

# Construction Specifics

Quality managers in construction face major differences in the way that their business operates when measured against other industries.

In order to highlight these differences in approach we discuss some of the larger deviations from the accepted interpretation here in order to assist those who may have come originally from outside of the industry. A few examples are listed below.

- Some differences can be seen in that the industry sells a service to deliver a defined product rather than selling a service or delivering a predefined product, although in some cases, such as house-building this might be the case otherwise the client generally dictates what the product is and when and where it will be delivered rather than accepting what is made available.
- Rather than delivering multiples of a predefined product each product produced is unique and often it is the processes that are predefined and repeatable.
- Production of a single product may require the setting up of a whole project team, or even a new company rather than the introduction of a new product line working to established norms.
- Conditions on a construction site are often varied due to the weather and as this cannot be controlled it must be factored in to the overall delivery system.
- Non conforming product is also a challenge as often it is impossible to simply put into a designated quarantine area and therefore must be controlled in other ways.

One of the biggest differences is in how the product is checked and certified. Although some areas of the construction industry, such as building, require a third party inspection who then certifies the work and indemnifies the client, quite often it is usual for the construction company to collect **assurance and "self certify"** the product. Key to this approach is using **inspection and test plans** more liberally than would be normal in a production environment.

Ensuring that people are **competent** in producing a quality product is a challenge all quality professionals face but in the construction environment it is a bigger challenge because the constantly changing conditions require a bigger exercise of judgement and therefore requires a test of experience in the role and problem solving capability rather than purely training.

A difference in **audit approach** is also required as not only is the quality professional required to internally audit their own project but also is required to examine the supply chain and the delivery of the works themselves in order to mitigate risk and gain improvement. Often the standard being audited against is not the well known ISO 9001:2008 but is the contract and often the quality plan for the project or the supplier.

As mentioned earlier **non conformity control** represents a major departure from the accepted norms for a quality professional. Rarely is it possible to physically quarantine a defective item or part as they are often too large or cannot be removed. Instead another effective method of "removal" from production must be achieved. In addition non conformity disposal is rarely as easy as scrapping the

part and often the original designer must be involved as rectification works or redesign to accommodate the incorrectly installed part is often preferable to removal and replacement.

Even the **management review** can be interpreted differently due to each project being akin to a separate company. Therefore does ISO 9001 require a management review at company level or project level? Often the answer is to do both but even this is fraught with issues. For instance a management review at company level may not identify and address individual project issues but equally a management review at project level may not have the power to address identified flaws in company processes.

The construction quality professional is often also responsible for **information control**, which may be complex as many parties must co-ordinate their actions and share a common data source. Management of **quality interfaces**, both inter project and inter disciplinary, becomes a key focus area in this environment as misunderstandings are a common root cause of quality failure.

In addition the quality professional is often involved in **commissioning** activity in assisting to document the testing and acceptance activity to ensure that everything actually works as expected.

Finally the quality professional has a role to play to support the other support professionals on site such as environmental and safety. One key area of support that the quality team might be involved in is temporary works as often they are responsible for ensuring that the **temporary works** are just as competently managed, assured and certified as the main project. Although the Temporary Works Co-ordinator (TWC) is expected to lead this activity the advice of a quality professional makes this demanding and important safety role much easier .