

Insight to Action

Liberty Mutual Insurance | Construction | February 2015

Quality Control for Contractors

A Framework for Reducing
Construction Defects



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Challenges to a Simplified Quality Control Program

- Doesn't address underlying issues
- Identifies problems too late in the game
- Fails to include all stakeholders in process

As the economy continues to improve, the construction industry becomes increasingly competitive. Additionally, recent judicial reversals of long-standing precedent makes construction defect an occurrence under many primary general liability policies. So it's more important than ever for contractors to deliver successful projects, as well as manage their bottom lines.

That requires maintaining high levels of quality and avoiding costly construction defect claims. To help achieve these goals, more and more companies are looking for ways to improve their quality control programs.

The Top-Down Quality Control Program

Managing quality control for large construction projects is a complex process with many components and stakeholders. Unfortunately, the oversimplified quality control programs used in many projects aren't designed to identify and eliminate the kinds of problems these complex projects often present. Here's one view of a **two-step** quality control process:

step 1	<p>Review the plan and specifications.</p> <p>Prior to construction, the general contractor reviews the project design, looking for errors or any issues that might represent potential problems.</p>
step 2	<p>Inspect the jobsite.</p> <p>During construction, the general contractor's team follows a set of formal or informal inspection procedures to assess the work that's been performed.</p>

Challenges to the Top-Down Approach

Companies that have adopted this simplified, top-down approach to quality control are finding that, too often, process errors are repeated, resulting in construction defect claims and rework. This happens for a few reasons.

For one, a top-down quality control program doesn't encourage the team to identify and address underlying issues — the kind of all-encompassing issues that, if not corrected, can cause problems at every project phase. These issues can include unrealistic schedules, faulty procurement procedures, or failures in construction methods. While the top-down approach looks for problems and then fixes them, a stronger quality control program uncovers their root causes and eliminates them before they result in further problems and increased costs.

In the top-down process, by the time problems with materials and workmanship are identified, it's often too late, and the only solution is rework, an expensive and preventable consequence. Reinstalling a small roof's shingles may sound like more of a nuisance than a major complication, but the next problem could require tearing out a parking garage foundation.



Additionally, the top-down quality control approach fails to make subcontractors full partners in the process. In the absence of a true collaboration, subcontractors tend to play the role of hired guns. They're more likely to perform high-quality work when they feel a sense of ownership in the project.

Rather than proactively managing quality control, this top-down approach forces contractors and subcontractors to react to problems that could have been prevented in the first place, ultimately turning already complex jobs into more complicated and costly projects.

Quality Control for a Secure Future

To mitigate the possibility of construction defects and the claims that routinely accompany them, general contractors need a much more collaborative, continuously monitored quality control program. Those looking to improve their quality control programs should consider the following framework, which includes two primary elements:

1. Collaborative Planning and Teamwork

At its core, a construction project represents a gathering of individuals, each of whom brings a specific skill to the table. Therefore, it makes sense to involve all of these parties as early as possible in the process to take advantage of everyone's expertise. By including designers, subcontractors, suppliers, and others in the initial planning discussions, for example, you're aligning goals, setting expectations, and building a solid foundation for project construction.

There are several actions general contractors can take to help create and guide such collaboration:

Distribute a written quality control program.	This document should be shared with everyone involved in the project to set expectations, outline responsibilities, and align goals.
Form a quality control committee.	Make sure you include individuals from all project team parties. This will give everyone a sense of ownership of the quality control program and prevent parties such as subcontractors from feeling as if the process has been simply thrust upon them.
Conduct pre-construction meetings.	These meetings, during which everyone reviews the plans and specs together, provide the opportunity to address potential issues before they take hold. The meetings are also a great forum for clarifying issues and preventing misunderstandings.

By taking these steps toward collaborative planning and teamwork, the general contractor is helping to create an atmosphere of trust and understanding, two critical aspects of any successful project. Disputes are much easier to prevent from growing into claims when all parties feel a sense of ownership in the process and a responsibility to succeed as a team.



A strong quality control program has two key elements:

- Collaborative Planning and Teamwork
- Continuous Improvement and Control

2. Continuous Improvement and Control

The other key element of a strong quality control program, continuous improvement and control, comprises the following practices:

Constructability reviews	These reviews, conducted by the designer and contractors, help anticipate and mitigate field problems with an overall goal of achieving the designer's intent.
Pre-work site assessments	These assessments verify that the jobsite conditions (e.g., ambient temperature, adequate clearance) match the original job specifications and ensure that the work can be performed as planned.
Performance mockups	These help all parties visualize certain aspects of the project (e.g., windows, walls) and anticipate potential issues ahead of implementation and installation.
Inspections	Qualified personnel should regularly conduct inspections. Regular inspections assess the quality of workmanship and identify errors that can be corrected before they lead to major, more costly problems. Taking photos of completed work adds valuable documentation to these visits.
Change-order process	Having a clear process for documenting all specification changes and obtaining owner approval of them not only helps all parties defend against claims, but also can help prevent them.
Value engineering	This process of attempting to find the right ratio of function to cost helps eliminate overpriced products and materials and build more value into the project. But the ultimate goal must be to make sure that materials meet or exceed the contract's requirements.
Material acceptance	Whenever materials are received, a quality control inspection should be performed to ensure substandard products aren't installed.
Approvals and verifications	Project management should obtain formal owner verification and approval of workmanship. This can be done either by hiring third-party inspectors or having manufacturers formally verify proper installation.

The graphic below illustrates the foundational components of a robust quality control program — **collaborative planning and teamwork** and **continuous improvement and control**. Strong partnership and cooperation between all stakeholders is at the core of successful projects, while individual control steps should be performed throughout a project's life cycle to mitigate the possibilities of construction defects and claims.

Continuous Improvement and Control





A Working Quality Control Partnership

When seeking to improve their quality control programs and lower their cost of risk, general contractors and other construction entities should first consider consulting their insurance carriers. Because insurers typically work with a wide range of customers in a given field, they often possess the breadth of expertise and experience that a single company would find difficult to match.

Insurers know perhaps better than anyone the myriad types of exposures construction companies encounter, along with the costs and frequency of the claims that result. And because they work with their customers to prevent loss, insurers also know which types of preventive actions are most effective.

For example, a large HVAC contractor was interested in improving its quality control program. What prompted this effort was a series of costly general liability claims due to water damage from leaking or overflowing condensate lines. After the contractor contacted Liberty Mutual Insurance, we dispatched our risk control engineers, who conducted a number of working meetings with the contractor to review its current program and made several onsite visits to observe processes. They identified the root cause of the problem: vague wording in the quality control inspections checklist regarding water testing. The contractor substituted clearer, more direct language into its contracts and, as a result of this and several other improvements, no claims for water damage have been filed against the contractor for more than a year.

Worth the Commitment

It's normal to view the additional paperwork, resources, and, perhaps most of all, the commitment required to create a best-in-class quality control program with a wary eye. However, construction organizations should be aware that such programs often result in financial gain, rather than additional costs. Too many times we've seen contractors inundated with costly construction defect claims because they didn't invest the time and resources in creating a comprehensive quality control program. If a company added up all the rework it performed over the course of a year, the opportunity to save even a small portion of those costs would make the extra quality control effort worth it.

With an insurer's assistance, a construction company can develop a strong quality control program that showcases its skills and preserves its valuable reputation. Simply policing and inspecting a jobsite for quality concerns doesn't address underlying issues or correct the behaviors that lead to faulty construction. Superior quality control programs, like the ones outlined above, require thoughtful planning, front line worker participation, attention to detail, tracking of issues, and constant accountability, from groundbreaking to ribbon-cutting.

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