



# Setting Up an Effective Quality Management System

An Online Continuing Education Course for Engineers

**Course Number: I-1001**

**Credit: 1 Hour / 1 PDH / 1 CPD**

# Setting Up an Effective Quality Management System (QMS)

Robert Sliva, P.E.

**Introduction**

**Corporate Quality Policy**

**Elements of a Basic QMS**

**Quality Management for the Oil & Gas Industry**

**QMS Outline “Company XYZ”**

**Elements of a Multi-location Outline**

**Summary**



## Introduction

It is easy to understand the benefits of quality from the perspective of building good parts and eliminating waste. This presentation expands upon that idea to demonstrate how customers, employers, and employees, alike, can benefit from a quality management system in the delivery of products and services. While many vendors recognize that superior quality can distinguish their product from that of a competitor, the development and implementation of global quality management systems narrows the quality gap among service companies and product providers.

The evolution of quality as a professional process has driven this progress through the development of internal controls, as well as through the advent of third party regulatory and audit groups focused specifically on the benefits of quality improvement to all stakeholders. This is especially true where companies focus on their core competencies and outsource to subcontracting entities around the globe. Global standards (discussed later) have benefitted companies large and small and tend to make the global economies more competitive.

The need for quality management was first recognized in Europe before the Industrial Revolution. Products had been made from start to finish by the same person or team of people, with handcrafting and fine-tuning to meet a client's needs. The advent of mass production during the Industrial Revolution required teams of people to work in specific areas of a process where one person would no longer complete a product from start to finish. This implementation of mass production during the Industrial Revolution fostered the growth of quality management into a systems approach. In the late 19th century, pioneers such as Henry Ford capitalized on the benefits of mass production to improve consistent quality of output. Quality departments were established to validate the quality of production and minimize errors. Ford envisioned standardization of design and component standards to ensure a standard product was produced. Management of quality was the responsibility of the quality department introduced to improve quality and repeatability.

Quality, as a managed and measured process, evolved during the second half of the 20th century. During this period, few other processes have seen as many global changes as quality management. Quality as a profession has grown from simple tolerance and dimensional controls, to engineering and systems engineering. In the 1970s, attention focused on quality engineering and expanded in the 1990s to include quality systems as a professional field. Like medicine, accounting, and engineering, quality has achieved status as a recognized profession unto itself. Additionally, there are many available resources that speak of the Japanese influence in this area during the 1970s and 1980s, noting the development of shop-level quality systems, such as cell groups.

The effectiveness of any quality system is defined by continuous improvement through planned QHSE reviews, in order to provide customers with the highest quality products and services at a competitive price, in a timely manner, and in a safe work environment. Quality assurance (QA) and quality control (QC) internal procedures are put in place to ensure that design, production, installation, and service are in accordance with the terms of individual contracts.

It cannot be overstated that the pursuit of quality should be the absolute goal of a company's top management. An example of a company's corporate quality policy is as follows. All processes and divisional implementation should be subordinate to this flexible, yet pervasive document.

# Company XYZ

## Corporate Quality Policy

### QUALITY PLEDGE

We are committed to being very aggressive in our attitude towards quality. We strive to be ranked as the "best" in our business. Quality is not just another goal; it is our basic strategy for survival and future growth.

### OBJECTIVES

Our quality objectives are to furnish the highest quality products, on time, at a fair market price. The attainment of such objectives will lead to total customer satisfaction, enhanced performance at user levels, and ongoing improvements in product efficiency. To achieve our objectives we will maintain a constant focus on quality with full dedication, commitment, and teamwork towards continuous improvement.

### VISION

Our journey is Total Quality Management through certified Quality Management Systems in all of our facilities. As recognized by international certification bodies, our Quality Management Systems will provide the highest level of confidence for our customers. They may rest assured that all aspects of our Quality Management Systems are functioning at the highest level. This will ensure a high quality product with documented systems to address any issues that may arise from concept to commissioning, service, and beyond.

### CONTINUOUS IMPROVEMENT

Total Quality Management is not a short term program. It is a long term commitment aimed at continuously improving all aspects of our business, from providing a safe work environment, managing our business processes, controlling supplier selection/retention, and improving the quality and operation of our products.

---

QHSE Manager

---

Sr. Vice President

---

COO

---

CEO

## Regulation of Quality Management

The evolution of quality management in various industries required standardization among the provider peer groups. For example, in the healthcare industry, AHQ (American Healthcare Quality) was established. Industrial manufacturing adopted, among others, Malcolm Baldrige's NIST. The Food and Drug Administration (FDA) has its own quality standards, as does the Nuclear Regulatory commission.

In the oil and gas industry, API (American Petroleum Institute) is a recognized entity for governing quality systems. API has structured standards for the oil and gas industry. And API now has standards for the late 20<sup>th</sup> and early 21<sup>st</sup> century. The International Organization for Standardization (ISO) has also developed standards for quality management systems.

And API now has standards for the late 20<sup>th</sup> and early 21<sup>st</sup> century.

### Element

It is important to understand the key elements of a quality management system.

1. Management
2. Customer
3. Resources
4. Methods
5. Data
6. Process

to produce the following:

To view the remainder of the course material and to take the quiz for PDH credit, you must purchase the course.

Close this window and click "Add to cart" on the product page.