



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

SPECIAL ATTENTION ON:

NOTICE PIH 2005-25 (PHA)

Public Housing Agencies;
Hub Directors of Public Housing;
PIH Program Center Coordinators;
Public Housing Division Directors;
Resident Management Corporations

Issued: July 13, 2005
Expires: July 31, 2006

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

1. **PURPOSE** This Notice encourages ENERGY STAR as the standard for Public Housing Agencies (PHAs), encourages PHAs to implement energy saving activities, and informs PHAs that ENERGY STAR expertise is available to provide valuable assistance for implementing energy conservation initiatives. Purchase of ENERGY STAR-labeled products, adoption of the whole-house approach of *Home Performance with ENERGY STAR*, and construction of ENERGY STAR-qualified residential structures (HOPE VI) by PHAs support 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 to public housing residents. Appendix A includes a partial list of ENERGY STAR products.
2. **APPLICABILITY** This Notice applies to PHAs operating public housing.
3. **BACKGROUND** Nationwide, PHA-paid utilities total around \$1.3 billion annually, or about 25 percent of the costs to operate public housing. It is estimated that an additional \$430 million in utility costs are paid by residents, but indirectly are paid by PHAs in the form of utility allowances that reduce resident rents. The use of ENERGY STAR equipment, along with proper maintenance, can significantly reduce energy consumption and expenditures.

The President's National Energy Policy, the HUD Five-Year Energy Action Plan, and a recent Memorandum of Understanding with the Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) emphasize that ENERGY STAR should be selected whenever energy systems, devices, and appliances are replaced unless it is not cost effective to do so.

In July 2001, then Deputy Secretary of Housing and Urban Development Alphonso Jackson established a Department-wide Energy Task Force to identify measures HUD could take to support these goals. The goals developed for Public and Indian Housing are to require PHAs to base equipment purchases on ENERGY

STAR standards and establish HOPE VI as a leader in cost-effective, energy efficient construction (Appendix B).

The Energy Conservation equipment and practices regulations currently require PHAs to purchase original or replacement equipment that meets minimum efficiency requirements set by the DOE (24 CFR 965.306). This Notice encourages increasing the standard to that of ENERGY STAR.

HUD is interested in promoting and expanding the use of energy-efficient equipment and appliances in public housing in order to reduce energy consumption and to control operating costs. PHAs are encouraged to purchase ENERGY STAR equipment as replacement needs occur, adopt *Home Performance with ENERGY STAR* as part of any modernization initiative, and construct ENERGY STAR-qualified homes as part of any new construction project (HOPE VI) if the following conditions are met. These conditions are when the results in energy savings to the authority are sufficient to pay the initial higher costs over the expected life of the equipment, the equipment is cost effective to maintain, and the selection does not limit a PHAs' ability to address emergency priorities.

4. **ENERGY STAR PRODUCTS** In 1992, the EPA introduced the ENERGY STAR label to identify and promote energy efficient products that exceed minimum efficiency requirements. The ENERGY STAR label is now on major appliances, heating and cooling equipment, windows, lighting, and over 40 product categories. According to the EPA, through its partnerships with more than 8,000 private and public sector organizations, the ENERGY STAR initiative can deliver the technical information and tools that organizations and consumers need to choose efficient solutions and best management practices. The ENERGY STAR initiative has successfully delivered cost savings across the country, saving businesses, organizations and consumers more than \$8 billion a year.

ENERGY STAR provides PHAs with a common specification for energy efficiency that goes beyond minimum efficiency requirements. 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 market momentum already established in the marketplace. For example, PHAs can take advantage of bulk purchasing initiatives and energy efficient construction expertise that have already been developed. EPA awards an ENERGY STAR Certificate for combined heat and power systems.

5. **APPLICATION TO ASSET MANAGEMENT** In accordance with the Proposed Rule on the Operating Fund Program (see April 14, 2005, Federal Register), the Department is shifting the focus of the public housing program from the "agency" to the "properties." In keeping with these changes, each property will receive its

own Utility Expense Level and PHAs will be required to maintain utility costs and consumption at the project-level. PHAs should begin to plan now 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 for other operating costs.

6. **USING ENERGY STAR IN PUBLIC HOUSING** PHAs can use ENERGY STAR effectively in both existing and redeveloped public housing. In existing housing, PHAs can replace equipment or appliances with ENERGY STAR models. 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*.

In redevelopment, PHAs can specify that the house/unit be built to meet the ENERGY STAR requirements for new construction (approximately 30 percent better than the model energy code or 15 percent better than state code, whichever is more stringent). Several states have begun requiring new affordable housing be built to ENERGY STAR specifications.

PHAs must comply with 24 CFR Part 85 procurement requirements. Although this Notice suggests ENERGY STAR standards wherever cost effective (as determined by the PHA), should an ENERGY STAR product be sole-source, the local HUD field office must approve its purchase.

7. **ENERGY STAR PRODUCTS FOR EXISTING BUILDINGS** Purchasing energy efficient appliances and equipment provides an opportunity to conserve energy and reduce operating costs. PHAs should always consider ENERGY STAR when purchasing products or appliances since more efficient equipment pays for itself with energy savings and it offers an opportunity a for the PHA to reduce operating costs.

ENERGY STAR provides a label on over 40 product categories and numerous models for residential applications. ENERGY STAR products are 10 to 30 percent more efficient than products that merely meet the DOE standards. These products may be as much as 50 percent more efficient than older equipment. For example, ENERGY STAR qualified refrigerators may require half as much energy as models manufactured before 1993.

For each major product category ENERGY STAR provides a product search, purchasing tips, manufacturer list, and a savings calculator. The EPA, the DOE, and HUD have also initiated a bulk purchasing initiative for refrigerators which is currently being pilot tested in Kentucky. The EPA and HUD are currently considering an expansion of the pilot. See Appendix A for a partial list of ENERGY STAR products.

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

PHAs should purchase ENERGY STAR equipment (e.g., refrigerators and air conditioners) unless this results in energy savings to the authority that are insufficient to repay the initial higher costs over the expected life of the equipment. ENERGY STAR provides specific information about products that will result in reduced energy use.

A PHA should purchase ENERGY STAR-labeled products (e.g., windows) and ensure that any new buildings are constructed according to ENERGY STAR standards, unless the PHA performs an economic analysis that finds the incremental cost of the ENERGY STAR product or building as yielding a negative life cycle cost.

9. **HOME PERFORMANCE WITH ENERGY STAR** Launched in 2001, the *Home Performance with ENERGY STAR* initiative is an effort to use ENERGY STAR standards to help encourage and facilitate whole-house or whole-building energy improvements. Rather than labeling a particular product, or even a home, *Home Performance with ENERGY STAR* is linked to the building performance. The effort emphasizes consumer education, value and "one-stop" problem solving. While the program goal is saving energy, its market-based approach and message focus on addressing a variety of customer needs, from comfort to durability to health and safety.

Home Performance with ENERGY STAR has several key components including a whole-house approach, a home energy inspection, diagnostic testing and installation, and quality assurance inspections. The inspection includes a complete visual and diagnostic inspection of all of the home's thermal and mechanical efficiency including attics, exterior walls, windows, basements, and heating systems. Diagnostics include air infiltration testing and duct leakage testing, combustion safety testing, and where possible electric baseload analysis. The inspection leads to targeted advice on the home's energy and maintenance problems. Participating contractors can perform any and all of the recommendations, including installation of energy efficient lighting products, insulation, windows, heating, ventilation and air conditioning (HVAC) equipment, water heater insulation blankets, and providing air-sealing and duct-sealing, all using best practices. Alternatively, contractors maintain a list of providers for those services not provided directly, and assist with coordination and with quality assurance inspections. Compliance with 24CFR Part 85 is required for all procurements.

Home Performance for ENERGY STAR is still in the development stages in most parts of the country. The program is being piloted in 12 locations as of the date of this Notice. The establishment of a local program depends on a sponsoring entity such as a city agency, state agency, or utility. For more information, visit www.energystar.gov/homeperformance or contact Carol May, working in support

of ENERGY STAR for EPA, at 202-343-9787 (this is not a toll-free number) or by email at may.carol@epa.gov.

10. **ENERGY STAR FOR REDEVELOPMENT** The memorandum of understanding between HUD, EPA, and DOE addresses implementation “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 Total Development Cost (TDC) limits.” The HUD Energy Action Plan suggests, that “new housing built through the program to achieve an ENERGY STAR rating for new construction (30 percent above the 1995 Model Energy Code), unless the housing authority demonstrates that the higher standard cannot be achieved within TDC limits.” HOPE VI projects in Holyoke, Massachusetts, and another more recently in Louisville, Kentucky, were able to meet the ENERGY STAR criteria within TDC limits.

ENERGY STAR qualified homes are independently verified to be at least 30 percent more energy efficient than homes built to the 1993 national Model Energy Code or 15 percent more efficient than the state energy code, whichever is more rigorous. 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.

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 represent a set of construction specifications for a specific climate zone that will enable a home's energy performance to qualify for the ENERGY STAR label.

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 (e.g., insulated concrete forms, structurally insulated panels). BOPs can help to simplify the process of constructing an ENERGY STAR qualified new home. BOPs represent a set of construction specifications for a specific climate zone. They specify performance levels for the thermal envelope, insulation, windows, orientation, HVAC system, and water heating efficiency for a specific climate zone that meet the ENERGY STAR standard. (For the purposes of using BOPs, the U.S. has been divided into 19 separate climate zones, and each county is associated with a specific climate zone). BOP ratings typically entail at least one on-site inspection of the home to test the leakiness of the 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.

Once construction is complete, the PHA will need to locate a BOP verifier in your region to test the tightness of the house envelope and ducts. These tests, in conjunction with the BOP specifications, will determine whether the home can be awarded an ENERGY STAR label, and information is available at www.energystar.gov/homes

11. **SPECIAL OFFERS AND REBATES FROM ENERGY STAR PARTNERS** To encourage customers to purchase energy efficient products, ENERGY STAR partners occasionally sponsor special offers, such as sales tax exemptions or credits, or rebates on qualified products. PHAs must follow established procurement requirements when making purchases (24 CFR Section 85.36). The ENERGY STAR website has a search capability that identifies local opportunities to reduce the purchase price of specific ENERGY STAR products. The search is provided as a service to consumers to find such special offers or rebates where they exist, based on information that partners submit to ENERGY STAR. Enter the local zip code to find out if there are any special offers or rebates currently available on ENERGY STAR qualified products in a specific area at http://www.energystar.gov/index.cfm?fuseaction=store.store_locator.
12. **FUTURE OPPORTUNITIES FOR PHAS** The EPA and HUD will continue to work to provide value for ENERGY STAR in public housing. In addition to expanding the bulk purchasing initiative, other possible projects include creating a resource page on the ENERGY STAR website specifically designed to help PHAs include ENERGY STAR in public housing.
13. **CONTACTS** Questions relating to this Notice may be directed to John Miller, Senior Engineer, at (202) 708-0614, extension 4237 (this is not a toll-free number).

For additional information on energy issues for public housing contact the PIH Energy Conservation Clearinghouse through its website at <http://www.hud.gov/offices/pih/programs/ph/phecc/> or by telephone 1-866-275-6228 (this is a toll-free number).

More information on ENERGY STAR can be found at www.energystar.gov. For more information on ENERGY STAR in public housing, contact Carol May, EPA, At (202) 343-9787 (this is not a toll-free number), or by email at may.carol@epa.gov.

14. **REFERENCES**
 - 1) **MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND THE U.S. DEPARTMENT OF ENERGY AND THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**, July, 2002.

- 2) **HUD'S ENERGY ACTION PLAN** – April 2001, prepared by Department-wide Energy Task Force.

Copies of these publications may be obtained from the PIH Energy Conservation Clearinghouse website at <http://www.hud.gov/offices/pih/programs/ph/phecc/>.

/s/

Paula O. Blunt, General Deputy Assistant Secretary
for Public and Indian Housing

APPENDIX A

Following is a partial list of ENERGY STAR products:

APPLIANCES

- Clothes Washers
- Dehumidifiers
- Dishwashers
- Refrigerators
- Office Equipment

HEATING & COOLING EQUIPMENT

- Air-source Heat Pumps
- Boilers
- Central AC
- Ceiling Fans
- Dehumidifiers
- Furnaces
- Geothermal Heat Pumps
- Home Sealing (Insulation)
- Programmable Thermostats
- Room AC
- Ventilating Fans

LIGHTING

- Compact Fluorescent Light Bulbs (CFLs)
- Residential Light Fixtures
- Ceiling Fans
- Exit Signs

WINDOWS, DOORS, & SKYLIGHTS

APPENDIX B

FROM HUD'S ANNUAL PERFORMANCE PLAN

A.1.11 APP – FULLY IMPLEMENT ACTIONS INCLUDED IN THE DEPARTMENT'S ENERGY ACTION PLAN FOR FISCAL YEAR 2005

MP Goal: A.1.11.m2: Promote the benefits of using ENERGY STAR equipment to PHAs and residents to minimize consumption and costs by holding two ENERGY STAR “events” (e.g., promotion, meeting, mailing, etc.) annually. (Supports the HUD goal to require housing authorities to base equipment purchases on ENERGY STAR standards.)

Guidance: Field Offices can refer to the following links for information to support sponsoring events related to ENERGY STAR appliances and equipment at <http://www.hud.gov/offices/pih/programs/ph/phecc/> and <http://www.energystar.gov/>.

Field Offices will be provided a reporting mechanism by the end of the first quarter Fiscal Year 2005. Annual reporting will be required thereafter.

MP Goal: A.1.11.m3: Monitor 10 percent of the national inventory of HOPE VI construction projects to ensure implementation of energy conservation measures as part of construction phase, encouraging use of ENERGY STAR appliances and equipment where cost-effective. (Supports HUD level goal to establish HOPE VI as a leader in cost-effective, energy-efficient new construction.)

Guidance: Field Operations will work with the Office of Public Housing Investments to identify HOPE VI sites. Field Offices will receive a list of projects that have been selected for monitoring. The purpose of the monitoring of the HOPE VI projects is to ensure, where practical, the review of ENERGY STAR appliances and equipment. Field Offices will be provided a reporting mechanism by the end of the first quarter of FY 2005. Yearly reports will be required thereafter.