MACHINING

Level - III

Learning Guide 13

Unit of Competence: Apply Quality Control

Module Title: Applying Quality Control

LG Code: IND MAC3 13 0217

Instruction Sheet	Learning Guide #1

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

1. Implement quality standards
2. Assess quality of service delivered
3. Record information
4. Study causes of quality deviations

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, **upon completion of this Learning Guide, you will be able to**:

- ✓ Quality standard and procedures documents are provided to employees in accordance with the organization policy.
- ✓ Services delivered are quality checked against organization quality standards and specifications.
- ✓ quality parameters

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 27.
3. Read the information written in the information “Sheet.
4. Accomplish the “Self-check.
5. Do the “LAP test” .

1. Establish quality standards

1.1. Develop Quality standard procedures for civil (public) or industrial works

DIFINITION OF QUALITY

- The concept and vocabulary of quality are elusive (vague). Different people interpret quality differently. Few can define quality in measurable terms that can be proved operationalized.

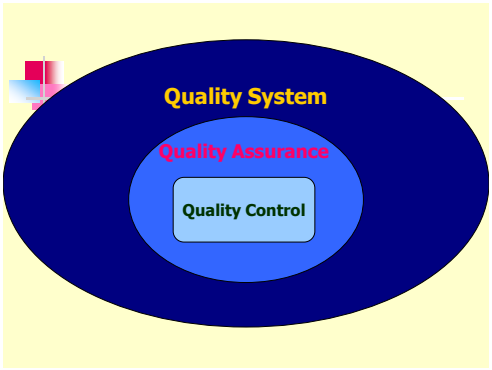
Quality Control (QC): Physical actions taken on items or activities to verify adherence to specified requirements. QC is generally included as a segment of QA and includes:

- Adherence to predefined quality assurance requirements.
- Failure testing by physical examination, inspection, walk-through, or measurement of product for defects.
- Verification that deliverables are of acceptable quality and that they are complete and correct.

☞ **Quality control** (QC) is a system used to maintain a determined level of accuracy and precision.

☞ Proper quality control helps ensure that reported results of patient laboratory testing are correct.

☞ Quality control applies not only to specimen testing, but also to collection, storage, and transportation.



- When asked what differentiates their product or service;
  - The banker will answer" service"
  - The healthcare worker will answer "quality health care"
  - The hotel employee will answer "customer satisfaction"
  - The manufacturer will simply answer "quality product"

Five Approaches of Defining Quality

- Harvard professor David Garvin, in his book *Managing Quality* summarized five principal approaches to define quality.
  - Transcendent (encouraging)
  - Product based

- User based
- Manufacturing based
- Value based

Transcendental (encouraging) view

- Quality is difficult to define or to operationalize. It thus becomes elusive when using the approach as basis for competitive advantage. Moreover, the functions of design, production and service may find it difficult to use the definition as a basis for quality management.

PRODUCT BASED

- Quality is viewed as a quantifiable or measurable characteristic or attribute. For example durability or reliability can be measured and the engineer can design to that benchmark.
- Quality is determined objectively.
- Although this approach has many benefits, it has limitation as well. Where quality is based on individual taste or preference, the benchmark for measurement may be misleading.

USER BASED

☞ It is based on idea that quality is an individual matter and products that best satisfy their preferences are those with the highest quality.

MANUFACTURING BASED

☞ Manufacturing-based definitions are concerned primarily with engineering and manufacturing practices and use the universal definition of "conformance to requirements".

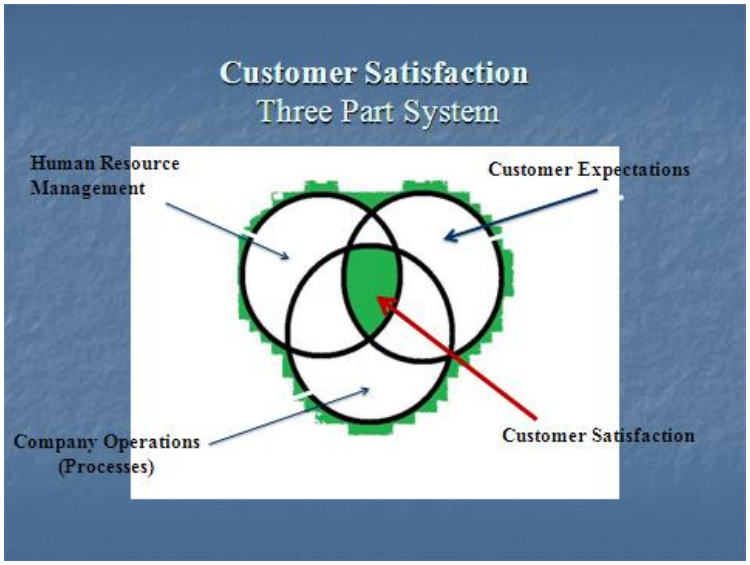
- Requirements or specifications are established by design and any deviation implies a reduction in quality. The concept applies to services as well as product.
- **Excellence in quality** is not necessarily in the eye of the beholder but rather in the standards set by the organization.

Value Based

- It is defined in term of costs and prices as well as number of other attributes. Thus, the consumer's purchased decision is based on quality at an acceptable price. This approach is reflected in the popular *Consumer Reports* magazine which ranks products and services based on two criteria: Quality and Value.
- The highest quality is not usually the best value. That designation is assigned to the "best-buy" product or service.

Customer Satisfaction

Three Part System



Quality Standards Defined

- Consensus (agreement) Standard:
  - A set of quality attributes which, through consensus of its developers, provides a consistent process for producing the exact same product each time, e.g., ISO 9000.
  - Standards may be adopted voluntarily or by regulation and should be reviewed regularly for ways to update or improve process.
- Benefits of standards include:
  - Documenting quality standards forces you to review all aspects of your process.
  - Providing a way to assure that an item complies with contract specifications.
  - Attracting buyers, including the government, because of its repeatable quality.
  - Saving money by providing the necessary indicators and tools to identify problem areas and ways to correct those areas.

Quality Assurance (QA): Planned actions (programmatic) necessary to provide adequate confidence or a performance guarantee that a product will perform satisfactorily:

- Following defined processes before production.
- Systematic approach for evaluation, inspection, testing, calibration, or whatever is needed to monitor and assure the quality of your product.
- Use of checklists, company audits, and project audits.

What are ISO 9000 Standards?

☞ ISO 9000 is a family of standards for quality management systems.

- They were developed by International Organization for Standardization (ISO), patterned from a British quality program and first published in 1987.
- The American Society for Quality (ASQ) and the American National Standards Institute (ANSI) also produce standards and work with ISO.

☞ ISO standards are:

- Based on need to meet customer's requirements, regulations, and satisfaction.
- Adopted by organizations and then they must become accredited.

- Used worldwide—new edition is ISO 9001:2008.
- Applied broadly to all products; doesn't differentiate between picture frames and nuclear components.

Six Sigma Basics

☞ Six Stigmas is the methodology for improving the performance of any organization by minimizing the defects in its products or services.

☞ **Every error committed has a cost associated with it including:**

- Losing customers
- Redoing a task
- Replacing a part
- Wasting time/efficiency

☞ Most of the organizations around the world deliver results in the Three to Four Sigma band which implies that they are losing around a quarter of total revenue due to defects in their organizations.

Applying Six Sigma

☞ **Define, Measure, Analyze, Improve** and **Control** (DMAIC) and Define for Six Sigma (DFSS) are the elementary methodologies that exist for two potential scenarios.

- **DMAIC:** This methodology is required to modify an existing process and make it Six Sigma compliant and more efficient. DMAIC is an acronym for:
  - **Define** the goals for process improvement in coherence with the customer's demand and the organization's strategies
  - **Measure** the current performance and collect relevant data for the future
  - **Analyze** the current setting and observe the relationship between key parameters and performance
  - **Improve** the process based on the analysis to further optimize the process
  - **Control** the parameters before they affect the outcome

When Implementing a QA Program

Begin by identifying the critical business tasks, processes, or systems and documenting instructions. Use the instructions for training and day-to-day reference. A quality assurance program will reduce the:

- Number of errors
- Waste of time and materials associated with errors
- Number of customer complaints
- Number of problems to fix
- Time spent on giving day-to-day instructions
- Time needed to improve processes and systems (by establishing a stable base)

Following a widely-accepted quality standard program, such as the ISO 9000 system, initially will save you time and money if you become certified. The implementation plan should include:

- Quality coordinator
- Discipline task teams

- Quality team
- Policy development—quality and operational
- GAP analysis
- Map processes
- Quality manual development
- Communication/education/training
- Audit procedures
- Accreditation (optional)

Evaluating a Quality Control Approach in a Proposal

The government evaluation will consider several factors to evaluate your Quality Control Approach in a proposal:

- The degree to which your approach to quality control identifies processes, procedures, and metrics which, are likely to predict successful outcome within cost and on schedule.
- Specific considerations of whether your proposal addresses a Quality Control Approach or identifies specific processes and procedures that are logical predictors of successful realization of stated mission objectives.
- Other areas evaluated are:
    - Metrics identified in the Quality Control Approach that will logically predict success on the task.
    - Methods and procedures in the Quality Control Approach that will reliably collect the specified metrics.

How to Get Technical in a Proposal

- Your Quality Assurance model and approach should illustrate processes which are likely to predict successful outcome of projected deliverables within cost and on schedule. The technical evaluation will review Quality Assurance from a risk management perspective to address the risk of noncompliance and the risk of missing the project objectives. Thus a Quality Assurance framework is essentially a component of your overall risk management framework. Quality Assurance Risk Management poses risk and opportunities to an organization.
- Leading organizations define Quality Assurance as a continuous process of verifying or determining whether products or services meet or exceed customer expectations. This process considers design, development, production, and service. Your toolset for Quality Assurance should include evaluator accuracy, data processing, and report generation.
- Your Quality Assurance model should address measures to **Plan-Do-Check-Act (PDCA)** as a four stage cycle which you must go through to get from 'problem-faced' to 'problem solved.' All phases incorporate activities for continuous improvement to refine the scope to which PDCA is applied until there is a plan that involves improvement.

Quality Control Approach

- The concept of the PDCA Cycle was originally developed by Walter Shewhart, the pioneering (new) statistician who developed statistical process control in the US Bell Laboratories during the 1930s.
    - **Plan:** Establish the objectives and processes necessary to deliver results in accordance with the expected output. Making the expected output the focus, differs from what would otherwise be. The completeness and accuracy of the specification is part of the improvement.
    - **Do:** Implement the process developed. Perform tasks as designed and expected by management, reinforced by training and guidance from key stakeholders.
    - **Check:** Measure, monitor and evaluate the implemented process by testing the results against the predetermined objectives and compare the results to ascertain any differences.
    - **Act:** Analyze the differences to determine their cause. Apply actions necessary for improvement if the results require changes. Determine where to apply changes that will include improvement.
    - **Improve:** Improvement incorporates the tracking of individual processes with statistics on performance compared to stated objectives. This information can be used to work with internal stakeholders, customers, and suppliers to improve interconnected processes to enhance overall business performance.

☞ When a pass through of these four steps does not result in the need to improve, refine the scope to which PDCA is applied until there is a plan that involves improvement.

Benefits of Quality Assurance

- **Reduces cost**
    - Product is right the first time, there are no rework costs, no waste of material, no waste of manpower, and no disruptions in the production process.
    - Fewer claims for warranties and guaranties.
    - Cost of poor quality goes down.
    - Operating costs reduced, resulting in increased profits.
- **Improves reputation**
    - Market reputation improved with organization's ability to produce good quality products that are made according to the requirements of the customers.
    - Satisfied customers are easier to retain and generate more business.
    - Solid reputation helps attract new customers. New customers equal an increase in revenue.
- **Reduces execution time -** Quality processes reduce the cycle time to complete orders and allows for more production time.

Key Takeaways from this topic

- Without quality, your company will not survive.
- Use a written quality program to ensure you can offer your customers consistent products.

- Provide consistent products to keep production costs down and increase revenue.

1.2. Introduce Standard procedures to organizational staff / personnel

☞ **A Standard Operating Procedure (SOP)** is a set of written instructions that document a routine or repetitive activity followed by an organization.

☞ The development and use of SOPs are an integral part of a successful quality system as it provides individuals with the information to perform a job properly, and facilitates consistency in the quality and integrity of a product or end-result.

☞ The term "SOP" may not always be appropriate and terms such as protocols, instructions, worksheets, and laboratory operating procedures may also be used. For this document "SOP" will be used.

☞ SOPs describe both technical and fundamental programmatic operational elements of an organization that would be managed under a work plan or a Quality Assurance (QA). This document is designed to provide guidance in the preparation and use of an SOP within a quality system.

Purpose

☞ SOPs detail the regularly recurring work processes that are to be conducted or followed within an organization. They document the way activities are to be performed to facilitate consistent conformance to technical and quality system requirements and to support data quality.

☞ They may describe, for example, fundamental programmatic actions and technical actions such as analytical processes, and processes for maintaining, calibrating, and using equipment.

☞ SOPs are intended to be specific to the organization or facility whose activities are described and assist that organization to maintain their quality control and quality assurance processes and ensure compliance with governmental regulations.

☞ If not written correctly, SOPs are of limited value. In addition, the best written SOPs will fail if they are not followed. Therefore, the use of SOPs needs to be reviewed and re-enforced by management, preferably (if possible) the direct supervisor.

Benefits

☞ The development and use of SOPs minimizes variation and promotes quality through consistent implementation of a process or procedure within the organization, even if there are temporary or permanent personnel changes.

☞ SOPs can indicate compliance with organizational and governmental requirements and can be used as a part of a personnel training program, since they should provide detailed work instructions.

☞ It minimizes opportunities for miscommunication and can address safety concerns. When historical data are being evaluated for current use, SOPs can also be valuable for reconstructing project activities when no other references are available.

☞ In addition, SOPs are frequently used as checklists by inspectors when auditing procedures. Ultimately, the benefits of a valid SOP are reduced work effort, along with improved comparability, credibility, and legal defensibility.

SOP Preparation

- The organization should have a procedure in place for determining what procedures or processes need to be documented. Those SOPs should then be written by individuals knowledgeable with the activity and the organization's internal structure. These individuals are essentially subject-matter experts who actually perform the work or use the process.
- A team approach can be followed, especially for multi-tasked processes where the experiences of a number of individuals are critical, which also promotes "buy-in" from potential users of the SOP.
- SOPs should be written with sufficient detail so that someone with limited experience with or knowledge of the procedure, but with a basic understanding, can successfully reproduce the procedure when unsupervised.
- The experience requirement for performing an activity should be noted in the section on personnel qualifications. For example, if a basic chemistry or biological course experience or additional training is required that requirement should be indicated.

1.3. Revise / Update Standard procedures when necessary

Frequency of Revisions and Reviews

☞ SOPs need to remain current to be useful. Therefore, whenever procedures are changed, SOPs should be updated and re-approved.

☞ If desired, modify only the pertinent (relevant) section of an SOP and indicate the change date/revision number for that section in the Table of Contents and the document control notation.

☞ SOPs should be also systematically reviewed on a periodic basis, e.g. every 1-2 years, to ensure that the policies and procedures remain current and appropriate, or to determine whether the SOPs are even needed.

☞ The review date should be added to each SOP that has been reviewed. If an SOP describes a process that is no longer followed, it should be withdrawn from the current file and archived.

☞ The review process should not be overly cumbersome to encourage timely review. The frequency of review should be indicated by management in the organization's Quality Management Plan. That plan should also indicate the individual(s) responsible for ensuring that SOPs are current.

Quality management activities

- **Quality assurance**
  - Establish organisational procedures and standards for quality.

- **Quality planning**

- Select applicable procedures and standards for a particular project and modify these as required.

- **Quality control**
  - Ensure that procedures and standards are followed by the software development team.
- Quality management should be separate from project management to ensure independence.

Quality plans

- Quality plan structure
  - Product introduction;
  - Product plans;
  - Process descriptions;
  - Quality goals;
  - Risks and risk management.
- Quality plans should be short, succinct documents
  - If they are too long, no-one will read them.

Information Sheet	**LO2: Assess quality of service delivered**

2.1.*Check* Services delivered against organization *quality standards* and specification

Checklists

- Many activities use checklists to ensure that steps are followed in order. Checklists are also used to document completed actions. Any checklists or forms included as part of an activity should be referenced at the points in the procedure where they are to be used and then attached to the SOP.
- In some cases, detailed checklists are prepared specifically for a given activity. In those cases, the SOP should describe, at least generally, how the checklist is to be prepared, or on what it is to be based. Copies of specific checklists should be then maintained in the file with the activity results and/or with the SOP.

☞ Remember that the checklist is not the SOP, but a part of the SOP.

2.2. Evaluate Service delivered

Dimensions of Service Quality

- Reliability
- Responsiveness
- Assurance
- Empathy
- Tangibles

Reliability

- **Service is accomplished:**
  - On time
  - In the same manner (consistently)
  - Without errors

Responsiveness

- Willingness of employees to help customers and to provide prompt service

Assurance

- Knowledge and courtesy of employee
- Ability of the employee to convey trust and confidence

Empathy

- Provision of caring and individualized attention to the customer

Tangibles

- Appearance of the physical facility
- Appearance of employees

- Appearance of communication materials

Service Quality

- For services, the assessment of quality is made during the service delivery process.
- Customer satisfaction can be measured as the difference between the customer's service expectation and the service actually received.

Gaps in Service Quality

- Measuring the gap between expected service and perceived service is a routine customer feedback process practiced by many companies

Cost of Quality

- Insuring quality in a service delivery system may seem costly, but it is more costly to ignore quality
- Prevention of poor quality is less costly than fixing problems that result because of poor quality

Service Quality Gap

The gap between expected and perceived service is a measure of service quality

- Expectation > Service perceived (supposed) = Exceptional (excellent) Quality,
- Expectations < Service perceived = Unacceptable quality.
- Expectations = Service perceived = Satisfactory Quality.

Challenges of Measurements in Service Quality

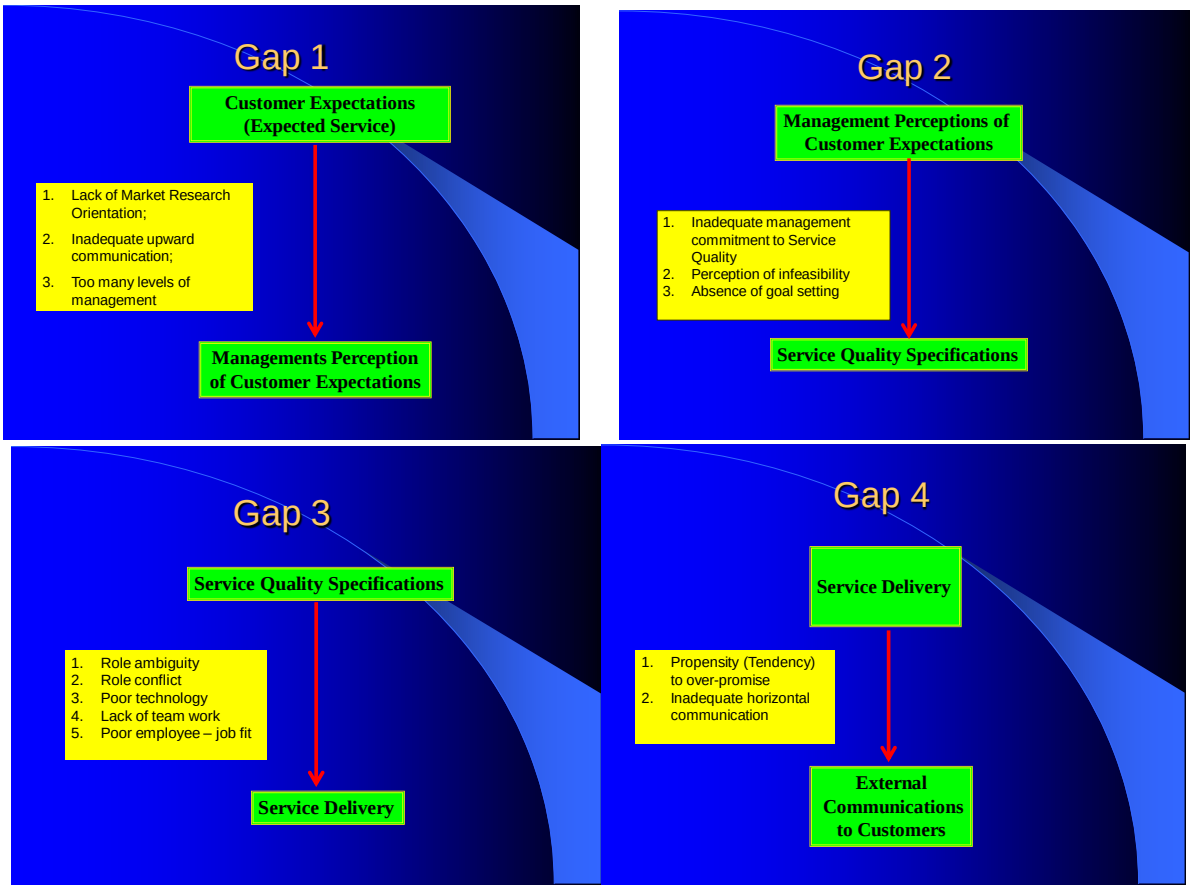
Definition of Dimensions

Dimension Measurements

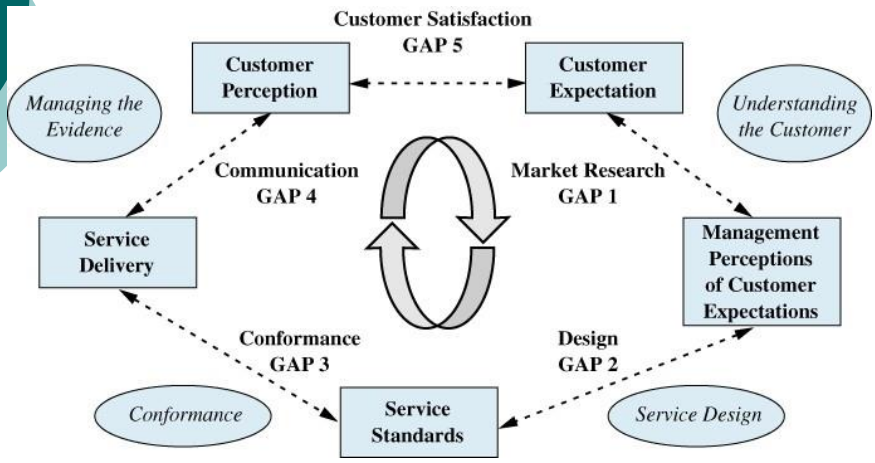
- Reliability – On time delivery performance, Errors in invoices
- Responsiveness – Cycle time (speed)
- Access – Availability (24x7), Downtime of web
- Credibility – Financial Ratings, Image

2.3. Identify and correct Causes of any faults and take actions

Causes of Service Quality Gaps (Customer Dissatisfaction)



Service Quality Gap Model



Information Sheet	LO3: Study causes of quality deviations

3. **Study causes of quality deviations**

3.1. Investigate and report Causes of deviations from final outputs or services

Corrective and Preventative Action

- Internal and external data is reviewed to identify problems and appropriate corrective and preventative actions (user satisfaction and complaints, internal system and process audits, external quality assurance data, quality improvements…)
- Procedures for corrective and preventative actions must include an investigation to determine root causes.
- Effectiveness of corrective and preventative actions must be monitored and evaluated at management review

Continuous Improvement

- Action plans for improvement shall be developed, documented and implemented as appropriate.
- Prepare training plan.
- Management shall monitor effectiveness of the improvement action plan at management review.
- Results of the improvement program must be communicated to all staff.

☞ Among the essential elements of a well established Quality Management System (QMS), **deviation handling plays a key role** in assuring quality in products and by contributing to continuous improvement.

☞ Manufacturers are expected to "establish processes and define appropriate controls for measurement and analysis to identify nonconformities and potential non-conformities;

- Defining when and how corrections, corrective actions, or preventive actions should be undertaken.
- These actions should be appropriate with the significance or risk of the nonconformity or potential nonconformity"

☞ A sequence of steps may be identified when handling events and possible deviations:

- Event (occurrence) Detection
- Decision Making Process / Deviation Categorization
- Deviation Treatment
- Root cause investigation

Event detection:

- The manner on how personnel react when in presence of an event is the first challenge to the system, and it largely depends on their level of training, qualification, commitment, and support form upper management.

Deviation Categorization

The decision tree describe is a simplified risk assessment that answers the following questions when an event is encountered:

A. Can the event affect a product attribute, manufacturing operational parameter or the product's quality?

B. Does the event contradict or omit a requirement or instruction contemplated in any kind of approved written procedure or specification?

Minor Deviations

☞ When the deviation does not affect any quality attribute, a critical process parameter, or an equipment or instrument critical for process or control, it would be categorized as minor and rated as such by the applicable procedure. Possible examples of minor deviations (*) are given below:

- Skip of FEFO principle (first expired-first out) in raw material handling.
- Balance out of tolerance used to determine gross weight of raw materials upon reception.
- Pressure differential out of established limits in class D washing area.
- Inadequately trained personnel to perform warehouse cleaning activities.

Major Deviations

☞ When the deviation affects a quality attribute, a critical process parameter, an equipment or instrument critical for process or control**,** of which the impact to patients (or personnel/environment) is unlikely, the deviation is categorized as Major requiring immediate action, investigation, and documented as such by the appropriate standard operating procedure (SOP). Possible examples of major deviations (*) are given below:

- Use of unapproved reference standard to test.
- Inadequately trained personnel to perform sterility tests.
- Production started without line clearance.
- Filter integrity test has been carried out using equipment with no documented installation qualification completed.
- Gross misbehavior of staff in a critical aseptic process.
- Pressure differential out of established limits in aseptic fill areas.
- Operational parameter out of range for a parameter defined as non-critical.
- Untrained personnel responsible for segregating the approved and rejected raw material in the warehouse

Deviation Treatment

☞ A pre-existent QRM (Quality Risk Management) will contribute to determine the categorization of the deviation. If QRM has not been performed, it may be carried out at this time as part of the impact assessment in order to determine the criticality of the process parameters involved, and the risk to the patient.

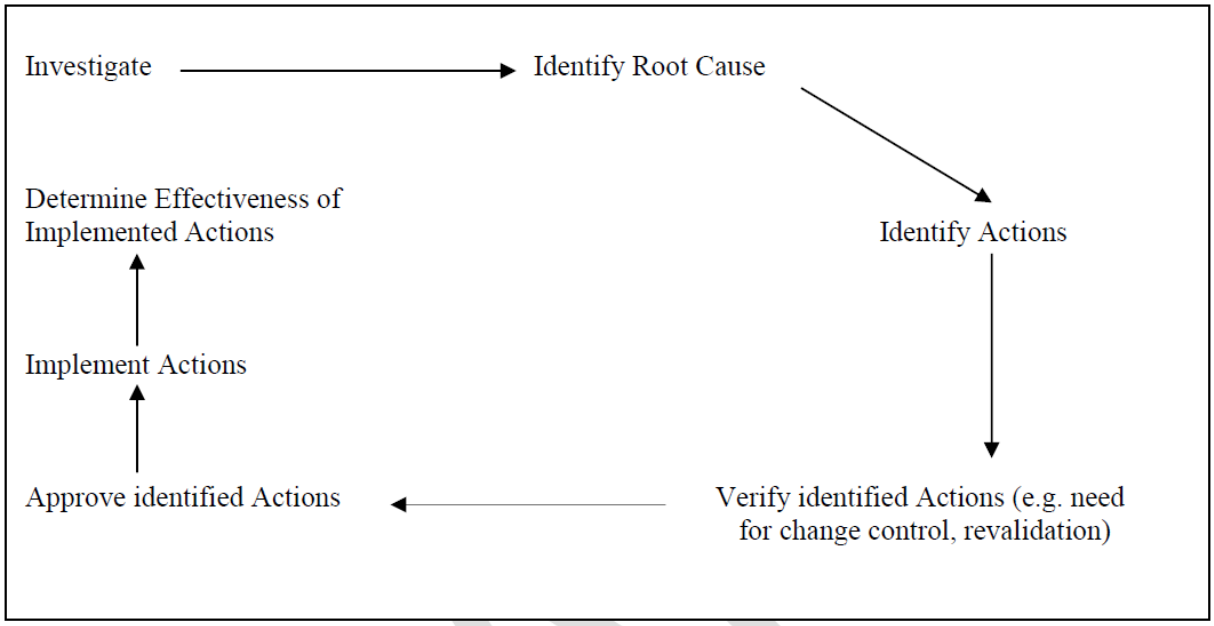
Corrective and Preventive Actions (CAPA)

☞ The root cause investigation process is a key step in handling major and critical deviations as it will provide objective evidence to implement corrective and possibly preventive actions as part of the CAPA system.

☞ Corrective Actions are taken to eliminate the root causes of deviations, and should be based on good quality investigations. Corrective actions should be QA approved before implemented and their efficacy verified in a documented manner, activity that could require a significant period of time. Corrective actions could be transferred to an independent CAPA system to avoid unnecessary delay for deviation closure. This independent CAPA system should include tracking of all actions required by a pre-approved CAPA plan and effectiveness check.

- Not all corrective actions will have associated preventive actions. Corrective actions are "reactive" in nature and are triggered in response to detected deviations and could generate preventive actions as well.
- These preventive actions (linked originally to nonconformities) will act on similar processes, manufacturing lines or different sites, where there has not been yet a deviation

Diagram 3. **Improvement Process**



- In addition, manufacturers are strongly recommended to identify preventive actions which are proactive (positive) in nature and are defined and implemented independently from the occurrence of deviations (i.e. preventive actions act on potential deviations).
- In other words, "The manufacturer may encounter situations that have not actually caused nonconformity, but may do so in the future. Such situations may call for preventive action.
- In order to achieve this, the QMS (Quality Management System) has to establish the different sources of information to be followed and trended as part of a systematic, periodic and documented evaluation, usually steered by QA.
- As part of the CAPA and improvement process, activities like product and QMS review (e.g. Annual Product Review) give the opportunity to summarize the accumulated information, findings and trends on an annual basis in order to identify systemic actions to improve the QMS.

☞ Examples of information sources to identify preventive actions regarding production process, equipment or facilities would include:

- Manufacturing in-process control or Quality Control analytical trend data indicating that control or alert limits are being approached. Preventive actions could include actions planned to return process performance to nominal values from the edges of the process control range.

Risk assessment

Risk assessment includes the following sequential activities:

- **Identification of Hazards**, based on well-defined process description, and adequate sources of information (e.g. historical data; description of the possible consequences). It addresses the question "What might go wrong?".
- **Risk Analysis** estimates the risk associated with the identified hazard/s. "It is the qualitative or quantitative process of linking the likelihood (probability) of occurrence and severity of harms; in some risk management tools, the ability to detect the harm (i.e. detectability) also factors in the estimation of risk".
- **Risk Evaluation** "compares the identified and analyzed risk against given risk criteria and the strength of evidence for all three of the fundamental questions".

Risk Control.

Risk Control is a decision making process to reduce the risk to an acceptable level. It includes:

- **Risk reduction:** mitigation or elimination of the risk when it exceeds a specified level (not acceptable), in terms of severity and probability of harm. "Processes that improve the detectability of hazards and quality risks might also be used as part of a risk control strategy. The implementation of risk reduction measures can introduce new risks into the system or increase the significance of other existing risks. Hence, it might be appropriate to revisit the risk assessment to identify and evaluate any possible change in risk after implementing a risk reduction process". Any implementation of risk reduction measures should follow the established change control system.
- **Risk acceptance** is a formal decision to accept the residual risk or it can be a passive decision in which residual risks are not specified.

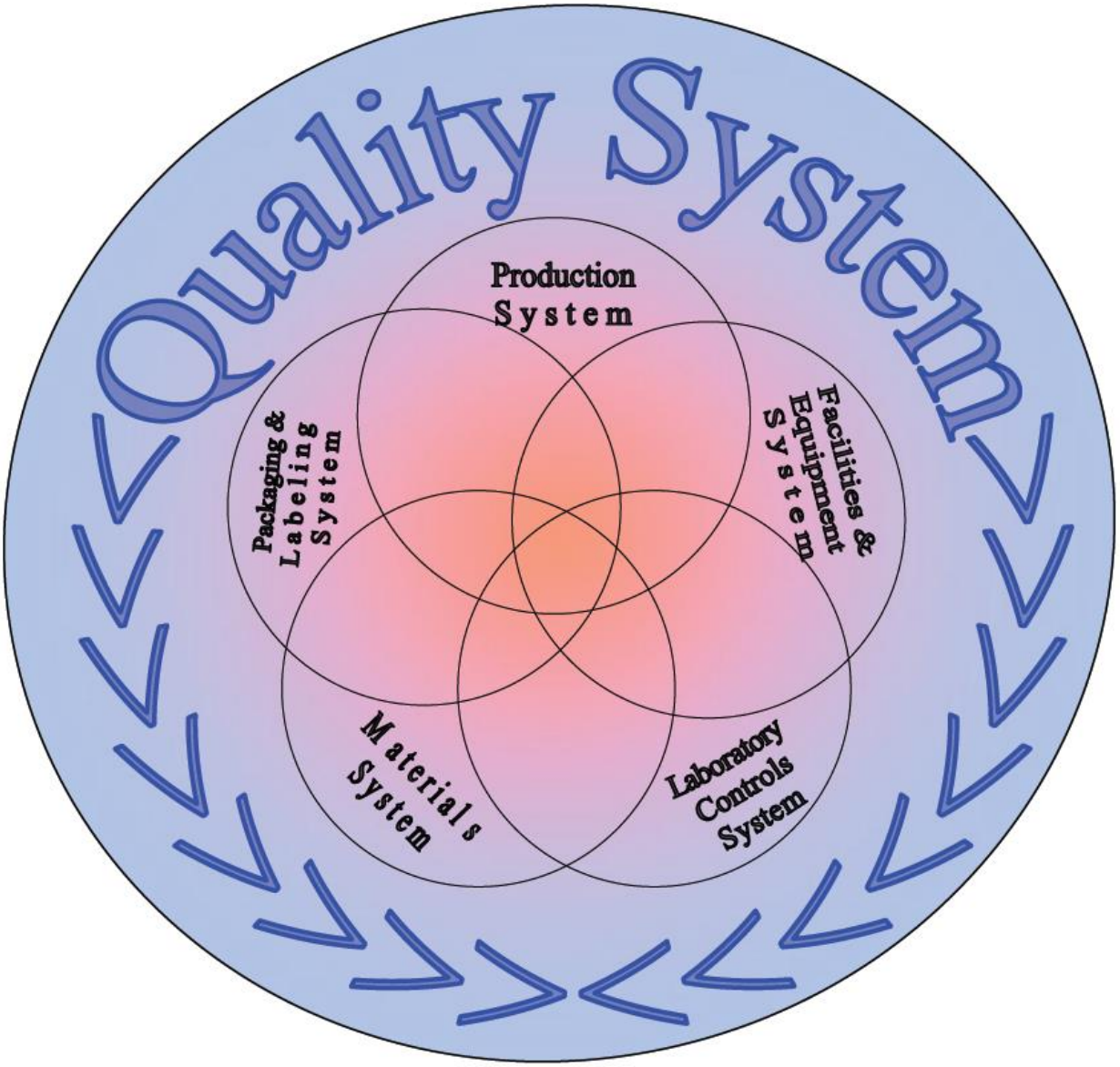
Purpose of Quality Risk Management

- Improve the understanding of processes through identification of hazards in the manufacturing process
- Identification of critical points associated to those hazards
- Identification of risk reduction actions at critical steps
- Evaluation of effectiveness of actions

Information sources for Quality Risk Management

- Product Development Reports
- Process and analytical technology transfer documentation
- Specifications and control methods of finished product, intermediates and raw materials
- Specifications and methods of in-process controls (IPC)
- Process flow diagram of each operation in each process stage, including operational parameters and established ranges
- Defined critical parameters with their appropriate justification

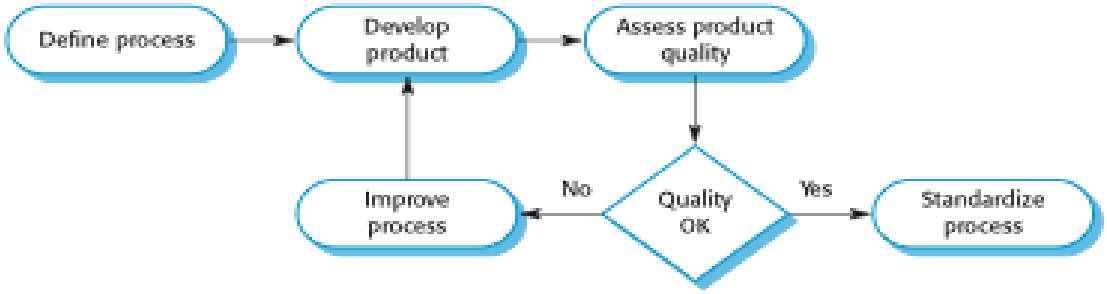
☞ Lists of equipment and measuring instruments to be used in the process, with their qualification, maintenance and calibration status



3.2. Recommend Suitable preventive action based on organization quality standards

Internal Audits

- Documented internal audit program.
- Prepare annual internal audit program.
- This program must evaluate both the Quality Management System and every process in the loop.
- Review audits**.**



Management Review

- Goals and objectives versus progress
- Close out of complains and non conformances
- Monthly quality meetings
- Quality monitors
- External audits
- Third party assessments

4. Record information

4.1. Record Basic information on the quality performance

Identify Records

- In every workplace you are required to identify and keep records.
- The records that you are required to keep will be determined by your job tasks. This workbook will discuss and provide examples and formative assessments for a range of commonly used records such as physical records, preparing and processing basic financial transactions, establishing and maintaining a cashbook and reconciling and preparing invoices.
- However the record keeping and administration requirements have many common factors related to the:
  - Types of records
  - Legislative requirements
  - Ethical standards
  - Technology and equipment used
- Both the physical and financial records of the business are vital for planning purposes, meeting legislative (law-making) requirements and the efficient operation of the business on a daily basis.

The four basic rules for record keeping are:

- **Useful** — don't waste your time keeping records you will never use.
- **Easy to use** — Simple and neat to encourage you to use the system.
- **Accurate** — Bad records can lead to poor decisions.
- **Compulsory** – These are the records you are required to keep by law e.g. financial records for tax returns.

- By having a better understanding of what records to keep and how to keep records, you will gain the skills and knowledge to participate in your workplace more efficiently and effectively.
- You cannot rely on your memory, so you need to record your physical and financial transactions. Through this process we are able to:
  - satisfy various legal requirements
  - assist in preparation of tax returns

- to help management identify areas where efficiencies can be introduced
- enable management to monitor business, exercise control and make informed decisions
- Use information from the past to plan for the future It is important when considering implementing recording systems that they are simple, easy to use, effective and suit the business.

❖ For your workplace, list all of the records that you keep specifically related to your job as well as a summary of others that you know are kept in the business.

❖ You are also required to comment as to why the records are kept. As a hint, consider the records listed previously as well as records like work diaries, materials received or dispatched incidents which may be subject to investigation or query at a later date, inventory control records, drawings, plans and specifications, work schedules, standard procedures and practices, permits.

WHAT SORT OF THINGS SHOULD BE RECORDED IN PHYSICAL RECORDS?

❖ As previously stated both the physical and financial records of the business are vital for

- planning purposes,
- meeting legislative requirements, and
- The efficient operation of the business on a daily basis.

❖ Physical records vary according to the particular business needs as well as legislative, compliance and standards requirements. The physical records are relevant to the efficient and productive management of the workplace so could be termed "Records for Management".

☞ Information is only useful if the right information is collected in the right format.

☞ **The good news** is there is a great quantity of information available from every workplace, associated industries and organisations.

☞ **The bad news** is that a lot of that information is of limited value to us. Increasingly every business receives more and more information and data.

☞ As workers or managers in a business, it is often difficult to know what information to absorb and what to screen out.

As a basic criteria information must be:

- **Accurate**: Information is true and verifiable. **Current**: Information is applicable to the present time and/or needs of the business.
- **Relevant**: Information applies to the interests of the individuals who use it for the decisions they are facing.

- **Specific**: Information must contain concrete facts or answer specific questions.
- **Understandable**: People using the information must be able to understand it.
- **Comprehensive**: The information should include all the important categories within its scope of coverage.
- **Comparable**: The information presented should be of uniform collection, analysis, content, and format so that a user of the information can compare and contrast the various files.

Methods for collecting information may include:

- ☞ Observation and listening
- ☞ file records
- ☞ Individual research
- ☞ Statistics and reports from other organisations
- ☞ producing reports from data collected in the business
- ☞ translating data from diaries and note-books
- ☞ Professional data collection agency
- ☞ Interviews with colleagues/customers
- ☞ questioning (in person or indirect) via questionnaires or face to face interview
- ☞ Recruitment applications and other forms

4.2.Maintain (Keep up) Records according to work quality (Documentation)

Filing System

- ☞ Every business has filing to do and invariably multiple staff within the business need to be able to easily access information that is being filed.
- ☞ It is important to everyone in your workplace that you are diligent (attentive) about your filing responsibilities and properly follow the designated systems.
- ☞ There are three main areas applicable to the majority of workplace filing systems:
  - business records for financial management
  - technical information for physical management
  - personal information for OHS, employment, human resource management
- ☞ There are many different filing systems that can be adopted including:
  - Alphabetic
  - numeric
  - subject

- geographic
- technical systems
- chronological (sequential)

☞ If business information is not easy to find, simple work can become a laborious chore (difficult task).

☞ It is therefore important that the system used is:

- Simple
- Easy to set up new files
- Easy to retrieve files
- Easy for someone else to use

☞ Have a look at the filing systems used in your workplace and remember that different filing systems may be used for different reasons. For example financial records are usually electronic yet the actual original invoices are held in paper files.

☞ When looking at our recording systems we need to ask ourselves the following question:

- Why do I keep the records and how do I need to use the records in future?
- How long do I need to retain records?
- Who needs to access the records?