Frequently Asked Questions and Best Practice Discussion

CNA Guidance – ML 2012-25 & HN 2012-27

May 15, 2014

1) **Why does HUD require "Intrusive" testing for older buildings?**

As part of its fiduciary responsibility, HUD requires intrusive testing as part of Capital Needs Assessments to properly evaluate major building systems and components to the extent required to determine their "Remaining Useful Life" for purposes of supporting long term fully amortizing FHA insured debt. It is incumbent upon the lender to ensure that immediate and long term capital needs are identified and that adequate funds are reserved to meet such needs when and if they occur.

2) **What are the major systems HUD is most concerned with?**

HUD is most concerned with the following building systems:

- Building structural systems (foundations, floor and roof frame, stairs)
- Building envelope (roof membrane, siding, windows, exterior doors)
- Electrical systems (wiring, lighting, alarms, motors, elevators)
- Plumbing systems (water/gas piping, drains, fixtures, pumps)
- HVAC systems (heating, cooling, ventilating equipment, controls, and air handling)

3) **What does HUD mean by the term "Intrusive" examination?**

Mortgagee Letter 2012-25 describes it as follows:

Intrusive tests and examination. ASTM E 2018-08 envisions a site visit by a needs assessor as a "walk-through survey" which it describes as a "non-intrusive visual observation of readily accessible, easily visible" elements of a property which excludes "concealed deficiencies" and "should not be considered technically exhaustive" since it precludes the use by the assessor of tools, equipment, protective clothing, exploratory probes, or "devices of any kind." The standard also notes in defining a "property condition assessment" that at the user's option an assessment "may include a higher level of inquiry and due diligence than the baseline scope" described by ASTM E 2018-08. An "intrusive test", as used herein, describes an examination appropriate to observed circumstances and relying upon standard diagnostic techniques, tools, probes, thermal imagery, and other equipment commonly used by relevant construction trades to evaluate the condition and serviceability of particular building components. The intent is to describe methods that are technically sufficient to make reasoned estimates of the durability and serviceability of building components as well as requisite repair costs, but not "technically exhaustive" except to the extent that evident risks to health and safety may require. The word intrusive does not mean destructive, although in some instances a minimally destructive technique may be

required. When this is the case, care should be taken to select the least destructive approach in locations least detrimental to ongoing operation of the property.

ML 2012-25 identified ASTM E 2018-08 as the basic standard for a capital needs assessment. The MAP Guide had not previously designated a standard. A CNA per ASTM E 2018-08 is explicitly "non-intrusive," thus it requires only a walk through with no tools, aides, ladders or similar items used. For newer, well maintained properties, without construction defects, this non-intrusive level of observation is sufficient. But it is typically not sufficient for older properties or those at the lower range of condition and quality.

Intrusive means the assessor approaches the CNA assignment with tools and methods needed to effectively evaluate a system or component including those which may not be "readily accessible, easily visible." He/she does this by:

- using appropriate tools including a ladder;
- opening or gaining access to closed panels, covers or compartments;
- looking underneath, in the attic, inserting a probe;
- turning on, operating, opening and closing, windows, doors, fixtures, appliances or equipment to see if they work;
- using his/her professional judgment, given available records and the age and condition of the property, to examine portions or components of a property hidden from view;
- identifying the need for further testing with specialized equipment and/or a technical specialist when conditions observed by the assessor or maintenance staff warrant, or when knowledge of components and age of those components may require and when the assessor lacks the specialized equipment or the technical expertise to address the need directly.

Not all such components need attention, only those where the recognized estimated useful life (EUL) of the component as originally installed has expired or will expire during the term of the proposed loan, or those where the EUL is not known. Other considerations prompting intrusive testing include observed conditions or other evidence suggesting a component may not last for its original, estimated life; knowledge of regional conditions or problems suggesting that a system or component likely needs further scrutiny; known product defects or material performance failures or faulty installation practices when such products, materials or practices are observed at a property or are likely to exist based on the date of installation, location and type of construction. Other evidence includes interviews with maintenance staff, review of maintenance records, contacts with maintenance contractors and inspections recently completed by others.

4) **The Estimated Useful Life (EUL) of a component may not be known or records unavailable to identify the type and quality. How do I estimate the EUL?**

We may not know the EUL of a component because construction records are unavailable or silent and we cannot see the component to identify what kind or quality of item it is. Wiring, plumbing and sometimes roof sheathing, or weatherproofing membranes and flashing are common components of this kind. So, if we cannot say what kind of pipe is in the wall or in the ground how can EUL be known? An experienced assessor often can answer these questions, but not if limited to a non-intrusive approach per ASTM E 2018-08. In most cases, assessment firms deploy tools or equipment and employ persons who (individually or together) have the requisite skills and experience to find and investigate conditions and will not need to hire a third party for this purpose. But if not, or if evaluation of a component or technology is beyond an assessment firm's experience and capabilities, they should hire a competent third party.

5) **Who determines the need for intrusive testing?**

The assessor does in conjunction with the lender's underwriter. The MAP Lender is expected to review the assessor firm and the individual assessor's credentials, experience, and work to assure that experience and credentials match the size, building conditions, type and technology of construction and equipment present at the site and that the level of due diligence corresponds to the age and condition of the property. For example, a lender should not engage an assessor with experience in contemporary light frame construction with simple individual unit mechanical systems to assess a mid-rise or high rise structure with elevators and more complex mechanical and plumbing systems.

6) **How can we know that the assessor has been "intrusive" enough?**

We expect the needs assessor to express an opinion of the durability (i.e., the original EUL and current, remaining useful life or RUL) of building components even when such components are not readily visible. When the needs assessor can describe the kind, condition and EUL/RUL of a component, based on evidence found or observed, then no further examination is needed. For newer properties this is rarely a problem because records or information are usually available to characterize construction components including those not visible.

For example, based on building plans, and maintenance records, we are likely to know that a 2003 property has a certain kind of sanitary and supply plumbing lines, say PVC sanitary and CPVC supply for example, and since PVC is a uniquely durable product we can also know that barring installation errors or settlement, not much can malfunction, and that any malfunction would result in leaks or stoppages, which should be apparent from observation or research into maintenance history. With the same set of facts, the assessor could reach the same conclusion for a property built in 1993, 1983 or even 1973, without an intrusive examination. But in older

properties records may no longer be available and perhaps no one knows what kinds of lines exist. In that case the assessor needs to use intrusive examination first to identify what product is in place and then to assess its condition. As with other aspects of property inspection, sampling can and should be used. On a vintage 1960's garden apartment site with many sewer lines the logical process is to check maintenance history, (which may reveal the kind of waste lines in place) to identify lines where maintenance has been necessary and to scope a few of these. If the product used is vitrified clay bell pipe, then we know we have a durable product typically vulnerable only to tree roots, displacement or cracking. These problems are invariably evidenced by stoppages. If maintenance records show no or limited stoppages due to roots or displacement, then no further examination should be needed. But if problems are found, then more lines might be examined to determine the extent. Rarely, if ever, should it be necessary to scope every sewer line in order to reach a conclusion.

7) **Who can perform intrusive testing?**

Many needs assessor firms have trained and experienced inspectors capable of handling the most common building and construction products, equipment and issues. But special equipment or more complex building systems may require specific expertise that the needs assessor should seek out and retain for the limited purpose of bringing the correct skills and equipment to bear on a problem. Common examples of situations where needs assessors might use a third party expert are Exterior Finish and Insulating Systems (EFIS), especially on high rise buildings, mold, mildew or air quality problems, power supply and distribution lines and panels, complex heating and cooling and fire alarm or suppression components, sewer lift stations or other pumping facilities, elevators, solar energy products and cogeneration power systems.

8) **Are results from intrusive testing included in the CNA report?**

Yes, the needs assessor should describe the evidence for his/her conclusions, especially when that evidence includes observations made using methods defined as "intrusive" in accordance with the ASTM standard and FAQ # 3 above.

If the assessor retains a third party, then the third party should prepare a written statement or report describing the item or situation he/she was retained to examine, their qualifications appropriate to that task, what due diligence means or methods he/she used and what he/she observed. This statement or report should be attached to the CNA.

9) **EXAMPLE: If my property is 25 years old and has never been through a major rehab do I need to perform intrusive testing?**

Possibly in regard to some items and components, but it in many cases this work would not require the assessor to hire a third party.

10) **EXAMPLE: If my property is 35 years old and has never been through a major rehab but has been well maintained do I need to perform intrusive testing?**

Typically yes, though the scope would depend on the visibility of system components and the maintenance records available. In most instances this work would not require the assessor to hire a third party.

11) **EXAMPLE: If my property is 40 years old and went through a substantial rehabilitation 7 years ago, do I need to perform intrusive testing?**

Not very likely assuming that the "substantial rehab" was well documented enabling a good understanding of both original and newly installed components.

12) **EXAMPLE: The plumbing system in my 10 story building is 40 years old and consists of cast iron waste lines and copper water service lines. Pressure appears good on the supply lines and there are NO visible signs of leakage or corrosion. Water circulation pumps and boilers were replaced within the past 10 years. Is intrusive testing of the water supply lines required? The cast iron drain lines appear in good condition with No visible signs of deterioration, leakage, or drain blockage. Is intrusive testing required?**

If the needs assessor can describe this set of facts based on his/her observations, he/she has probably already exceeded the ASTM "non-intrusive" standard by using a ladder, opening closed panels, covers or compartments, looking underneath, looking in the attic, inserting a probe, turning on, operating, opening and closing, fixtures, appliances or equipment to see if they work, all of which would be an appropriate level of effort in a 40 year old building. And having found this set of circumstances and having described how he/she acquired this knowledge he/she would properly conclude that no further intrusive testing was required since both cast iron and copper are uniquely durable products with an indefinitely extended life given proper installation.

13) **EXAMPLE: The elevator in my building is 40 years old and is maintained with a maintenance contract with a local elevator service company. The elevator service company has provided a detailed list of repairs and cost estimates to consider as part of the project repairs. Can this detailed list of proposed repairs satisfy the need for a specialized report on the elevator?**

Yes, generally a long term service contract for a system will satisfy, assuming it includes maintenance recommendations, and either includes an estimate of remaining useful life or provides evidence enabling the needs assessor to estimate remaining useful life.

14) **EXAMPLE: My mid-rise buildings were originally a public hospital complex built in the 1930s as a WPA project and converted to apartments 12 years ago. The project has an original slate roof and copper drainage system as well as original double hung, commercial grade windows which were repaired and refinished during the conversion. Original galvanized water supply pipe was replaced with copper while cast iron sanitary lines were in good condition and retained. New electric service, central and unit panels and distribution lines were installed as well as a new central HVAC system for common areas and in unit HVAC for the apartments. What kind of intrusive examination should I expect?**

None with respect to the mentioned building envelop components, except for opening and examining a sample of windows to assure that they function properly and are weather tight. Gaining access to the roof for visual observation might involve some intrusive methods, but assuming the assessor is familiar with slate roofing systems and can examine the underside of the roof sheathing for evidence of leaks and the kind of fasteners used he/she is likely to conclude that these items are uniquely durable with an indefinitely long useful life. Available data from the conversion of the plumbing, electrical and HVAC systems confirmed by visual observation is sufficient to establish the EUL/RUL for these components.

15) **EXAMPLE: My client owns a typical 3 story walk-up garden apartment property built in Florida with stucco exteriors in 1994. When walking through some of the vacant units during my site visit, I noticed a dank odor in some units especially on the sunny south side of buildings. When I asked about this the on-site manager said they had some trouble with dampness and a musty smell during the summer rainy season, but they had never seen mildew and had no roof or window leaks. It just seems to be part of life in Florida. Should I be concerned about the CNA and expect intrusive tests?**

Probably. Many stucco finishes installed in the 90's and early 2000's in the southeast (including Florida) have failed due to poorly installed Exterior Finish Insulating Systems (EFIS) with no or inadequate drainage planes. Failures were most notably on the southern exposures where solar heat expands moisture trapped behind the finish causing cracks and driving the moisture into the cavity wall where air conditioned surfaces cause condensation and moisture problems. Intrusive, possibly even destructive testing may be needed to determine the extent of the damage and necessary repairs. These problems often become apparent within 10 years of construction, well before a property might be considered an "older" property.

16) **If the CNA report, including appropriate intrusive testing, indicates that the building(s), structure, and all major systems have RULs and/or appropriate replacement reserves to ensure long term physical viability, are there other formulas or methods by which HUD might determine RUL?**

No. A well-documented CNA should outline the work necessary now and in the future, and the capital needs to cover that work, to ensure systems and components are physically viable for the long term, i.e., for the number of years necessary to support the requested mortgage term. RUL refers to the condition and durability of particular building components or construction systems and is not based on a formula.

17) Similarly, can we determine Remaining Economic Life (REL) based on a formula?

No, Remaining Economic Life is a valuation judgment about a property (not individual components) based on many factors other than physical conditions (See MAP Guide Chapter 7.6.A.9). Certainly physical factors potentially limiting REL might include structural integrity issues, disagreement with the conclusions of the CNA, or building/unit design or functional obsolescence, but the determination of REL does not lend itself to a formula approach.

Items 9 through 15 above are examples, not a comprehensive list of the actual conditions or systems that will be encountered. They are intended to highlight considerations for an assessor when deciding whether to conduct further and intrusive testing, including observed or reported evidence and symptoms of problems, knowledge of challenges with specific materials or components, regional problems in properties of similar age or component use, or information gleaned from maintenance staff, management, or tenants.

It is the responsibility of the lender to ensure that immediate and long term capital needs are identified and that adequate funds are reserved to meet such needs when and if they occur.