

## CHAPTER 1. GENERAL CONSIDERATIONS

1-1. OBJECTIVES. The Modernization Standards Handbook provides design, construction and environmental criteria for the modernization of the nation's existing public housing stock. These standards establish a uniform basis for evaluating the physical condition and energy efficiency of the public housing stock to determine current rehabilitation needs in accordance with Federal housing objectives. These objectives are:

- a. Projects that are safe, in physically sound condition and with all systems performing their intended design function;
- b. Attractive, livable residential environments;
- c. Energy efficient buildings and systems;
- d. Increased security for tenant and project property, where required; and
- e. Projects that can be efficiently maintained at a reasonable operating cost after rehabilitation.

1-2. USE OF HANDBOOK. This Handbook, with Appendix 3, Physical Needs Assessment Survey, is used in the preparation of the application for funding under the Comprehensive Improvement Assistance Program (CIAP). Its use is required by the CIAP Handbook 7485.1 REV-2.

- a. Standards. These include mandatory standards (see paragraph 1-3) that must be met wherever there is a component that is not functional or serviceable and project specific standards that are met where determined by individual project need (see paragraph 1-5). The mandatory standards provide performance or prescriptive criteria to evaluate whether there is a deficiency. Where a deficiency is found, the correction of that deficiency may trigger the applicability of local code. In all cases, PHAs shall comply with local codes. The mandatory standards rely heavily on, but may exceed, local code where the local code does not meet HUD's standard for minimum habitability or there are opportunities for cost-containment or health and safety issues such as lead-based paint hazard abatement. Examples of cost-containment include energy conservation measures and extra durable materials to achieve lower maintenance and replacement costs. When the HUD mandatory standards conflict with any local code, the more stringent requirement shall apply.

- b. Physical Needs Assessment.

(1) Use of Survey Instrument. When carrying out a

physical needs assessment, the Modernization Standards supplement the Survey Instrument in Appendix 3. The Survey Instrument contains 16 parts and is keyed to the individual technical standards. Therefore, public housing agencies (PHAs)\* shall use the technical sections of the Handbook and related parts of the Survey Instrument that apply to the physical characteristics of an affected project. The physical needs assessment may be individually tailored by PHAs for each specific project. For example, the sections dealing with the Building Envelope (2.0) and Dwelling Unit Survey (16.0) contain all of the necessary data for review of detached single family scattered site units comprised of structures of different ages and designs.

- (2) Required Expertise. The Survey Instrument and standards are geared to the use of staff who have a working knowledge of construction and local codes. After a modernization program is approved, an architectural/engineering (A/E) firm may be hired to do the technical plans and specifications if the complexity or scope of the work warrants it. As provided for in the CIAP Handbook, where necessary, the PHA, with prior approval of HUD, may use an A/E to carry out the physical needs assessment.

1-3. MANDATORY STANDARDS. Public housing projects may be modernized to the extent necessary to meet the mandatory standards contained in this Handbook, which include both modernization and energy conservation standards. These mandatory standards are not building or construction codes, but must be used in conjunction with relevant local health, safety and building codes, hereinafter referred to as "relevant codes." The mandatory standards consist of three types, as follows:

- a. Health and Safety. These standards relate to health and safety, especially where they would affect tenants and PHA employees. These items, in most cases, require emergency attention. They include, but are not limited to, items of compliance with Federal, State and local health and safety codes, regulations and ordinances;
- b. Systems Integrity. These standards relate to items required to preserve the basic integrity of site and building systems, including conditions resulting from normal wear, abuse, and deferred maintenance, as well as conditions requiring major capital improvements; and

\*All references in this Handbook to PHAs shall apply to Indian Housing Authorities (IHAs) as well as non-Indian PHAs.

c. Energy Conservation. These standards apply to energy conservation opportunities and devices where determined to be eligible (15-year or less simple payback period) in a specific project by an energy audit conducted by using HUD publication, Energy Conservation for Housing: A Workbook (HUD-PDR-700(3)), State standards or other HUD-approved methods. Before approving the replacement of relatively new or functional items, the HUD Office shall consider all of the alternatives and exercise professional judgment as to whether such replacement is in the best interest of HUD and the PHA. For example:

- (1) Evaluation of Request to Replace a Furnace. The PHA's energy audit may indicate that the replacement of a seven-year old furnace (in very good condition) with a new energy efficient furnace which will cost \$2,000 and would save an estimated \$150 in fuel costs per year. The new furnace has an estimated life of 20 years. The new furnace is potentially eligible for funding because the simple payback period is 13.3 years ( $\$2,000 / \$150$ ). As part of the same energy audit, further analysis indicates that the existing furnace can be retrofitted with a flue damper and electric ignition which will cost \$500, have an estimated life of 10 years and save \$100 in fuel costs per year. This alternative work has a simple payback period of five years ( $\$500 / \$100$ ). Professional judgment indicates that approval should be given for the flue damper and electric ignition because the investment of \$500 will extend the useful life of the furnace by 10 years while annually saving two-thirds (\$100 vs. \$150) of the energy that a new furnace would. At the end of ten years, the PHA would make further evaluation regarding the most appropriate heating system to use, including district heating.

1-4. PREMATURE REPLACEMENT. Serviceable building components (such as roofing), equipment (such as furnaces or domestic hot water heaters), appliances (such as ranges and refrigerators) or materials (such as paving) shall not be replaced prematurely (such as 100 percent replacement) except under special circumstances where energy conservation opportunities make it eligible (15-year or less simple payback) and where ongoing maintenance and operating costs will not be adversely affected. It is assumed that replacements will be made gradually over a period of time when they become necessary. Serviceable and functional building components, systems, equipment or materials that do not present

a safety or health hazard shall not be replaced prematurely even through they fail to meet the

mandatory standards that would be applicable for rehabilitation.

1-5. PROJECT SPECIFIC STANDARDS.

- a. The mandatory standards may be exceeded only upon a determination by the Regional Office that the work is necessary or highly desirable for the long-term viability of a particular project, including site and building security. Project-specific work is determined in regard to the needs of each particular project and is not approvable across the board for all projects. Such work responds to differences in climate, location, building type, resident use and concerns, and management/maintenance systems. Examples of such work are found in Section 2 of each chapter. Efforts to excessively modernize buildings in order to compete with other subsidized housing in the community are expressly prohibited. Although all rehabilitation shall meet a modest, non-luxury standard, conversion or redesign may be approved on an exception basis where necessary to assure the long-term viability of a particular project.
- b. Project specific work must be certified by the PHA as necessary or highly desirable for the long-term viability of the project. This certification is in lieu of any written justification and is included in the Board Resolution as part of the Final Application. In reviewing project specific work, the Field Office shall make reasonable judgements, based on the location, circumstances and past performance of the PHA, as to the level of any justification required. Such justification shall be minimal for PHAs with good performance.
- c. The procedures for approval of all modernization work, both mandatory and project specific, are set forth in the CIAP Handbook 7485.1 REV-2. In general, these procedures involve PHA proposals, Field Office review and recommendation, and Regional Office approval.

1-6. APPLICABILITY.

- a. Location. The mandatory standards apply to all PHAs, including Indian Housing Authorities (IHAs), located in the contiguous 48 states. PHAs located outside of these states shall appropriately modify these standards to reflect climatic and regional conditions.
- b. Programs. For modernization of homeownership projects (Turnkey III and Mutual Help), the specific work shall meet the applicable standard.

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- c. Funding. This Handbook applies to modernization approved under CIAP in Federal Fiscal Year (FFY) 1985 and thereafter.

- 1-7. ORGANIZATION. There are one introductory and nine technical chapters which set forth the mandatory standards for major project components and systems. Performance objectives for each component and system are outlined at the beginning of each chapter to establish general criteria. Specific standards are then given for each subcomponent and subsystem. Each chapter is divided into two sections as follows:
- a. Section 1, Mandatory Standards. The mandatory standards apply to all projects. When comprehensive modernization is completed, projects shall meet all mandatory standards for components that are not functional or serviceable or when special purpose, emergency or homeownership modernization is completed, projects shall meet the applicable mandatory standards for the specific work. With regard to premature replacement, see paragraph 1-4.
  - b. Section 2, Project Specific Standards. This section contains examples of work that are project-specific and does not apply to all projects. These examples are not intended to be all-inclusive. Also, repair and replacement guidance is provided to encourage cost-effective implementation for increased durability, ease of maintenance, project security and reduced operating costs.
- 1-8. RELEVANT CODES AND REQUIREMENTS. The mandatory standards are designed to complement other Federal, State, Tribal and local codes and requirements that apply to project sites and buildings. When these standards conflict with any applicable code requirement, the more stringent requirement shall apply.
- a. Minimum Property Standards (MPS). Many older projects were built when living standards and system requirements were less stringent. This Handbook's objective is to bring projects up to a level equivalent to that intended by the HUD MPS for Multifamily Housing, as they relate to existing structures. Therefore, all modernization shall be consistent with Chapters 3 - Site Design, 4 - Building Design, 5 - Materials and 6 - Construction in both MPS for Multifamily Housing, HUD Handbook 4910.1, and for One and Two Family Dwellings, HUD Handbook 4900.1.
  - b. Industry Code. All modernization shall comply with the ASHRAE Standard 90-80A "Energy Conservation in New Building Design" and any revision thereof.
  - c. Accessibility for the Physically Handicapped. Modernization work, when required to provide accessibility to the physically handicapped, shall be

considered as necessary to meet the mandatory standards and shall comply with accessibility requirements established in 24 CFR Part 40, Standards for Design, Construction, and Alteration of Publicly Owned Residential Structures. See the CIAP Handbook 7485.1 REV-2 for application of this regulation.