QUALITY CONTROL............

Quality Systems For Global Trade

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The system approach to quality begins with the basic principle that customer satisfaction cannot be achieved by concentrating upon any particular area of the plant. Its achievement depends instead, both upon how well and how thoroughly these quality actions in the several areas of the business work individually and together.

A. INTRODUCTION

The quality System is the foundation of Total Quality Control, providing the proper channels through which the stream of essential product quality related activities must flow. The quality of the product and customer satisfaction depends on the systems adopted. If these systems are sound and effectively implemented, then the consistency in quality and reputation ever remains.

The Quality Systems are defined as the agreed company wide and plant wide work structure, documented for guiding and co-ordinating actions of the work force, the machines and information in the best and most practical ways, to assure customer quality satisfaction at economical cost.

The Quality System typically applies to and interacts with all activities pertinent to the quality of a product or service. It involves all phases from initial indentification to final satisfaction of customer requirements. These phases are represented in the form of quality Loop as shown in Fig. 1, and are in line with ISO-9000 requirements.

B. Need : System For Managing Quality

The inter-dependence of nations is becoming more prevalent in the modern world of today. This has resulted in rapid growth of International trade. The proposed introduction of common market in Europe by 1992 and the practical developments in East European countries are some of the significant changes taken place in the world. Additionally customer requirements are becoming stringent day by day. Under these circumstances, third party certification of quality systems to ISO-9000 series established by the International Organisation for standardisation (ISO) has emerged as a powerful marketing tool and provides the frame work for developing systems for managing quality.

C. Benefits : Quality Management Systems

a. Enhance Customer confidence and creditability of the Organisation.
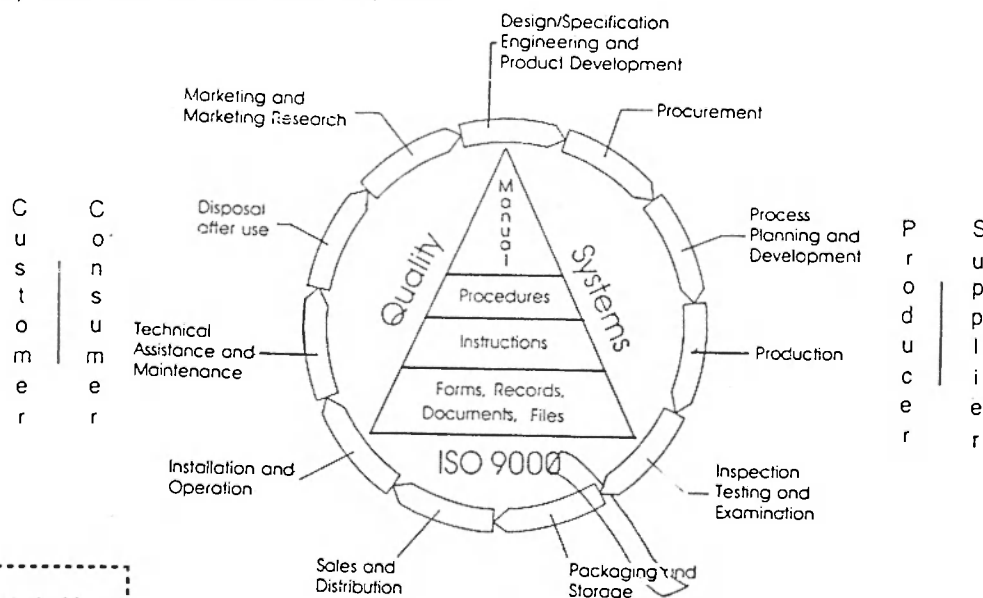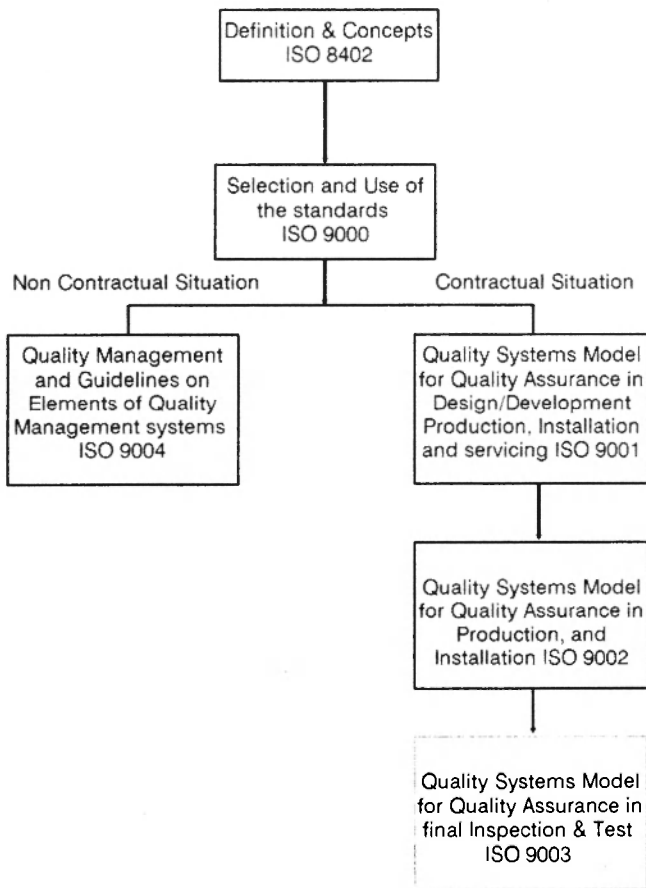
b. Promote business and exports.

Fig. 1. Quality Loop

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c. Avoid trade barriers due to variations in quality systems.

d. Provide the foundation for total quality improvement.

e. Improve Industry's competitiveness and reputation both at home and abroad.

f. Involves essentially everyone and therefore an excellent vehicle for Total Quality Management (TQM).

g. Aid in the preparation of legal arguments in cases where company products are the subject of damage claims.

h. Make the communication of quality results between different operational units easier by reducing the risk of ambiguity.

i. Give more freedom to develop "**Customized Quality Assurance Systems**" that focus on particular aspects of a process ; adaptability to changes.

D. Structure Of Quality System Standard

The ISO-9000 standards comprises of six components as given below :

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         ┌────────────────────┐
         │ Definition & Concepts │
         │      ISO 8402       │
         └────────────────────┘
                   │
         ┌────────────────────┐
         │ Selection and Use of │
         │    the standards    │
         │      ISO 9000       │
         └────────────────────┘
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Non Contractual Situation   Contractual Situation

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┌────────────────────┐    ┌────────────────────┐
│ Quality Management │    │ Quality Systems Model │
│ and Guidelines on  │    │ for Quality Assurance in │
│ Elements of Quality│    │ Design/Development │
│ Management systems │    │ Production, Installation │
│     ISO 9004       │    │ and servicing ISO 9001 │
└────────────────────┘    └────────────────────┘
                                    │
                          ┌────────────────────┐
                          │ Quality Systems Model │
                          │ for Quality Assurance in │
                          │ Production, and    │
                          │ Installation ISO 9002 │
                          └────────────────────┘
                                    │
                          ┌────────────────────┐
                          │ Quality Systems Model │
                          │ for Quality Assurance in │
                          │ final Inspection & Test │
                          │     ISO 9003       │
                          └────────────────────┘
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E. Elements of ISO 9000 Series Standards : Development of Organisation

Depending upon the nature of operation of an organisation appropriate Model of ISO 9001 to 9004 be selected for implementation. Various elements included in the standards are :

(i)   Management Responsibility
(ii)   Auditing of Quality Systems (Internal)
(iii) Quality in Marketing
(iv)   Quality in Procurement (Purchasing)
(v)   Material Control and Traceability
(vi)   Inspection, Measuring and Test Equipment.
(vii) Corrective Action
(viii) After Sales Service
(ix)   Personnel (Training)
(x)   Use of Statistical Methods
(xi)   Quality System Principles
(xii) Economics Quality costs
(xiii) Quality in Specification and Design
(xiv) Quality in Production (Process Control)
(xv)   Inspection and Testing
(xvi) Non-Conformance Control
(xvii) Handling, storage, Packing and Delivery
(xviii) Quality Documentation and Records
(xix) Product safety and liability
(xx)   Purchaser supplied Material / Product

The ISO 9000 series of standards cover all aspects of functioning of any organisation. It involves development of the Total Organisation. The implementation of quality Management system based on ISO 9000 series standards is effected through a well documented Quality System Manual along with procedures, instructions and formats for records.

F. Accreditation Methodology

Once an organisation has decided to go in for quality System accreditation, certain steps will have to be gone through before accreditation is obtained from any recognised agencies.

Broad Steps

(i)   Awareness Programme for Top Management
(ii) Training of Senior/Middle Managers
(iii) Form a Task Force
(iv) Collect Data/Information on existing practices and analysis
(v)   Prepare Quality System Manual, Procedures and Formats
(vi) Train all personnel on the use of Manual, Procedures and Formats

(vii) Carry out Internal Audits for adequacy and compliance of Systems.

(viii) Take corrective action for removing Non-Conformities

(ix) Repeat the internal Audit-Corrective Action Steps till the system is operational

(x) Conduct preliminary Audit by External Agency

(xi) Take corrective action on Non-Conformities

(xii) Apply for Accreditation

(xiii) Maintain and improve the Systems.

The total period needed for above exercise will depend on the size and complexity of the organisation and also on the existing state of affairs and culture. It is reported that this process takes 18 to 24 months for average level of industry.

After initial certification the Quality Management system is reviewed half yearly for follow up audits to maintain accreditation with a complete reassessment every three years.

Consulting services, provided by third party organisations before initial contact with the certification Body can evaluate the system's readiness for complete assessment. Consultants identify problem areas, provide recommended corrective action and reduce the overall cost of the assessment process.

Different ISO standards having bearing on Quality Systems are given in the Table 1.

TABLE 1 - ISO STANDARDS BEARING ON QUALITY SYSTEMS

NUMBER	NAME
ISO 8402	Quality Vocabulary
ISO 9000	Quality Management & Quality Assurance Standards Guidelines for selection and use
ISO 9001	Quality Systems Model for Quality Assurance in Design / Development, Production, Installation & Servicing
ISO 9002	Quality Systems Model for Quality Assurance in Production and Installation
ISO 9003	Quality Systems Model for Quality Assurance Final Inspection and Test
ISO 9004	Quality Management & Quality System Elements Guidelines
ISO 10011-1	Guidelines for Auditing Quality Systems Part I - Auditing
ISO 10011-2	Guidelines for Auditing Quality Systems Part 2 - Qualification Criteria for Auditors
ISO 10011-3	Guidelines for Auditing Quality Systems Part 3 - Managing Audit Programs

NUMBER	NAME
ISO Guide 2	General Terms and their Definitions concerning Standardization and related activities
ISO / IEC Guide 39	General Requirements for the acceptance of Inspection Bodies.
ISO / IEC Guide 40	General Requirements for the acceptance of Certification Bodies.
ISO / IEC Guide 48	Guidelines for Third Party Assessment & Registration of a Supplier's Quality System

G. Total Quality Management (TQM) Scenario

Total Quality is a new approach to improve the effectiveness and flexibility of organisation as a whole. It basically aims to involve every person in every department of an organisation working together to eliminate errors and prevent wastage. It is an organisational culture to ensure things are done right first time.

The machainism of implementation of ISO 9000 series of standards enables systematic implementation of product and system standards the sound base for the TQM journey which is the need of the hour for 'SURVIVAL AND GROWTH' by achieving elements of Excellence for Total Quality as below.

(i)Customer Orientation (ii) Participation (iii)Training (iv) Motivation (v) Products/Services (vi) Processes/ procedures (vii) Information (viii) Suppliers (ix) Quality Culture (x) Planning (xi) Communication (xii) Accountability.

In India, increasing stress on quality is enabling TQM to emerge as a novel technique in managing an organisation. However, significant efforts are required to spread TQM as a part of course curriculam in the Educational Institutes.

H. CONCLUSION

Quality has become a competitive weapon in the domestic as well as in the international market place. By making the use of ISO 9000 Quality System Standards, the industry would lead to customer satisfaction and better image of their products in the domestic/global market. A quality system remain an important element and foundation for Total Quality Management where quality improvements are embedded into the work and activities that let the potential of human beings blossom with respect.