ISO 9001:2015

Subject: Quality Management System

Clause 7 - Support

31.03.2017
An effective quality management system cannot be maintained or improved without adequate resources.
AN EFFECTIVE QUALITY MANAGEMENT SYSTEM CANNOT BE MAINTAINED OR IMPROVED WITHOUT ADEQUATE RESOURCES.

AS A FUNCTION OF PLANNING, SUCH RESOURCES SHOULD BE DETERMINED AND PROVIDED.
CLAUSE 7 - Support
Requirements

1. An effective quality management system cannot be maintained or improved without adequate resources.

2. As a function of planning, such resources should be determined and provided.

3. This includes contract or project specific resources.
AN EFFECTIVE QUALITY MANAGEMENT SYSTEM CANNOT BE MAINTAINED OR IMPROVED WITHOUT ADEQUATE RESOURCES.

AS A FUNCTION OF PLANNING, SUCH RESOURCES SHOULD BE DETERMINED AND PROVIDED.

THIS INCLUDES CONTRACT OR PROJECT SPECIFIC RESOURCES.

THERE ARE ALL THE AREAS RELATING TO THE “PEOPLE, PLACE AND PROCEDURAL” ASPECTS OF THE MANAGEMENT SYSTEMS.
CLAUSE 7 - Support

7.1 Resources
7.2 Competence
7.3 Awareness
7.4 Communication
7.5 Documented Information

Requirements
7.1 Resources

The main intention behind this general requirement is that the people working within the quality management system are competent to fulfil their duties supported by equipment and infrastructure that is fit for purpose.
7.1 Resources

There must be adequate provision of infrastructure such as buildings, equipment, IT systems, transport, etc.
7.1 Resources

Determining what is needed and what maintenance program should be developed to ensure its continuing capability is part of planning.
The **work environment** of an organization has many human and physical factors that can influence quality, effectiveness and efficiency. These factors need to be identified and managed and can include: protective equipment, ergonomics, heat, noise, light, hygiene, humidity, vibration, temperature etc.

Work environment **criteria** are often found in procedures, contracts, specifications and codes of practice. **Evidence of compliance** should be available via retained documented information.
The organization must determine what monitoring and measuring has to be undertaken and provide evidence that it was undertaken using correct and reliable equipment.

Regular calibration and maintenance (and retained documented information) is one way to provide confidence that results are reliable.

Critical measuring equipment must be available and in a known state of accuracy to provide assurance and evidence that products meet their relevant requirements.

This also includes software.
In order to determine competence, **competence criteria** need to be established for each function affecting quality. This can then be used to assess existing competence and determine future needs. Where criteria are not met, some action is required to fill the gap. **Training** or **reassignment** may even be necessary.

Retained **documented information** is required to be able to demonstrate competence. Recruitment and induction programs, training plans, skills tests and staff appraisals often provide **evidence of competence** and their assessment.

Competency requirements are often included in recruitment notices and **job descriptions**.
Awareness

Personnel need to be made aware of the relevance of their activities and how they contribute to achievement of the quality objectives and the effectiveness of the management system and resulting organizational performance.

Induction programs and staff reviews are often used for this purpose.
Effective communication is essential for a management system. Top management need to ensure that mechanisms are in place to facilitate this.

It should be recognized that communication is two-way and will not only need to cover what is required, but also what was achieved.

Mechanisms for communication could include: meetings, notice boards, in-house publications, awareness raising seminars, toolbox talks, intranet, email, etc.

ISO 9001:2015 brings a clear emphasis on the importance of both internal and external communications. The clause emphasizes the need to plan and implement a process for communications along the familiar ‘who, what, when, how’ principles.
The term "documented information" now replaces the previously used terms "documented procedure" and "records". Documented information can be in any format as long as it provide appropriate evidence to demonstrate compliance, and such documented information does not mean there has to be a procedure for everything.

Standard does specify on a number of occasions the need to maintain or retain documented information, in order to give structure, clarity and evidence of the system being maintained and effective. Organizations still need to look at where documented information (e.g. processes, procedures, data, records) is critical for the management systems and its effective operation.
SKILLS MANAGEMENT
CHANGING VALUES – CHANGING WORK STYLES

TRADITIONALIST
- reliable
- loyal
- hard worker
- constant
- accepts leadership
- respects supervisors

BOOMER
- assertive
- performance-oriented
- motivated
- ambitious
- team-focused
- client-centric
- service-driven

GENERATION X
- self-assured
- independent
- technophile
- flexible

GENERATION Y
- purpose-seeking
- optimistic
- realistic
- competitive person
- stubborn
- multitasking
CHANGING VALUES – CHANGING WORK STYLES

**TRADITIONALIST**
- avoid
- system conformant
- little willingness to change

**BOOMER**
- tetchy towards criticism
- impartial
- egocentric
- focused more on processes than results

**GENERATION X**
- impatient
- skeptic
- lazy
- low level of assertiveness
- cynical

**GENERATION Y**
- needs guidance
- requires (company) structures
- lacks <<personal drive
- disloyal
THE ADKAR MODEL

AWARENESS
of the need for change

DESIRE
to support and participate in the change

KNOWLEDGE
of how to change

ABILITY
to implement required skills & behaviour

REINFORCEMENT
to sustain the change
Future has to do with character and competency. Who is lacking the one or the other or both, will never go beyond the present.

Wolfgang Kownatka (free journalist)
SKILLS MANAGEMENT

Personal Competence

- Emotional awareness
- Accurate self-assessment
- Self-confidence
- Achievement drive
- Commitment
- Initiative
- Optimism
- Understanding others
- Developing others
- Service orientation
- Leveraging diversity
- Political awareness
- Influence
- Conflict management
- Communication
- Leadership
- Team capability
- Trustworthiness
- Conscientiousness
- Adaptability
- Innovation
KNOWLEDGE MANAGEMENT
KNOWLEDGE MANAGEMENT
Systematic Success

Without systematic knowledge management

With systematic knowledge management
Explicit knowledge is documented knowledge that is easy for others to grasp.

Implicit knowledge exists in the employees’ minds and is therefore difficult for others to grasp.
# KNOWLEDGE TYPES

## Companies and Employees

### ORGANIZATION

<table>
<thead>
<tr>
<th>Knowledge Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL EXPERTISE</td>
<td>Knowledge</td>
</tr>
<tr>
<td>EXPLICIT KNOWLEDGE</td>
<td>Well-articulated; inclusive with knowledge holders</td>
</tr>
<tr>
<td>ORGANIZATIONAL KNOWLEDGE</td>
<td>Knowledge of the organization</td>
</tr>
</tbody>
</table>

### PEOPLE

<table>
<thead>
<tr>
<th>Knowledge Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRACTICAL KNOWLEDGE</td>
<td>Know-how</td>
</tr>
<tr>
<td>IMPLICIT KNOWLEDGE</td>
<td>Indirectly articulated; exclusively from knowledge holders</td>
</tr>
<tr>
<td>INDIVIDUAL KNOWLEDGE</td>
<td>Knowledge of the organization’s members</td>
</tr>
</tbody>
</table>
Knowledge is power. Knowledge shared is power multiplied.

Robert Noyce (American Head of State and businessman)
<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice</td>
<td>Strict obedience to rules, no experience, little situational perception, no discretionary judgement</td>
</tr>
<tr>
<td>Competent</td>
<td>Still limited with situational perception, knows the aspect guidelines and treats all attributes and aspects separately yet equally</td>
</tr>
<tr>
<td>Proficient</td>
<td>Sets priorities, actions are seen partly in longer-term goals, deliberate planning, standardized procedures</td>
</tr>
<tr>
<td>Expert</td>
<td>Perceives deviations from the normal pattern, makes decisions more easily, assesses situations as part of the „big picture“</td>
</tr>
<tr>
<td>Master</td>
<td>Has a wealth of experience, creative solutions and visions, great intuition, breaks the rules when needed, uses analytic approaches sparingly, makes good decisions quickly yet professionally</td>
</tr>
</tbody>
</table>
CREATIVE TECHNIQUES
Knowledge Transfer and Expansion with Creativity

BRAINSTORMING
Collection of ideas through spontaneous talk. The ideas are collected and can be reviewed later.

OSBORN CHECKLIST
Exaggerated questions are used to find new approaches. An example is „interchanging cause and effect“.

635 METHOD
Six employees each write three ideas. After five minutes, the ideas get passed to the right and is developed further.

MINDMAP
Ideas and priorities of one subject are represented by a branched structure.
SKILLS MEASUREMENT
Example of a Skills Network

- Cooperation
- Creativity
- Goal-oriented
- Loyalty
- Time management
- Performance skills
QUALITY IS NEVER AN ACCIDENT; IT IS ALWAYS THE RESULT OF INTELLIGENT EFFORT.

John Ruskin