Quality Matters:

Why companies fail with ISO 9000

William H. Louis

This article is one of several being prepared for this section of Tappi Journal by members of the Process and Product Quality Division.

After making the critical decision to pursue ISO 9000 and looking at the magnitude of the effort, confusion and fear may overwhelm management. Every company faces the possibility of failure, regardless of which ISO standard applies. This article explores three possibilities for failure and several ideas of how to avoid these failures.

There are really three forms of failure associated with ISO 9000 registration. The two most commonly identified ones are failure to achieve registration and decertification after registration. However, the more serious one in terms of the ultimate survival of the company, is failure to capitalize on the improvement opportunities associated with ISO 9000 compliance.

Failure to achieve registration

ISO 9000 registrars are looking for three key elements in order to be convinced that a company has achieved ISO 9000 compliance. These three elements are:

1. Compliance of the quality system to the appropriate ISO 9000 standard
2. Internal consistency and complete implementation of the quality system
3. The effectiveness of the quality system.

Before an ISO 9000 registrar will come in for an audit, a copy of the company's quality manual will be requested for review. While a quality manual is not required by ISO 9000 standards, most registrars will want a copy of the manual or its equivalent. By reviewing the company quality manual, the registrar can assess whether each clause of the appropriate standard has been addressed by the company. For example, if a company is seeking ISO 9001 registration and has no service element (fairly typical for the pulp and paper industry), the company quality manual must satisfy ISO 9001 Section 4.19 by stating that there is no service element. This allows the company to show the linkage of their quality system to the standard without creating unnecessary procedures or documentation.

After the registrar is satisfied that the company has complied with the appropriate standard, an initial visit for registration takes place. During the visit, the auditors probe the company quality system to confirm that it is internally consistent and has been fully implemented in all affected areas. The auditors will ask numerous focused questions and request samples of relevant documentation.

Finally, the auditors will look at the company's execution of the quality system to assess its effectiveness. If, for example, a quality system dictates that off-quality parent rolls have "hold" tags put on them with an adhesive that allows the tags to fall off during normal transportation and storage, the company will be cited for a nonconformity based on the lack of effectiveness of the off-quality hold system. Specifically, the auditors will note a violation of ISO 9001 clause No. 4.13, Control of Nonconforming Product.

The five most common reasons for failure to achieve registration are:

1. Document control
2. Design control
3. Purchasing
4. Inspection and testing
5. Quality system

Given the wet, hot, high-dust, and chemical-laden environment of a typical paper mill, document control can be very difficult. It is not sufficient to state that a document has been destroyed by chemicals or dropped in a repulper. Controlled documents must be destroyed as stated in company procedures. Design control is critical for companies where there is a significant R&D or process design element that is associated with customer contracts. Purchasing can be a nightmare with the myriad of fiber sources, process chemicals, additives, and packaging/converting materials. Inspection and testing becomes tricky given the environmental conditions out on the paper machine and in the converting area. Even in test/control room environments, the influx of 100°F, 100% humidity air can invalidate many test results. Finally, quality system is the catch-all that auditors use when there are numerous minor nonconformities found. This accumulation of minor nonconformities means an inadequate implementation of the quality system.

Those five areas have been tripping points for the thousands of companies that have attempted ISO 9000 registration. Another area of critical importance is process control.

Process control has always been and will continue to be an important area in pulping and paper machine environments. The extent to which it's implemented can be an asset when a company approaches ISO 9000 registration. However, the combination of chemical, mechanical, and thermal effects and "magic" associated with making paper leads to entirely too much creativity in the paper mill. This creativity can jeopardize quality system compliance.

Decertification after registration

There are three primary ways a company or plant can fail after initial registration and lose its certificate:

1. Change processes without changing documentation
2. Shift employees from job function to job function without adequate training
3. Fall subject to atrophy or entropy.

The competitive marketplace has caused many paper companies to very quickly change their product structure, resulting in process changes. Without careful attention to documentation a company may fall out of compliance by failing to keep its written procedures up-to-date with current practices.

As paper mill personnel shift from position to position, adequate training (using what is already created for ISO 9000) is a must. However, the traditional paper mill training program includes a brief glance at written materials and a lot of time "shadowing" the person leaving the position. This level of training will not be sufficient to maintain registration, because management of "procedures variation" will likely fail.

As exciting and potentially productive as self-managed work teams (SMWT) are, there is even a higher potential for inadequate training. SMWT personnel learn additional skills and shift more "fluidly" across job functions than their counterparts in traditional work systems. Training and retraining become more important issues but can be managed with very carefully structured skills-training programs.

Procedures that are not used will fall subject to atrophy. Personnel need to periodically practice procedures in order to remain properly qualified and knowledgeable. Entropy is present not only in laws of the universe but also in people systems. The somewhat mystical nature of pulp and paper making, combined with individual creativity, can lead to digression from the approved procedures and work instructions. A healthy environment based on adequate communication, coupled with comprehensive training programs, can help avoid this breakdown of the quality system.

Missed improvement opportunities

Among the key strategic choices a company must make at the beginning of the ISO 9000 compliance process is to decide how to approach documentation. There are really only two choices: document "what is" and go for the certificate or assess the system, make appropriate improvements, and document the resulting systems.

While ISO 9000 registration can mean a competitive advantage or survival in the marketplace, many companies are disappointed after they receive the certificate because they often have difficulty maintaining compliance. One common reason for failure to keep the certificate is lack of personnel involvement associated with the documentation process. Lack of involvement is usually followed by low levels of motivation to follow the procedures. Further, it is very difficult to manage compliance to the procedures when those procedures are not effective. People will normally modify processes that generate significant waste.

The process of continual improvement is vital for those who wish to be more successful and remain viable for the future. Companies that assess their current procedures and make improvements based on a prioritized list of opportunities can expect to quickly make unprecedented improvements. A comprehensive analysis of tasks based on time, number of employees involved, cost, and task type can give a company a true picture of its internal procedures. Next comes a prioritized approach to improvement. It is not necessary, nor is it practical, to improve everything simultaneously. Customers and internally based criteria can help management pick the right opportunities. This improvement effort can free up resources to complete the remaining ISO 9000 documentation, provide savings to offset the cost of registration, and reduce customer order lead times.

Failure to achieve initial registration, and decertification after registration, are clearly disappointing and costly mistakes for a company seeking an ISO 9000 certificate. However, the failure to spot key improvement opportunities can be more costly in the long run. It is only those companies that can increase their effectiveness who will survive. Those companies will also find ISO 9000 registration an easier and relatively pain-free journey.

Louis is management consulting manager for Grant Thornton, Accountants and Management Consultants, 100 West Lawrence St., P.O. Box 1097, Appleton, WI 54912-1097. He is an ISO 9000 and total quality management (TQM) specialist and registered professional engineer.