.

For additional information on energy issues for public housing, refer to the Public Housing Environmental and Conservation Clearinghouse (PHECC) located at <http://www.hud.gov/offices/pih/programs/ph/phecc> or by calling the PIH Information Resource Center hotline at (800) 955-2232.

/s/

Sandra B. Henriquez, Assistant Secretary for
Public and Indian Housing