



Building America Case Study Whole-House Solutions for Existing Homes

Islip Housing Authority Energy Efficiency Turnover Protocols

Islip, New York

PROJECT INFORMATION

Project Name: Islip Housing Authority Unit Turnover Retrofit Program

Location: Islip, NY

Partners:

Islip Housing Authority,
<http://www.rhaonline.com/>

Advanced Residential Integrated Solutions Collaborative (ARIES),
<http://levypartnership.com/>

Building Component: Whole building

Application: Retrofit; single and multifamily

Year Tested: 2013

Applicable Climate Zone(s): All

PERFORMANCE DATA

Cost of energy efficiency measure (including labor): \$250 per unit

Projected energy savings: 10%-15% whole house

Projected energy cost savings: \$200-\$250/year

More than 1 million HUD-supported public housing authorities (PHAs) provide rental housing for eligible low-income families across the country. Much of this housing is owned by small to mid-sized PHAs and are low-rise, wood-frame attached, or multifamily units that are more than 30 years old and have not been weatherized. These PHAs have limited resources to fund energy efficiency measures, and do not directly benefit from lower utility bills (because utility costs are reimbursed by the government); however, they are interested in boosting the energy efficiency of their units to save energy and increase comfort and durability for residents.

The Islip Housing Authority (IHA) worked with U.S. Department of Energy Building America team, Advanced Residential Integrated Solutions Collaborative (ARIES) to integrate energy efficiency measures into the refurbishment process that each unit normally goes through between occupancies. Many PHAs, including IHA, have skilled maintenance staff who can be trained to implement basic cost-effective energy efficiency measures. Working with IHA, ARIES developed an energy efficiency turnover protocol and trained and coached IHA staff in the protocol application. IHA then integrated the protocol into its normal operations with periodic follow-up testing and inspections by ARIES. By integrating this process into every turnover process, IHA will retrofit approximately 50 of its 360 housing units each year.

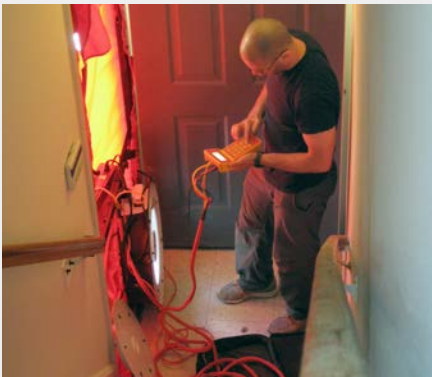
“The before and after blower door tests revealed shocking and unexpected differences in air leakage in the units. IHA will continue to utilize the protocols for each unit turnover. ARIES made the protocols easy to implement administratively. We are fortunate to have volunteered to participate and the residents benefit from the energy savings and comfort.”

– Richard Wankle, Esq., Executive Director, Islip Housing Authority

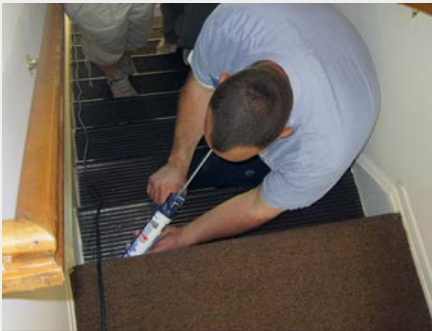
DESCRIPTION



Gaskets and insulation were added to attic hatches.



Blower door testing helped IHA staff determine the most important locations to air seal in typical units.



Air sealing also helps prevent odors and other contaminants from being spread between apartments.

For more information, see the Building America report, *Public Housing: A Tailored Approach to Energy Retrofits*, at: www.buildingamerica.gov

Image credit: All images were created by the ARIES team.



ARIES trained IHA staff to implement air sealing measures, including: sealing all plumbing and electrical penetrations such as pipes, outlets, wires, and lighting; sealing around the bath exhaust fan housing and ducts boots; replacing entry door weather stripping; caulking around entry door frame and windows; foaming inside hollow metal door frame latches, and caulking at stair treads and risers. Other measures included insulating water heating tanks, ensuring safe hot water temperature, installing low-flow showerheads, upgrading lighting, insulating the attic hatch and gasket, checking for proper bath fan operation, and repairing disturbed attic insulation.

Lessons Learned

- Staff was able to reduce infiltration as measured by a blower door test by up to 30% with just a few hours of work and inexpensive materials.
- Effective basic energy efficiency measures can be incorporated into normal housing operations at a low cost.
- To ensure consistent high-quality implementation, maintenance staff should be required to complete a checklist and administrative staff should include the energy efficiency measures on their readiness inspection and checklist before releasing the unit to a new resident.
- Whole-house energy consumption was reduced by up to 10%.

Looking Ahead

A survey of housing authorities indicates broad interest in adopting an energy efficiency turnover protocol. Model protocols developed for mixed-humid and cold climates are available for use from Building America.