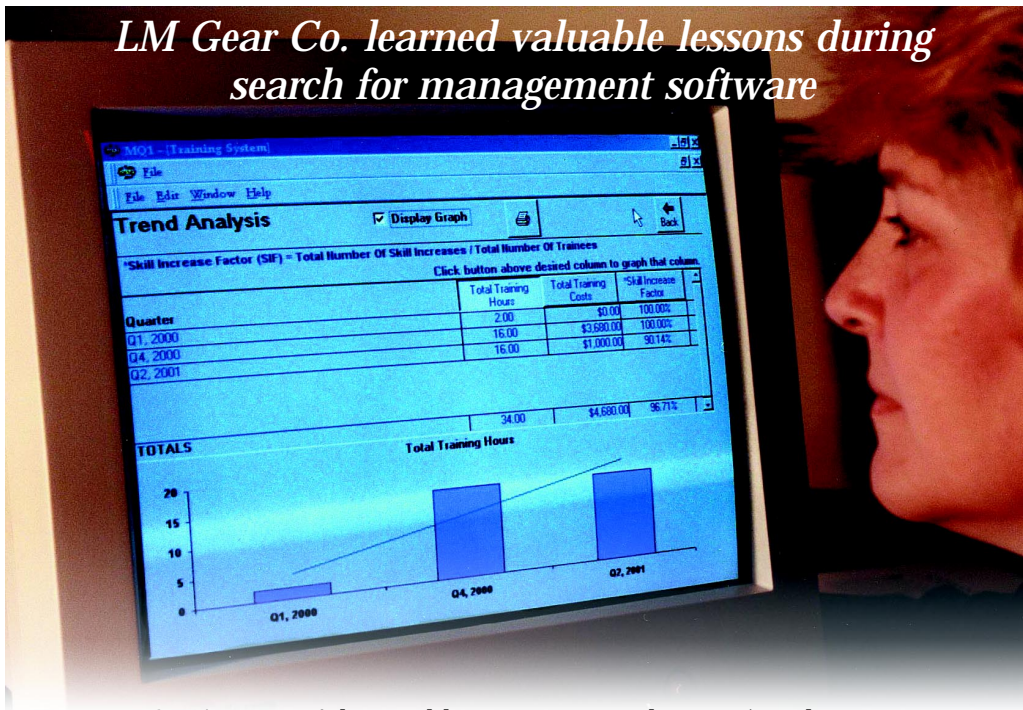


# Who's afraid of QS-9000?

*LM Gear Co. learned valuable lessons during search for management software*



*LM Gear's Nancy Aiken and her management have 24/7 online access to plant-wide quality process performance information.*

**E**xcerpts from the mental diary of LM Gear's QS-9000/Document Control Manager Nancy Aiken in early 1998:

"Preparing for QS-9000 certification. A nightmare come to life. A shelf full of three-ring binders bulging with documents. Gotta make sure every one of them is up to date. Will they prove we deserve certification? Missing some critical inputs! Where are they? I'm at the office night and day. Everybody's involved, everybody's grumbling. Sent out for pizza, again. Oh-oh! Time's up! The auditor is here. He is not smiling as he works. Several days later, he leaves. He is still not smiling. Our report card arrives. Thirty-six pages of non-conformance citations covering 70 to 80 individual items. This is not good. We are not happy campers."

The non-conformances were corrected and LM Gear Chesterfield, MI, received its QS-9000 certification in June 1998. For Aiken and Engineering and Product Development Vice President David Ameel, however, the celebratory mood didn't last. By fall, they would be preparing for the first six-month surveillance audit. Would the nightmare repeat itself?

Aiken and Ameel began their search for quality management software that would streamline the audit preparation effort and minimize the chance for non-conformance.

## Where to start?

"We began by sizing up ourselves—looking at our company's position, products and processes," Aiken says.

LM Gear is a classic example of mid-America's manufacturing prowess—an old-line firm that started small and evolved

into a mid-size supplier whose customers are mostly automotive. LM Gear started machining gears to support clock production. Today, its products extend from acme-nuts, helical gears, spur gears, multi-featured spindles and drive worms to components and subassemblies for automotive power seats, memory-tilt steering, pedal positioners, pumps, power tools, small DC motors, drive systems and motion converters. With 150 employees, LM Gear produces some 100,000 parts per day.

"Looking at the broad picture," says Ameel, "we saw we could use information technology to gain a keener view of all operations. This could heighten efficiency and help us deliver products with exactly the characteristics or features needed. With respect to audits, we wanted to gather data about quality processes automatically, and assure that current and complete documentation would be available at any time for auditors and for customers alike.

"At this point, we were buried in paperwork. Each individual production part — there are hundreds of them—stood alone with its own compendium of original documents, policies, procedures and implementation techniques. A change to one document could ripple through dozens of others, yet there was no systematic, disciplined means for cross-referencing. Careful as we were, we were bound to make errors."

## The next move

Step number two was to decide on essential capabilities for any new quality management software system. What must it do besides make life easier at audit time? What key characteristics must the software have?

Aiken and Ameel decided that the software must be applicable across LM Gear's entire business. It must cover all QS-9000 requirements. It should be easy to deal with and should respond to queries in close to real-time. It must accommodate change without making the company change computing equipment. It should eliminate a majority of paper documents verifying QS conformance. Most of all, from an administrative perspective, it must make preparing for surveillance audits a lot easier and help LM Gear pass its audits with a minimal number of non-conformances.

Now it was time to shop for software. "Deciding factors were, first, that this one system covers all 20 requirements areas of QS-9000," says Aiken. "Second, its nine modules are fully integrated, thereby meeting our 'simpler is better' criterion. Third, it appeared capable of helping us manage quality processes across the multi-step operations common to LM Gear's production. For us, this is where software should shine." Ameel and Aiken's selection was MQ1 from CEBOS, Ltd.

## Progress and problems

LM Gear opted for a staged implementation over a number of months, which let employees gain familiarity with system operations without impacting production schedules. The software was fully operational by the fall of 1999. Aiken points to areas where the software is proving particularly beneficial:

*Operating efficiency.* LM Gear uses its quality management software as a companywide "informing agent." It embraces activities from purchasing to raw materials, production, shipping and receiving, tooling designs, customer satisfaction strategies—literally, everything the company does. According to LM Gear, the software saves time and reduces cost by automatically enforcing quality disciplines. The software assures that employees follow through on all required quality process procedures.

*Information integration.* The software enables documentation to be standardized across families of products. Instead of shoveling through snowdrifts of details, LM Gear's people now can focus on the most difficult tasks in creating a family of products. Production employees and managers seldom touch paper documents. Quality information in close to real-time relating to any machine or process is as close as the nearest computer screen.

*Customer and supplier relationships.* APQP—Advanced Product Quality Planning—is an area in which quality management software makes a big difference to LM Gear and its customers. Aiken says, "APQP commonly gets a lot of lip service, but I believe few companies really make it a way of life. Our new quality management software makes APQP much easier." The software's Project module organizes and manages all APQP activities.

Today, APQP starts with a customer's Request For Quote. First, LM Gear engineers evaluate the request and develop a proposed design and production process. Collaborative engineering often plays a role in this. It is

common for LM Gear to participate with customers in finalizing product design because a product's design affects production methods.

Next, a "core team" made up of representatives from Engineering, Quality, Manufacturing and Materials evaluates, modifies and approves the proposed plan. The core team decides how the production process will be monitored and defines appropriate types of reporting and documentation. In accordance with QS-9000, internal audits close the loop, assuring that all that was agreed to is, in fact, being done.

*Audits.* According to Aiken, "Preparing for an audit today is like a picnic in the park. The software helps our employees verify every quality process. They enter their data on local computer screens and that's it, unless something remains undone, in which case a reminder pops up right away. I can monitor everything that's happening on my own screen in real-time, and so can our managers. For security's sake, I'm the only one who can change software parameters.

"Those phonebook-size documentation binders are gone. All the papers I need for an audit fit into a manila folder. At audit time, I point to my computer. Auditors love the convenience. Our most recent audit turned up three minor non-conformances." **CEBOS, Ltd.**, Southfield, MI.

## Need software? Check the mirror

Dave Ameel and Nancy Aiken offer basic guidelines to others who intend to acquire quality management software to help achieve and retain QS-9000 certification.

*Look in the mirror.* Thoughtfully consider what a quality management system should do for your company. Figure out what you really need, not just to qualify for QS-9000, but to help the business run more smoothly and efficiently. List your priorities. Make a list of current operating metrics; you can use these metrics later on for comparisons.

*Enlist support.* Get help from decision-makers in your own company. Make sure your own management sees quality-related costs for what they actually are—savings that benefit the bottom line!

*Listen to others.* Using your priority list, look for the right fit. Listen to what experienced users of quality management systems say about their software and their vendors. Would they make the same decisions again?

*Test drive the finalists.* Put the best software candidates to a fair and realistic trial.

*Don't compromise.* Don't haggle. Be sure you're getting what you want in terms of vendor performance as well as software performance. Be willing to pay a fair price for product, training and support. LM Gear recovered its investment in less than a year.

*Do it now!* Stop shuffling papers and duct-taping leaky software. If you need QS-9000 certification, then you need a comprehensive quality management system. Every day you delay brings you another day closer to audit time.