

TECHNOLOGY SYSTEMS IN RENOVATIONS: CABLE ABANDONMENT AND OTHER ISSUES

New construction or “green fields” are the ideal environment for designing and installing integrated building technology systems. Renovations present a different set of issues.

Generally, renovations lack cable pathways and power outlets where they may be needed. There are also existing legacy systems, some of which will have proprietary communications protocols. There may be more “organizational” issues, since systems are already in operation and established IT and facility management groups may be set in their ways. Some of these issues can be mitigated through the use of wireless devices (addressing the lack of pathways) and Power over Ethernet (cutting into the need for local power).

Another critical issue for renovations is the removal of cable that has been abandoned, something that in the past has rarely if ever been done. Cable removal is for good cause. The old cable simply poses a significant fire and life safety risk. It burns and generates toxic smoke very rapidly. A change in the National Electrical Code (NEC) in 2002 requires the removal of accessible abandoned telecom cable from plenum and riser areas when renovating facilities. The rule requires all “non-abandon” cable to be terminated (not just left hanging but terminated into some device or equipment) and tagged or labeled as “In Use” or “Future Use”. Almost every local jurisdiction adopts or references the NEC, thus failure to comply puts a facility at risk. It’s serious stuff.

Assessments and Contractors

The entities that have abandoned cable in a building are current or past tenants or occupants, and the telecommunications carriers that previously have or are serving the facility. The process for removal of abandoned cable starts with an audit and assessment of the cabling. You’ll first need to gather some information and do detailed surveys. Check to see if cable records or as-built drawings are available; even those old yellowed pieces of paper stapled to some plywood backboard may help you. Figure out what is accessible and what’s not, what’s used and what’s not, what cable you want to save and what needs to go.

For each of the cables you want to save, you also need to identify what service (telecom, fire alarm, A/V, etc.) they provide, and what type of cable (manufacturer and product number) it is. You then need to evaluate whether the cable you want to save meets NEC code (based on service provided and cable type) and whether it will comply with code if it remains.

Many times there are just too many unknowns; How is the cable supported? Where does it really run? What if it’s a multi-tenant building and the removal accidentally knocks out someone else’s services? What if the cable is in areas

with asbestos? What if the older cable with lead in the sheath is crumbling and technicians come into contact with lead dust?

Unless it's a well documented, recent installation, it's doubtful that a contractor will provide a fixed cost for the project. You'll probably see hourly or daily rates, maybe with some conservative caps, with contracts having specific conditions related to limited liability, working in hazardous areas, code compliance, damage to surrounding areas, removal of materials, etc.

Responsibility and Costs

Who responsible for removing the cable? Ultimately it's the building owner and manager. They can deal with it several ways, including passing on the responsibility and cost to the tenants. For new tenants, they may write into the lease that the tenant is responsible for removal of cable when they move out – they may even increase the security deposit to make sure it happens. For existing tenants, owners may rely on the typical contract language stating both parties will comply with all rules, regulations, codes, etc, and force the tenants to remove the cable to comply with the NEC. If the “offending party” is long gone from the building, but still exists (which might be iffy for some telecom carriers), the property owners could try to recover, probably through legal means, their cost for removing the carrier's or past tenant's cable.

What does all this mean for architects, property managers and facility managers? It is an important issue and cost for all renovations, and adds one more responsibility on an already full plate.

The best way to deal with removing abandon cable is to get out in front of it, and involve a technology and infrastructure engineer or consultant very early in the renovation process. Roll the audit, survey, evaluation and planning of the cable plant into the conditions assessment and renovation programming. This avoids surprises and realistically frames the work, cost and expectations of the project.

Of course, the objective is to preserve the integrity of the facility, the renovation design and the building technology systems. Awareness of the challenges of renovations should help reach those objectives.

For more information about smart buildings, technology design or to schedule a Continuing Education program for your office write us at info@smart-buildings.com.