

# STRUCTURAL BUILDING COMPONENTS MAGAZINE

August 2002

## NAHB Research Center

### Quality Matters in the Real World: Case Study of Contractor Quality Assurance

New Quality Assurance System Yielding 50 Percent Fewer Callbacks for Participants

For decades, the manufacturing industry has pursued productivity improvements through quality management programs. With the decrease in available skilled labor, the home building industry also has taken notice of quality management techniques as a means to decrease defects, improve efficiency, and increase profit margins. After three framing contractors implemented an NAHB Research Center and PATH trade contractor quality assurance system, each company not only reduced quality defects by more than 50 percent, but also saved 7 to 12 percent in carpentry labor as a result of reduced operating costs and improved productivity, and improved builder satisfaction ratings to top levels. A report produced by the Research Center documents the experiences, methods, and results of these contractors and of builders who have implemented this system in the real world.

The Research Center produced this report after analyzing the business performance of the three framing contractors—All-tech Carpentry Contractors of Jamesburg, N.J., Del Webb's Contracting Services of Surprise, AZ, and Schuck and Sons Construction Company, Inc. of Glendale, AZ—prior to and one year after adopting the quality assurance system. Each company amended its existing quality assurance procedures over the year to conform to the guidelines outlined in "A Quality Assurance System for Wood Framing Contractors," a publication produced by the Research Center as a precursor to system implementation.

#### REDUCED CONSTRUCTION DEFECTS

Increasingly, American homebuyers are demanding higher quality, more durable homes. According to focus group results from builders and manufacturers, assuring that critical trade contractors (e.g., framing, electrical, plumbing, and roofing) provide high quality work is an essential ingredient for improving the overall quality of home construction. "Builders want to put together the best possible product," said Liza Bowles, president of the Research Center. "The quality assurance system makes the entire process go smoothly. The builders have less to monitor, the framers automatically produce a high quality product, there are no callbacks, and everyone is doing it right the first time."

Project participants reported three key reasons for the quality improvements and reduced callbacks. First, they said that employees became responsible for quality through the system. Quality plans clearly specify the right way to do the work, avoiding any confusion about construction details, workmanship tolerances, or materials and equipment needed for prescribed work procedures. "More than trying to focus on any specific aspect of the initiative, I think the

overall issue is to establish accountability along the way—every step of the way,” said Jalsa Urubshurow, president of All-tech. “The [quality assurance system] increases our ability to correct the problem.”

The second success factor was that employees were able to see constant reinforcement of their company’s commitment to quality. Frank Serpa, vice president of Schuck and Sons, said this employee perception was key in his company’s business improvements. “We have seen improved quality and consumer satisfaction,” Serpa said. “There has also been an increase in quality awareness, in the field and in management. This program simply formalizes the standards and inspection processes that exist in most companies.”

Finally, participating companies said that implementing a regular process of continuous improvement resulted in the prevention of quality “hotspots”—recurring quality problems. Regardless of the solution required to resolve a hotspot, regular training of field personnel was able to communicate the right way to do the job. One by one, according to the participants, this helped to prevent recurring defects. These companies expect progressively fewer quality defects over the coming years as they continue to operate under this system.

## **NOT LUCK, PLANNING**

Despite the relative ease with which participants began to see some of the improvements noted, Jim Hoffner, director of Quality Assurance for builder K. Hovnanian, was quick to emphasize that “Quality is not luck. It is the end result of a specific plan.”

To implement the quality assurance program, the companies focused on specifying activities to be performed on a regular basis—via the quality manual—and then documenting the results. While the order of activities varied, all contractors followed a six-step implementation process.

**STEP 1:** A seminar provided an overview of how the quality system works and the company president selected a quality representative.

**STEP 2:** A baseline assessment analyzed quality performance and current quality assurance practices. Each developed a customized quality manual based on its quality accomplishments and aspirations.

**STEP 3:** An approved material list of commonly used building products, required equipment, and workmanship tolerances was prepared. This list, along with related installation instructions, was added to the quality manual. Foremen and superintendents were selected to lead or inspect specific work crews. Then, the quality system was introduced to employees.

**STEP 4:** Inspection forms were tailored to each company’s existing field reporting requirements and field employees were trained in the new or refined inspection procedures.

**STEP 5:** Managers and superintendents began documenting their field review observations. Regular training of field employees on quality hotspot improvements was initiated.

**STEP 6:** Adjustments and refinements were made based on system operation monitoring. Contractors tracked the benefits of the quality system for comparison with the baseline data identified in Step 2. Audits verified system operation after six months.

## NOT ROCKET SCIENCE

The companies who participated in this pilot implementation already had some form of quality system in place and considered themselves on the leading edge of quality management. However, they all emphasized that implementing this new system of quality assurance resulted in major gains and benefits across the board.

Is it possible for other companies to reap the same benefits and share in the successes of continuous improvement? Jalsa Urubshurow said it is absolutely possible and that most companies are probably further along in the process than they know.

“Most companies do not realize it but they probably have some type of quality system already implemented,” Urubshurow said. “Where many companies fall short is in the documentation of the quality requirements that they are already performing. The quality system provides the necessary means to capture and address ongoing problems and to create a system that provides for preventive actions. Over time, a company should be able to measure the direct impact from the implementation of such a system.”

Based on their experiences and insights, Urubshurow and Hoffner are members of the Advisory Council for the National Housing Quality and the Certified Trade Contractor Programs, along with Kirk Grundahl, executive director of the Wood Truss Council of America, and Craig Steele, president of Schuck and Sons. The programs are administered by the NAHB Research Center and supported by several organizations including: HUD and the Partnership for Advancing Technology in Housing (PATH); NRS Consumer Research; Professional Builder magazine; and the Wood Promotion Network.

The report, “Implementing a Quality Assurance System: A Trade Contractor Case Study,” is available through the NAHB Research Center (800/638-8556, [www.nahbrc.org](http://www.nahbrc.org)), or HUD’s Office of Policy Development and Research ([www.huduser.org](http://www.huduser.org)). More information on quality systems for the home building industry is also available on the Research Center’s web site.

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