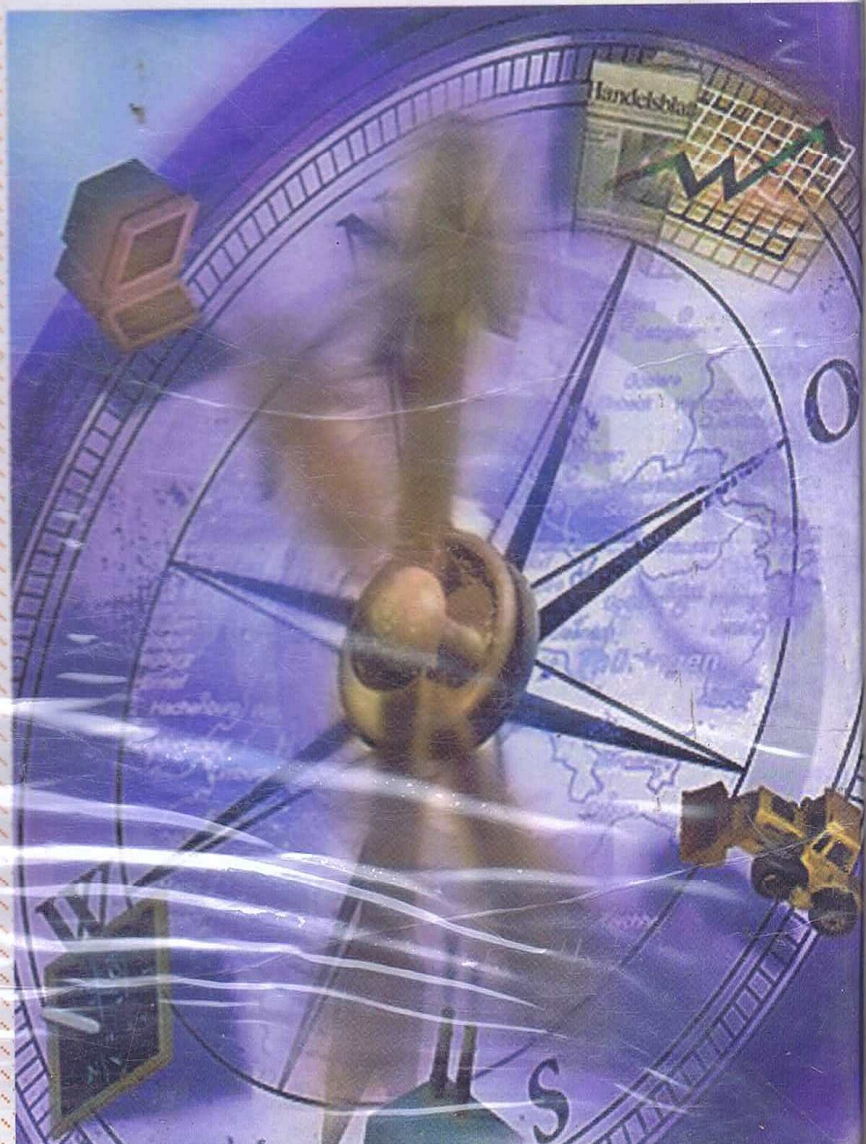


# TOTAL QUALITY MANAGEMENT

**The Transforming  
Role of Quality in a  
Turbulent World**

**Institute of Directors**



# TOTAL QUALITY MANAGEMENT

## The Transforming Role of Quality in a Turbulent World

*Edited by*

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**Institute of Directors**



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# STATUS OF QUALITY SYSTEM IN ISO CERTIFIED COMPANIES

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## 1.1 INTRODUCTION

The growth of certification activity world wide, attesting conformance of organizations "Quality Management System" to one of the ISO 9000 series of standards continues to accelerate. The ISO 9000 certification scheme has been widely adopted by the Indian industries. This not only promote quality in domestic products but also assist Indian Industries to compete in the international market.

As on date there are estimated to be about 2000 industries in India which are certified under ISO 9000 series scheme by reputed certification agencies, namely, BVQI, BIS, STQC, IRQS, TUV, RWTUV, DNV, NQA and LRQA. In December 1995 when this survey was initiated, there were about 1084 Indian industries who were certified under the ISO 9000 series scheme. The status of ISO 9000 series certified industries in India in December 1995 is shown in Fig. 1.1.

## 1.2 NEED FOR THE SURVEY

The need for the survey was felt in this region to know the problems/difficulties being faced by ISO 9000 certified industries, the extent of implementation of various clauses of ISO 9001/9002 and the benefits/advantages of such a Quality System.

## 1.3 METHODOLOGY OF SURVEY

To know the status of quality system in industries; a systematic survey was carried out in industries. The industries covered were manufacturing industries who follow ISO 9000 quality system. A sample of fifteen random industries was taken. The

industries investigated were from four different states viz. Punjab, Haryana, Chandigarh and Himachal Pradesh. The status ( up to 31-12-95 ) of ISO 9000 certified industries in these states are shown in Fig. 1.2. The state wise distribution of ISO 9000 certified industries investigated are shown in Fig. 1.3.

A comprehensive questionnaire based on ISO 9002-1994 clauses was prepared to collect information and data about the industries. The information about the quality system in industries were collected from three different categories of personnel. The different levels of management involved in the survey were M.R.(Management Representative), Managers and Senior Engineers from diverse fields like Maintenance, Production & Stores and Supervisors (from Shop Floor/Production). The questionnaire was divided into two parts. The first part dealt with the profile of the industry whereas the second part of the questionnaire dealt with the major elements of ISO 9002 quality system. Beside this, the non-conformities reports were also minutely examined in these industries. In order to give broad representation and reduce bias in conclusion, the universe of this study included Govt. run industry, private sector units and a public sector unit.

## **1.4 DATA ANALYSIS AND FINDINGS**

The finding of the study against the requirements of ISO 9001 / ISO 9002 are discussed below. A total of 569 non-conformities in these industries were investigated, the distribution of these non-conformities are shown in Fig. 1.4. The non-conformities were observed in all the units under survey. The NCR'S investigated were from internal audit reports, surveillance audit reports and external audit reports. The data has been analysed under two headings :

- i) The Strengths — Indicating the benefits/advantages claimed and observed in these industries.
- ii) Other Findings — The Extent of implementation of ISO 9002-1994 clauses.

### **1.4.1 THE STRENGTHS**

- (i) There is an increased level of awareness among the top and middle level management about the concepts and requirements of ISO 9000 quality system standards.
- (ii) The companies have a system for collection of data pertaining to non-conforming products.
- (iii) There is lot of thrust on final inspection of the product with proper inspection and test plans.
- (iv) The industries have a good system for the storage of semi-finished and finished products
- (v) A good system of product identification exists.

- (vi) The staff morale and interdepartmental interaction has increased.
- (vii) There is overall improvement in the working system of the organization.
- (viii) There is awareness in industries about Calibration and statistical techniques.
- (ix) The companies have started giving importance to Human Resource Development Department.
- (x) The companies have gained in terms of the sales after getting certification.
- (xi) There is awareness among the companies though not all, about the concept of TQM.

### 1.4.2 OTHER FINDINGS

The clause wise findings are as under :

#### (i) Document and Data Control

Out of 569 non-conformities, 110 (i.e. 19.33%) were related to Document Control, out of which 12.82% pertains to Document approval and issue and 6.50% are related to Document Changes/Modification.

In Document Approval and Issue, it was observed that : Procedures are not followed ( 3.34%), Removal of obsolete document ( 2.63% ), Issue and Control (1.75%), Availability (1.75%), Authorization (1.23%), Document Identification (1.05%), Review and Approval (1.05%), were the major deficiencies.

In Document changes/Modification (6.50%), it was observed that : Updation/Amendment (1.75%), Unauthorized changes (1.75%), Change notes (1.75%), Master list not updated (1.23%), were the major deficiencies.

The above deficiencies are shown in Fig. 1.5 and Fig. 1.6.

#### (ii) Control of Inspection Measuring and Test Equipment

Nearly 50 non-conformities ( 8.78%) occurring under this element were investigated and it was observed that the non-conformities under this head were, Calibration status not known (2.1%), Environmental control not existing (1.4%), Calibration recall system lacking (1.4%), Use of uncalibrated equipment (0.87%), Calibration procedures not followed (0.87%), Traceability not good (0.7%), Calibration records not upto date (0.7%), and Calibration system not defined (0.7%).

The above distribution is shown in Fig. 1.7.

### **(iii) Process Control**

The major non-conformities observed in the same were, Process monitoring not proper (2.6%), Work instructions not displayed (2.5%), Control over process is not there (1.58%), and Approval of Process and Equipment Not followed (0.7%). The normally occurring non-conformities in Process control are shown in Fig. 1.8.

### **(iv) Internal Quality Audit**

The normally occurring non-conformities in this element are about 6.67% of the total non-conformities studied. The major areas in which they exist are, Schedule not Followed (2.28%), Review of Audit Report (1.75%) and Follow up action not as per schedule (2.63%).

### **(v) Training**

6.67% of total non-conformities belong to this area. The breakup of the non-conformities studied under this element are, All Persons not Trained (2.46%), Responsibility for training not defined (0.5%), Identification of training needs not proper (1.93%) and Training records not proper (1.75%).

### **(vi) Product Identification and Traceability**

6.5% of the total non-conformities studied fall under this element. The breakup of these Non-conformities studied under this element are, Procedures are not being followed (2.28%), The stickers/cards are not fool proof (2.63%), The point at which the identity was first established not known (1.52%).

### **(vii) Control of Quality Records**

35 non-conformities i.e. 6.15% of the total non-conformities were observed in this element. The areas in which these exist are, The quality records not retrievable (2.40%), The records does not demonstrate the level of quality achieved (1.93%) and The appropriate storage conditions are missing (1.75%).

### **(viii) Purchasing**

6.15% of the total non-conformities studied fall under this heading. The distribution of the same is : Assessment of sub-contractor not been taken care off (2.40%), Records regarding the acceptable sub-contractors not upto date (2.28%) and discrepancy in the data pertaining to purchasing (1.40%).

**(ix) Inspection and Test Status**

Of the 5.09% of total non-conformities existing in this element, it was observed that, Identification of conformed and non-conformed product was missing (2.46%), Non-conformed products were lying along with conformed product (1.75%) and The separate area marked not being used (0.87%).

**(x) Control of Non-Conforming Product**

The distribution of 5.09% of the total non-conformities under this element is : Use of non-conformed product inadvertently (1.23%), Details of non-conformity not documented (1.05%), Review of non-conformity is not taken care off (1.75%) and the concessions are given without the prior permission of the authorized person (1.05%).

**(xi) Handling, Storage, Packaging, Preservation and Delivery**

5.09% of the total non-conformities fall under this element. The major lapses in it are, There are possibilities of mechanical damages (1.75%), Storage conditions/space lacking (2.28%) and protection of quality of product up to destination not guaranteed (1.05%).

**(xii) Management Responsibility**

4.92% of the total non-conformities studied lye under this element. The major areas in which the non-conformities were observed are: Quality Policy not being communicated to all levels (0.52%), Lower level people not understand the policy (2.46%) and the regular review of quality system is missing (1.93%).

**(xiii) Corrective and Preventive Action**

4.39% of total non-conformities fall under this element. The major lapses observed under this heading are : Causes of Non-conformity not investigated (1.58%), Action on Customer complaint/service report not taken ( 0.87% ), Verification of effectiveness of quality records (1.93%).

**(xiv) Contract Review**

4.39% of total non-conformities fall under this element and it was observed that : Capability to meet the contractual requirement was not upto mark ( 2.28% ) and there were lapses in the records of contractual requirement ( 2.1% ).

**(xv) Inspection and Testing**

3.51% of the total non-conformities fall under this element. To be precise it was observed that : Inspection of incoming product not done (0.70% ), Inprocess Inspection and Testing is lacking (1.75% ) and Inspection and Test records were not upto date ( 1.05% ).

**1.5 CONCLUSION**

There is a wide variation in quality practices being followed by the industries. This implies wide variation in the quality concepts, formulation and implementation of quality practices including quality tools, their effectiveness and quality improvement programmes. It is observed that there are industries which are good as far as quality practices are concerned while at the other end of the spectrum, it is ironical to say that in some industries though less in number there is an ample scope of improvement.



### STATUS OF ISO 9000 CERTIFIED ORGANISATIONS IN DIFFERENT STATES

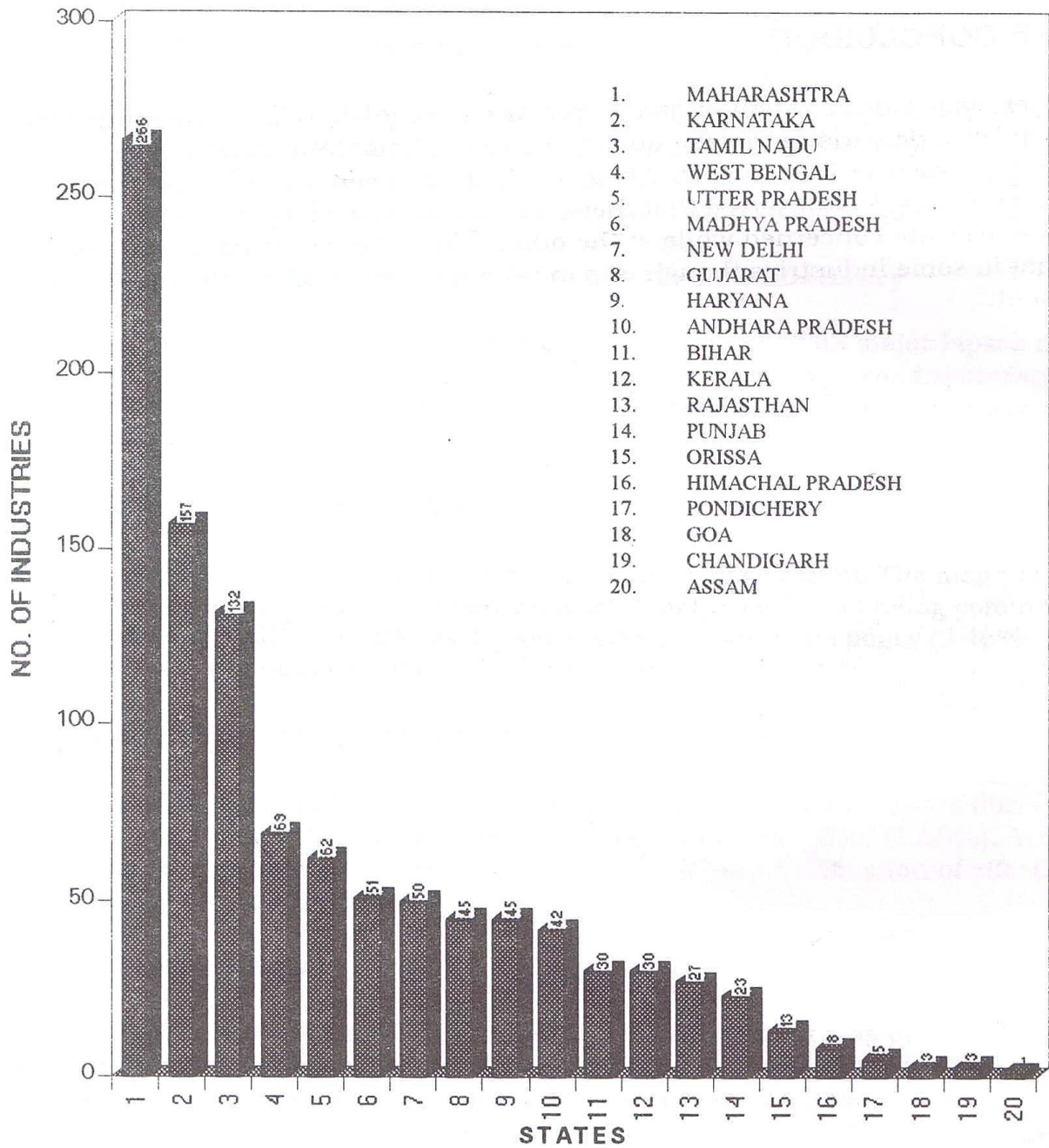


FIGURE 1.1

### STATUS OF ISO 9000 CERTIFIED ORGANISATIONS : STATES UNDER INVESTIGATION

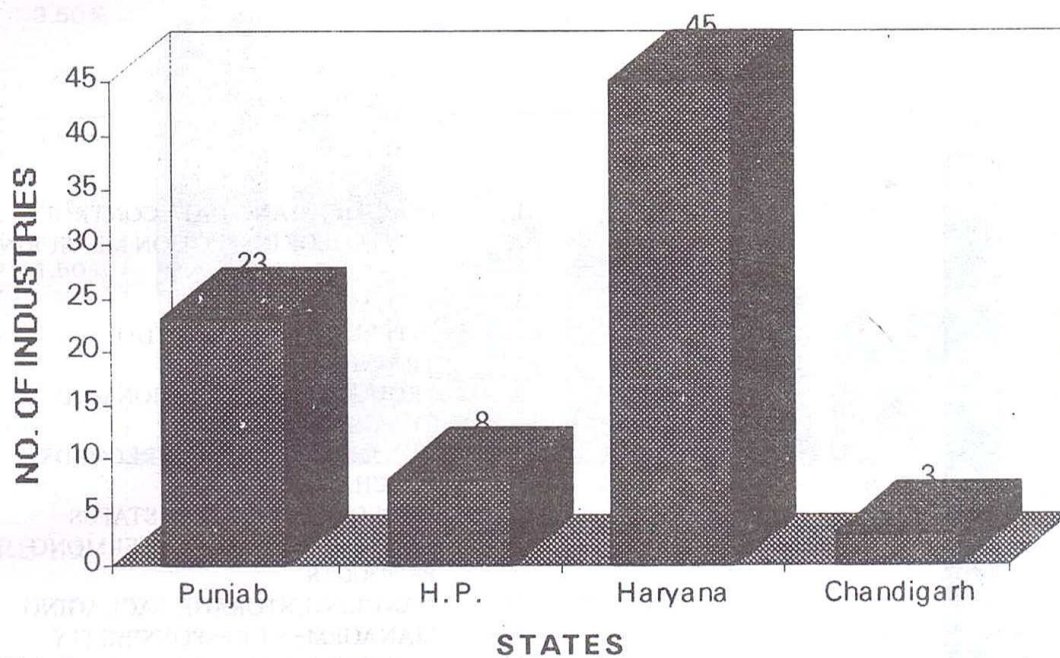


FIGURE 1.2

### ISO 9000 CERTIFIED INDUSTRIES INVESTIGATED

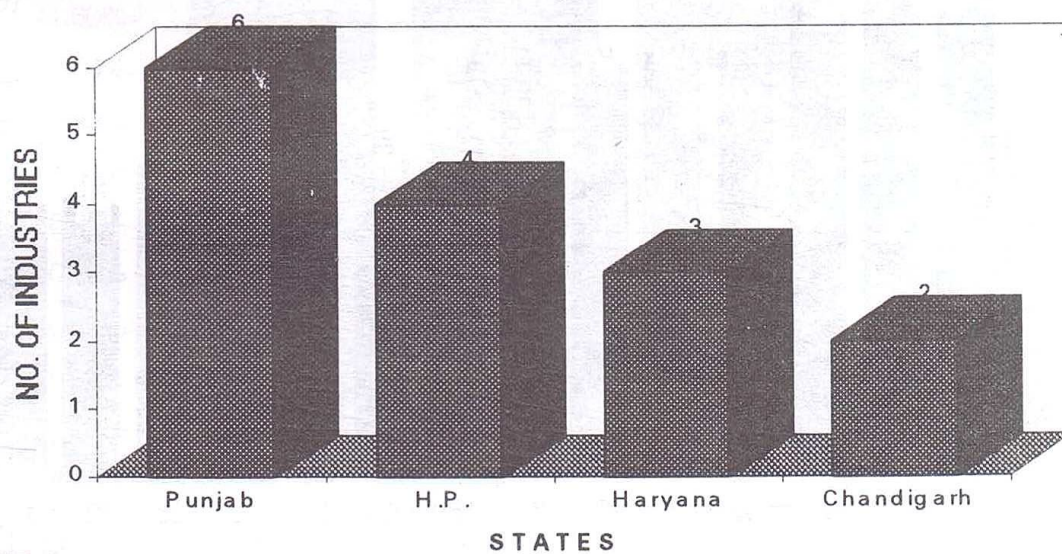


FIGURE 1.3

### DISTRIBUTION OF TOTAL NUMBER OF NON-CONFORMITIES

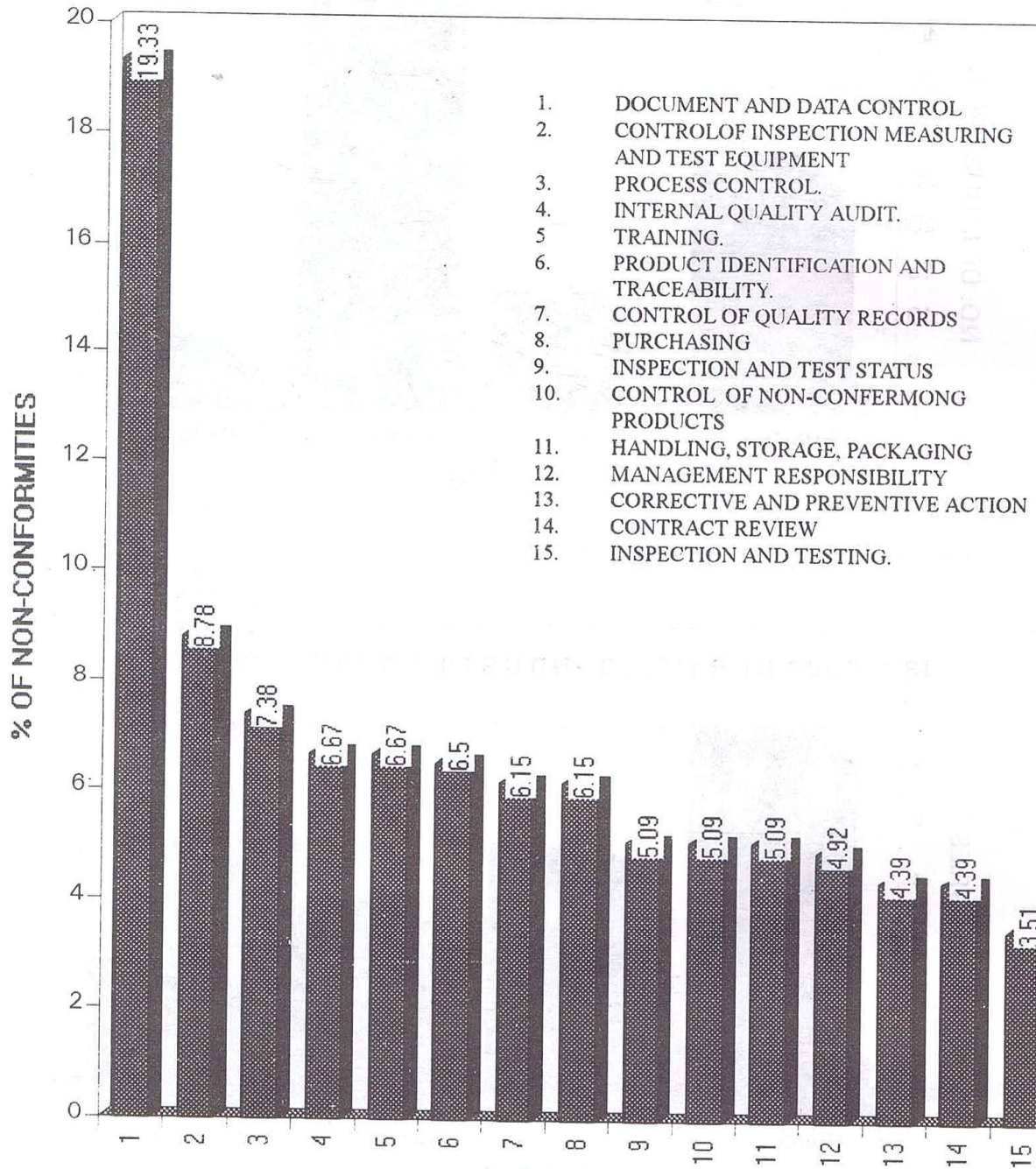
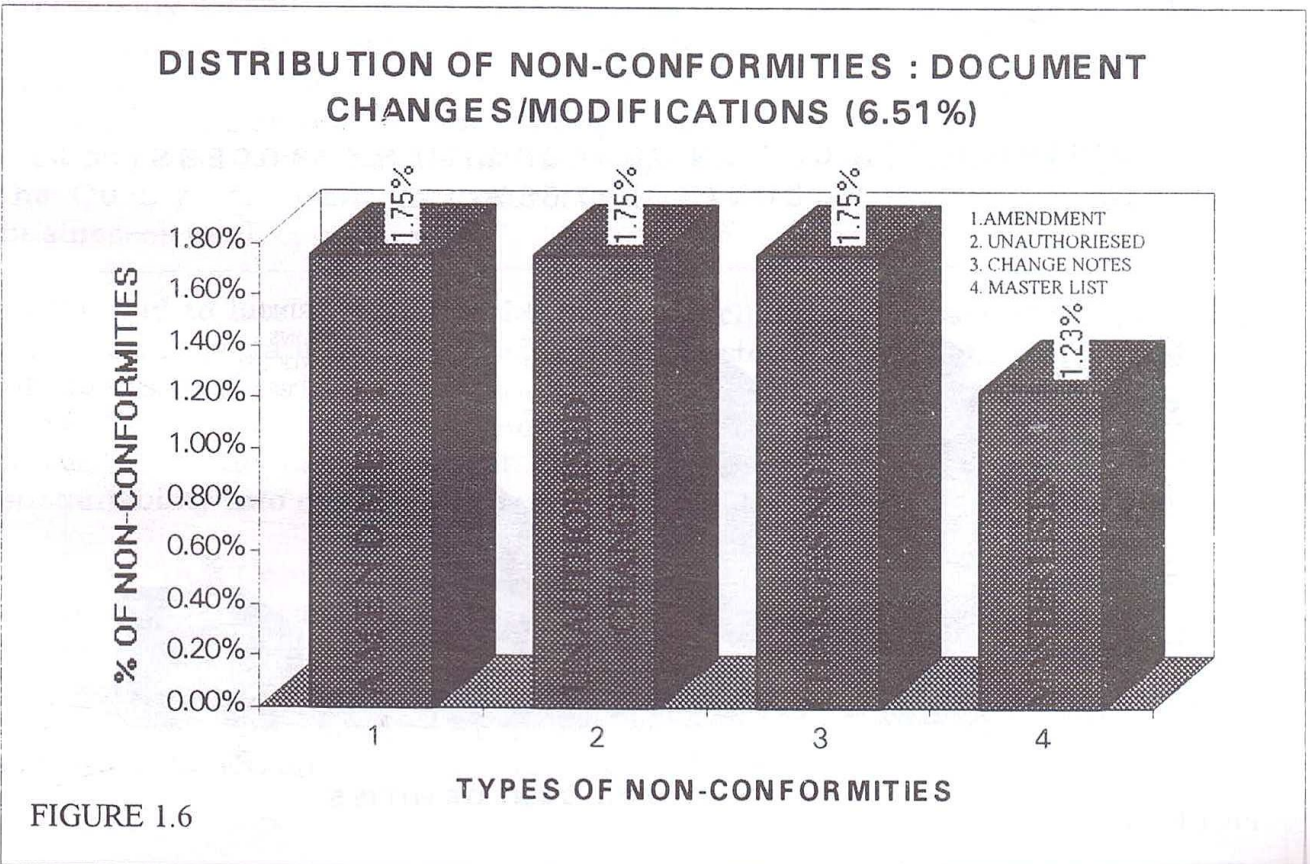
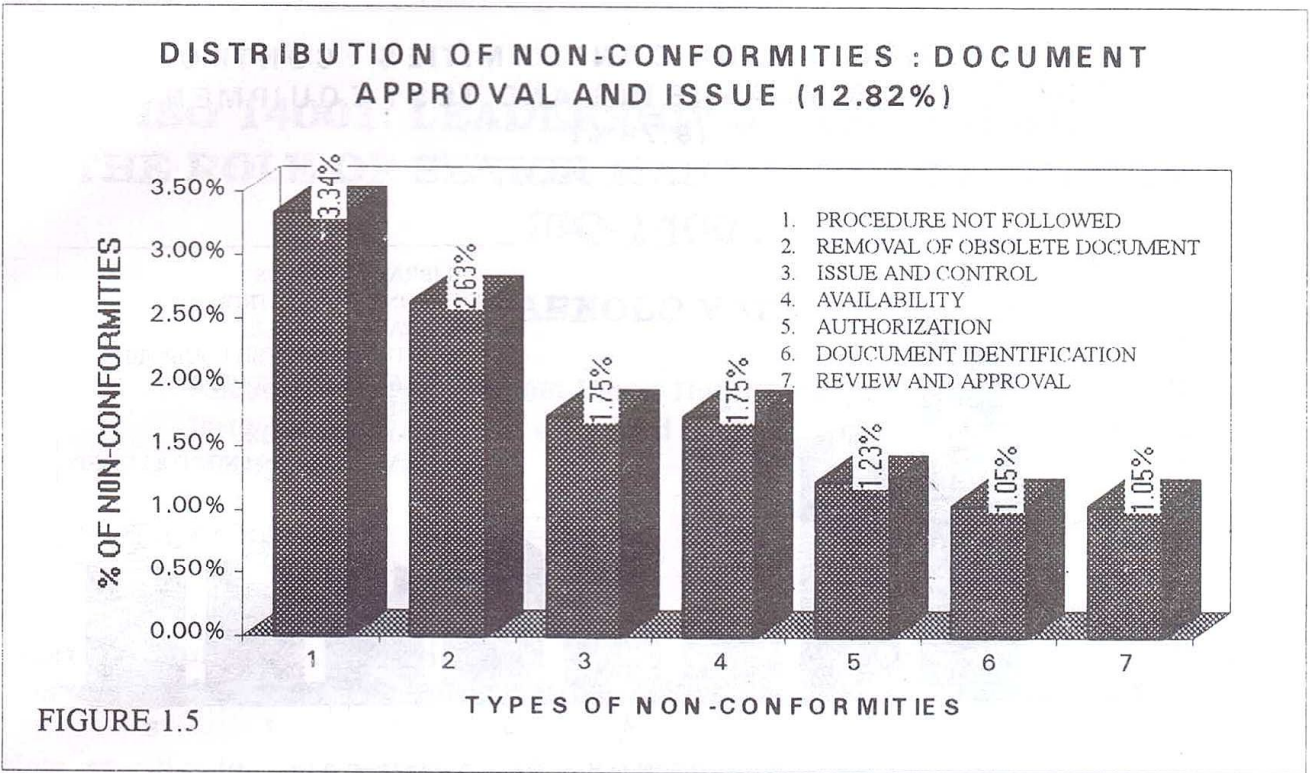


FIGURE 1.4



**DISTRIBUTION OF NON-CONFORMITIES : CONTROL OF INSPECTION MEASURING AND TEST EQUIPMENT (8.78%)**

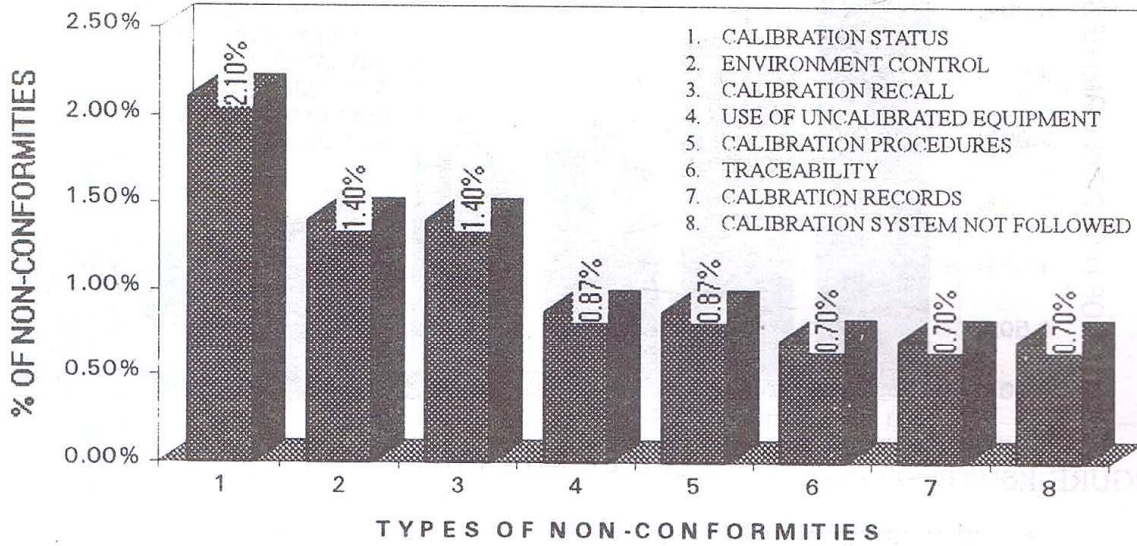


FIGURE 1.7

**DISTRIBUTION OF NON-CONFORMITIES : PROCESS CONTROL (7.38%)**

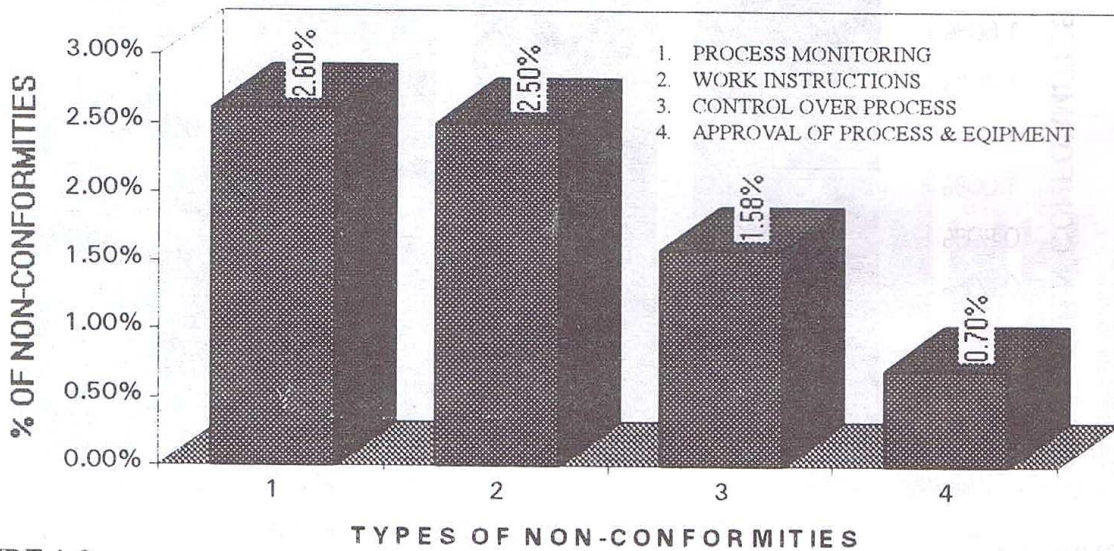


FIGURE 1.8