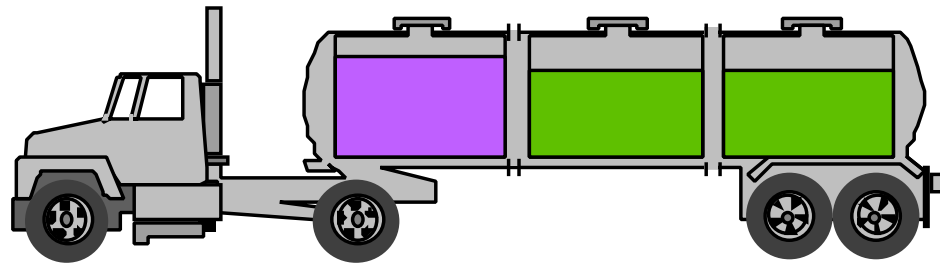# ISO 9000 In The Over-The-Road Transportation Industry

Schedule

8:45 AM - Part 1

9:30 AM - Break

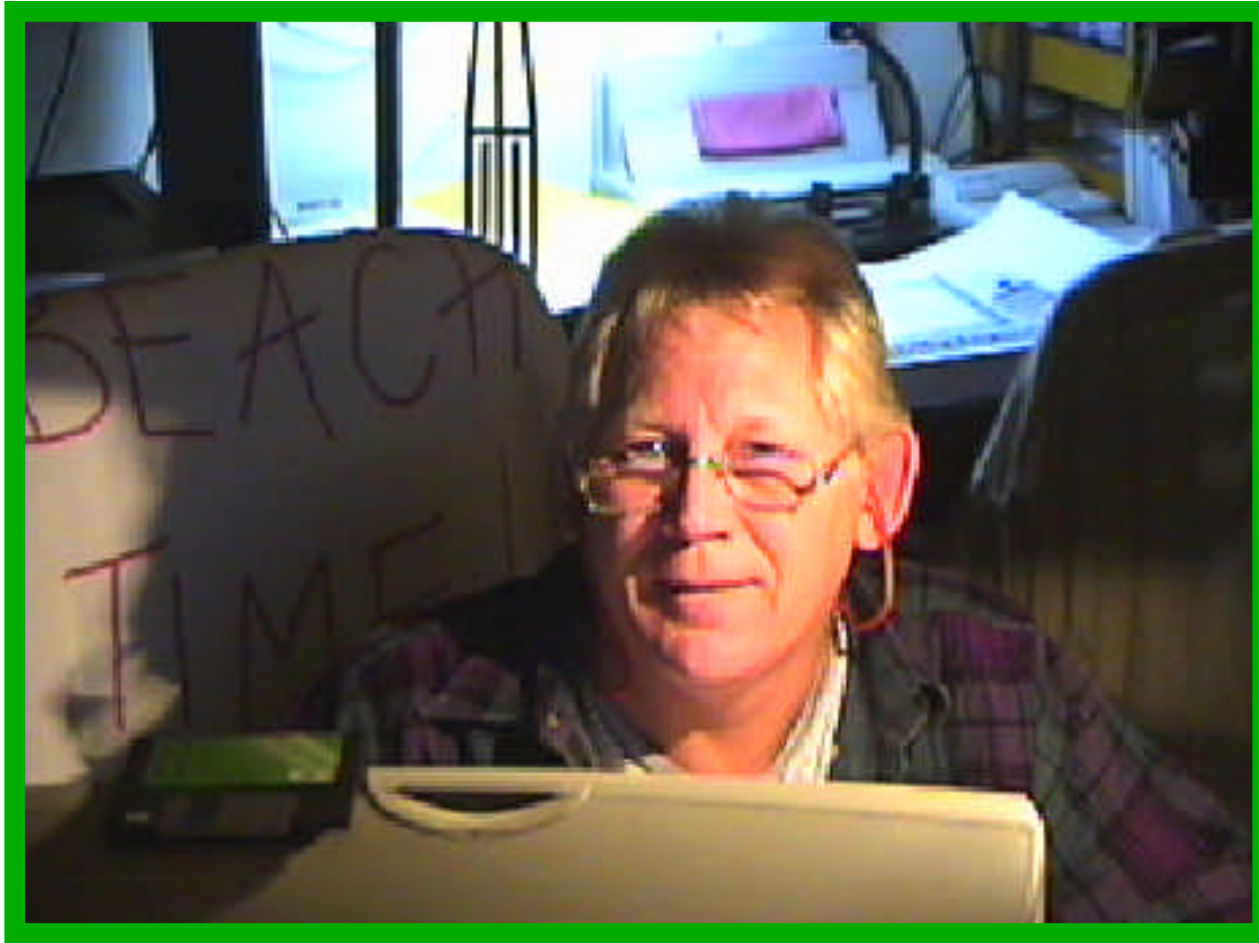5 Minutes

9:35 AM - Part 2

10:30 AM - Break

15 Minutes

10:45 AM - Part 3

11:30 AM - End Of Session

Hello! I'm Marc
and I'm glad you're here!

Topics

- ISO 9000 Generalities

- Who's doing ISO and Why

- About Auditors

- A brief 'How to get started' guide

- ISO 9000 - Some Specifics

- ISO 9000 - Element by Element

- Cautions and Wrap-Up

The Basics

ISO Boiled Down To Its Base

Say What You Do

This means document your systems so you will consistently do the job the same way every time. We must make sure we have appropriate documentation.

Do What You Say

This is what the auditors want to see. Objective evidence that what you say you are doing in your documentation is what you are doing in practice.

Technically, What Is ISO 9000 About?

- Quality Management

- Quality Assurance

- Quality System Deployment and Documentation

- Records and Information Management Play an Integral Role

- Has Little to do with Quality

- Does NOT Demonstrate Quality of Product

- Should Result in a Better Product and/or Service

What About QS 9000?

- Transportation companies are not subject to QS 9000 registration.

- QS 9000 is a requirement of Ford, GM and Chrysler.

- The 'Big Three' are requiring most carriers to obtain ISO 9000 registration.

- Each has it's own specific supplier requirements.

- You *may* be subject to QSA-S "Quality System Assessment for Services" (Ford).

Federal Rules & Regulations

- ISO 9000 does not change or affect any federal rules or regulations.

- Federal requirements are *in addition* to ISO requirements

- Systems documentation will weave together all requirements

Global Competition Causes Surging 9001 and 9002 Registrations

- Approximately 50% of all US firms will be registered by the end of 1998 (WSJ)

- Europe wide - EU (EEC)

- Pacific Rim embracing

Who's Doing ISO?

- European Economic Community

- The 'Big Three'

- DoD

- NASA

- Over 80 countries have embraced the ISO Series of standards as National Standard
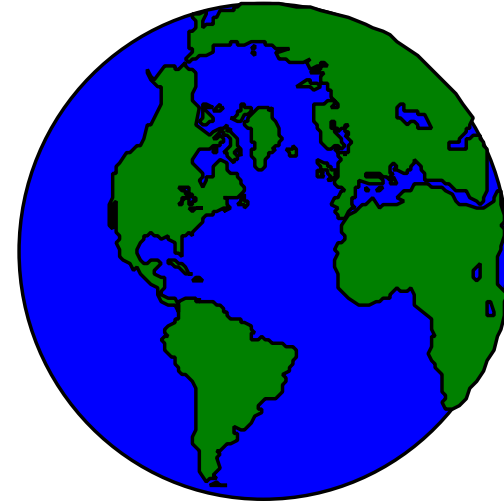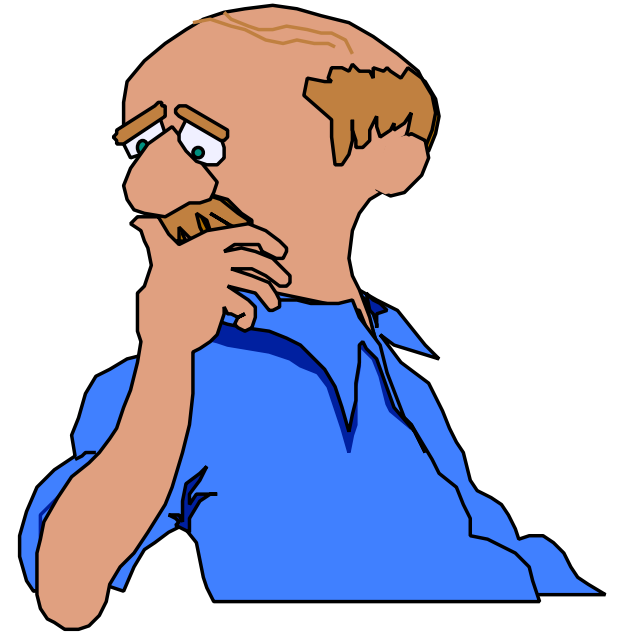
Why ISO 9000 Registration?

- Improves Internal Operations

- Enhances Competitive Position

- Required for International Business

- Customer Satisfaction

- Foundation for a Quality Program

- Complement Existing Programs

- Market Share

- Competitive Pressures

Why Do Companies Register?

- Customer Requirement (>80%)

- Sales and Marketing 'Tool'

- NOT for Quality Improvement

Internal Effects

Effective, comprehensive quality management system

Blueprint for building quality into products and services

Increase potential growth, competitiveness and profit

Consistency of product and services leads to happier, more effective employees and pleased customers

Critical Success Factors

- Dedicated 'Company Knowledgebase'

    (Co-ordinator and/or Management Representative)

- Pre-assessment

- Involved, supportive top management

- Receptive culture

- Focus on business rather than functional areas

- Prioritise processes based on customer needs, anticipated benefits, and potential for success

Registration

- Your company will choose a registrar.

- Registration lasts for 3 years.

- Registration is NOT a 'one-shot' deal.

- Your company will be re-audited at least once a year.

Forever.

And ever.

And ever..... (Not a fairy tale!)

Auditors!

- Registration requires regular audits by your Registrar. These are called Third Party audits. Just as has been done in banks for years, auditing has reached every industry. Whether twice a year or once a year, your company quality system has to audited by the company which registers your company. That company is your Registrar.

ISO 9000 In The OTR Transportation Industry

Reasons For Audits

- ISO 9000 Requires Them (4.17)

- A Control Mechanism Used By Management

- Tool For Continuous Improvement

- Correct Nonconformities In Systems

- Helps Ensure Ongoing Systems Operate As Intended And As Required

Auditors Are Not!!!

- Inquisitors
- Fault Finders
- Rock Throwers
- Avenging Angels (Biased For or Against)
- Dishonest
- Overactive
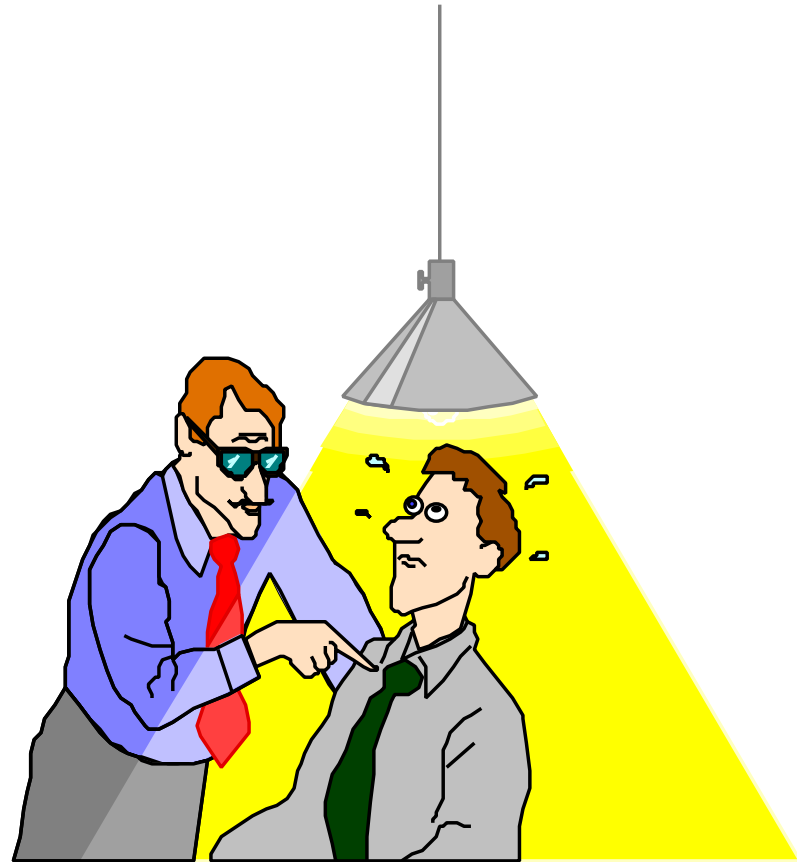
Payback

- Companies minimize deficiencies in supply and support of products and services.

- Companies identify problem areas and address them quicker.

- Companies identify customer needs more accurately.

- Companies become more consistent in their product and services.
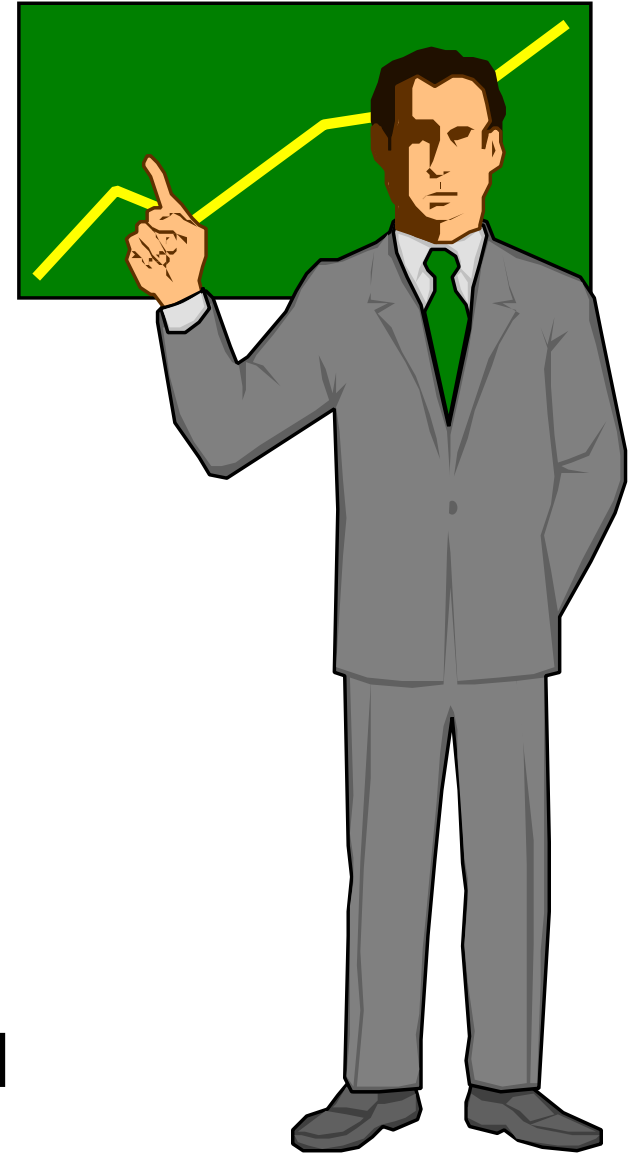
OK, Already. Which Way Do We Go From Here? I thought this was a 'How To....' Seminar!

First, Some Considerations....

- Your Product is Transportation of 'goods'

- Your Product is (technically) a service

- Customer Supplied Product may include a customer's trailer

- Your **SIC Code** is

   4200 - Motor Freight Transportation & Warehousing

   Sub-categories include

      4212 Food "Containers Frozen Food Transportation"

      4212 Live 1 "Livestock Transportation"

      4213 Tran 2 "Transportation and Distribution Management"

General Registration Path

- Assess your situation (Pre-assessment)

    May be by registrar or consultant

    Also called Gap Analysis

- Define a plan with time line & begin

- Interview and choose registrar

- Documentation processes

- Manage transitional activities

- Registrar document review

- Registrar pre-assessment

- Corrective actions

- Registration audit

- **Implementation timeframe: 3 to 9 months**

Typical Registration Costs

- Office Staff   =   15 to 30 Souls

- Costs spread over 3 years

- Registrar   US$10K

- In-House Resources   US$15K

- Consultant   US$15K

- Misc.   <u>US$5K</u>

                                                      US$45K

Note: Range = US$15K to US$100K (*Plus)

Failure Modes

- Lack of documentation

- No or inadequate document control

- Poor record keeping and systems

- Lack of management involvement

- Poor communication

- Personnel not following documentation

A Word About Registrars....

- Choose several registrars and interview them each in-house

- Determine their man-day fees and hours (some cite 6 hours as a 'man-day')

- What is included in their 'expenses'?

- Negotiate/bargain for your best deal

- Determine their 'Scope of Authority'

- Are their auditors on contract or are they hired as Full-Time employees?

Now - Practically Speaking, How Do We Start?

- ## Appoint a Champion

    This person will be your company 'Knowledge Base'. Begin 'Document Identification and Mapping'

- ## Where are you at now?

    The Champion should do a self analysis of the company, begin to develop an implementation plan and should begin to contact registrars.

- ## Call a Meeting!!!

    Do a roll-out! Bring everyone together and explain the basics of ISO and what it means to each person and to the business. Give 'Marching Orders'!

Make a Project Plan!!!!

Task ID	Project Elements	Days	Start	Finish	1996 Feb–Dec / 1997 Jan–Jul
1	**Determine Specific Requirement(s)**	1d	2/1/96	2/1/96	
2	**Define Time to Complete Requirement**	1d	2/1/96	2/1/96	
3	**Define Scope of Assessment**	1d	2/1/96	2/1/96	
4	**Project Set-Ups**	**178d**	**2/1/96**	**10/7/96**	
5	Write Company Quality Systems Manual	1d	2/1/96	2/1/96	
6	Document Company Quality Policy	1d	2/1/96	2/1/96	
7	**Define Documentation Systems**	**1d**	**2/1/96**	**2/1/96**	
8	Document Master Numbering System	1d	2/1/96	2/1/96	
9	**Establish Master Binders**	**178d**	**2/1/96**	**10/7/96**	
10	Procedures History Binder	1d	2/1/96	2/1/96	
11	Project Master Binder	1d	2/1/96	2/1/96	
12		1d	10/7/96	10/7/96	0%
13	**Contact Registrar**	**157d**	**3/1/96**	**10/7/96**	
14	Agree on Scope	1d	3/1/96	3/1/96	0%
15	Agree On Fees (Try to Bargain)	1d	3/1/96	3/1/96	0%
16	Agree On Audit Date(s)	1d	3/1/96	3/1/96	0%
17	Submit Required Documentation	1d	3/1/96	3/1/96	0%
18		1d	10/7/96	10/7/96	0%
19	**Awareness & Information Meetings - Hourly**	**198d**	**2/1/96**	**11/4/96**	
20	ISO 9000 Awareness	1d	2/1/96	2/1/96	
21	Work Instructions & Documentation	1d	5/3/96	5/3/96	0%
22	Auditee Training	1d	8/5/96	8/5/96	0%

How to Start - Part 2

- The Champion should start flow charting and understanding the 20 master systems and a quality manual should be *started*

- Individuals should begin listing and flow charting their jobs

- Do you need a Piano Teacher?

- This is a step by step building process

- The Champion orchestrates
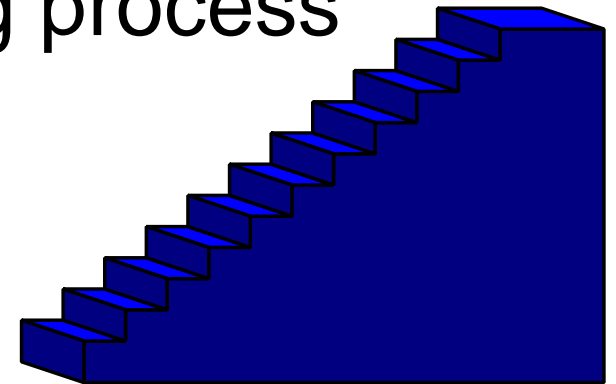
A Word to the Wise...

- Your quality systems manual is one of your most important documents

- 'Canned' texts will have to be tailored

- Best way is to take the ISO 9000 text and tailor it as you develop your internal systems for each ISO element

- DO NOT try to write your quality manual and then write procedures to support it

How to Start - Part 3

- Do another self assessment when you have everyone's input

- If you think you're ready, arrange for the registrar's document review

- Next will come pre-assessment by the registrar

- Registration audit

- ** It takes 2 to 3 months to get your certificate after your registration audit

ISO 9000

The Specifics

Foundation of ISO 9000 Series

- The linking thread through out the ISO 9000 standards is the emphasis on recording information that pertains to all aspects of quality and management.

- While there are several explanations of the reason for the origin of the series, the most basic reason for their coming into existence relate to ensuring responsibilities are defined for **Liability Issues**.

General Terminology

- ### Registrar

  Must be accredited (RAB, minimum)

- ### Registration Audit

  An auditor comes and reviews documentation and practices

- ### Companies obtain registration and receive certificates

- ### Auditor

  Must be certified by the RAB (minimum)

ISO In Detail

- **I**nternational **O**rganisation for **S**tandardization
- isos - from the Greek word meaning equal
- Founded 1946
- Based in Geneva, Switzerland
- ISO 9000 series begun about 1978
- Developed initially to support two-party contractual agreements (has expanded)
- ISO 9000 series released in 1987
- Over 80 countries have embraced as a National standard

ISO In Detail II

- International Standards on Quality Management and Quality Assurance

- Established by ISO Technical Committee 176 (TC176)

- Used by both manufacturing and service industries

- Recognised World-Wide:

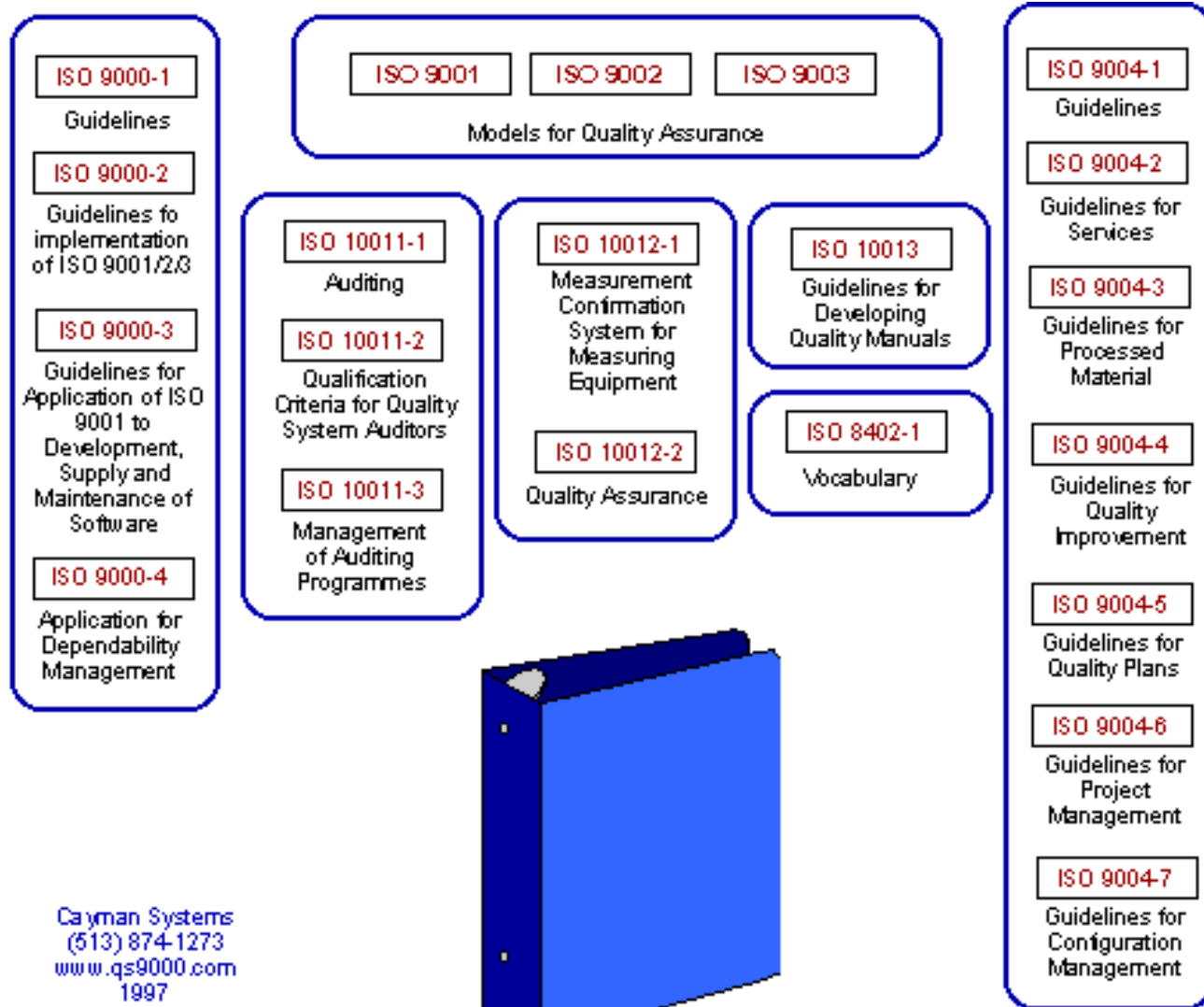   International Seal of Approval

- Defines an effective quality system

ISO In Detail III

- Requires documentation for quality system elements

- Requires 3rd party audits and registration

- Applies to all kinds of manufacturing and all kinds of service organizations

- Establishes consistent quality system practices that cross international borders

- Reduces or eliminates customer audits

- Provides a common language and set of terms

Scope of the Standards

- Clarify quality-related principles and concepts

- Provide guidelines

- Specific requirements to achieve customer satisfaction by preventing nonconformances

- Inspection and test conducted on finished products and services can be satisfactorily demonstrated

ISO 9000 Documents

ISO 9000-1
Guidelines

ISO 9000-2
Guidelines fo implementation of ISO 9001/2/3

ISO 9000-3
Guidelines for Application of ISO 9001 to Development, Supply and Maintenance of Software

ISO 9000-4
Application for Dependability Management

ISO 9001 **ISO 9002** **ISO 9003**
Models for Quality Assurance

ISO 10011-1
Auditing

ISO 10011-2
Qualification Criteria for Quality System Auditors

ISO 10011-3
Management of Auditing Programmes

ISO 10012-1
Measurement Confirmation System for Measuring Equipment

ISO 10012-2
Quality Assurance

ISO 10013
Guidelines for Developing Quality Manuals

ISO 8402-1
Vocabulary

ISO 9004-1
Guidelines

ISO 9004-2
Guidelines for Services

ISO 9004-3
Guidelines for Processed Material

ISO 9004-4
Guidelines for Quality Improvement

ISO 9004-5
Guidelines for Quality Plans

ISO 9004-6
Guidelines for Project Management

ISO 9004-7
Guidelines for Configuration Management

Cayman Systems
(513) 874-1273
www.qs9000.com
1997

ISO 8402

Management and Quality Assurance - Vocabulary

This document is an attempt to provide consistent definitions for major terms.

This document is important to the interpretation of the ISO 9000 Series of documents.

ISO 9001

Quality Systems - Model for Quality Assurance in Design, Development Production, Installation and Servicing

This is the main ISO 9000 Series document. It's contents guide the entire series. It is typically the document businesses register to. It contains provision for design development and control.

ISO 9002

Quality Systems - Model for Quality Assurance in Production, Installation and Servicing

ISO 9002 is the exact same document as ISO 9001 EXCEPT that design is not included. This is the model transportation companies register to.

ISO 9003

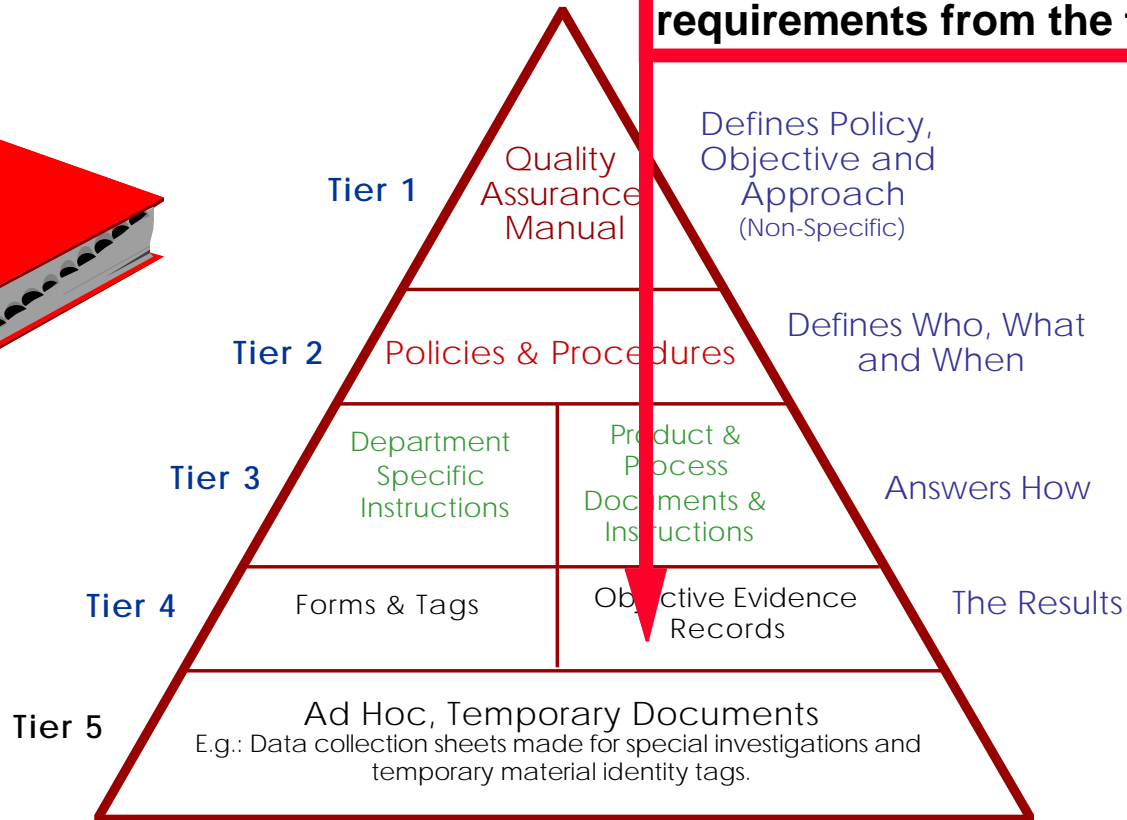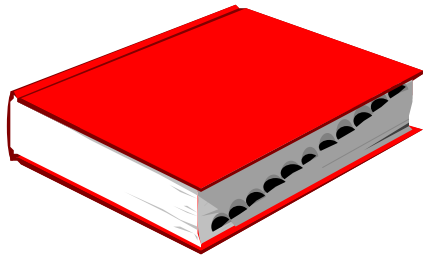## Quality Systems - Model for Quality Assurance in Final Inspection and Test

ISO 9003 is essentially a dead document. It's intended sector focus has embraced ISO 9002 or ISO 9001.

Quality System Requirements

- Quality Policy

- Quality Manual

- Procedures

- Work Instructions

- Other Documentation

- Internal Auditing

ISO 9000 Document Structure

We ensure flow down of requirements from the top down

Tier 1 — Quality Assurance Manual — Defines Policy, Objective and Approach (Non-Specific)

Tier 2 — Policies & Procedures — Defines Who, What and When

Tier 3 — Department Specific Instructions / Product & Process Documents & Instructions — Answers How

Tier 4 — Forms & Tags / Objective Evidence Records — The Results

Tier 5 — Ad Hoc, Temporary Documents
E.g.: Data collection sheets made for special investigations and temporary material identity tags.

The Elements of ISO 9001

Each document is divided into 4 sections

1. Scope

2. Normative Reference

3. Definitions

4. Quality System Requirements

Section 4 contains the requirements which is why you will hear a lot of people cite the standard by section and sub-section, such as "4.3 Contract Review"

List of Elements

4.1	Management Responsibility
4.2	Quality System
4.3	Contract Review
4.4	Design Control
4.5	Document and Data Control
4.6	Purchasing
4.7	Control of Customer-Supplied Product
4.8	Product Identification and Traceability
4.9	Process Control
4.10	Inspection and Testing
4.11	Control of Inspection, Measuring and Test Equipment
4.12	Inspection and Test Status
4.13	Control of Non-Conforming Product
4.14	Corrective and Preventive Action
4.15	Handling Storage Packaging Preservation and Delivery
4.16	Control of Quality Records
4.17	Internal Quality Audits
4.18	Training
4.19	Servicing
4.20	Statistical Techniques

4.1 Management Responsibility

- Management Responsibility is applicable to every company registering to ISO 900x. It can be one of the most difficult to achieve when management fails to support and involve themselves in the effort.

- ISO 9000 is NOT something management can simply delegate to employees and/or a consultant.

4.2 Quality System

- This element requires that your quality related systems be defined within company documentation.

- You will have to define how you 'Plan' for quality

4.3 Contract Review

- This element requires contracts to be reviewed for a number of concerns and issues.

- The intent is to ensure everyone agrees on terms and requirements

4.4 Design Control

- Does not typically apply to transportation companies, but can address design if you wish to.

4.5 Document and Data Control

- This requires that 'quality related' documentation be controlled.

- Data (quality related forms) must also be defined and controlled.

4.6 Purchasing

- This element requires a company to review suppliers of material and services. Each transportation company is different, but most will have some part of this requirement to satisfy.

4.7 Customer Supplied Product

- This requirement originally was aimed at materials utilized in the manufacture of product, but has extended to include transportation containers and related items. The main thrust is that customer supplier items be tracked and taken care of.

- May include Customer trailers.

4.8 Product Identification and Traceability

- In the transportation industry, the extent of identification and traceability is company dependent/specific. The expectation is that you have a system to identify and track items in transit.

4.9 Process Control

- This element requires that your 'processes' be controlled. In the transportation industry your process is the conveyance of goods. Things to consider may include on-time pick-up and delivery as well as no damage to conveyed goods.

4.10 Inspection and Testing

- This element typically relates to manufacturing oriented industries. Typically transportation industries do not have 'product' to inspect and/or test.

4.11 Control of Inspection, Measuring and Test Equipment

- This element typically applies to equipment used to measure and/or test product. Since the transportation industry does not typically manufacture product it *may* not apply.

- However, if your company does any critical maintenance, it may apply to your company.

4.12 Inspection and Test Status

- Typically this element applies to manufactured goods. Application to the transportation industry will be strained, at best.

- However, if your drivers must check shipments for damage (an example), you could be subject to inspection

4.13 Control of Nonconforming Product

- While this is aimed at manufacturers, and there is technically no manufactured product, you can expect your service to be addressed. This is to say, if you deliver late, your service is nonconforming (assuming you give some assurance to the customer that you will deliver on a certain day at a certain time).

4.14 Corrective and Preventive Action

- This element requires you to address problems in your service by a documented methodology and that you show proof that your corrective measures are effective at eliminating the problem

- The goal is Preventive Action

# 4.15 Handling, Storage, Packaging, Preservation and Delivery

- This originally was aimed at manufactured product. In the transportation industry, depending on how your company services are structured, you may or may not have one or more of these specifics apply to you.

4.16 Control of Quality Records

- This element is most important. It requires that 'quality related data' be defined and controlled. Each company has to decide and document what theirs are. Disposition also has to be addressed.

Typical Types of Records

- Contract Review

- Purchasing

- Identification and Traceability

- Process Control

- Inspection and Test

- Control of Measurement and Test Equipment

- Non-conforming Product

- Corrective and Preventive Action

- Internal Quality Audits

- Training
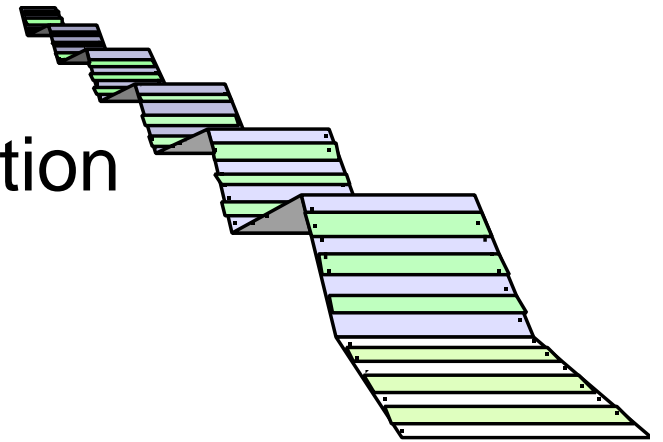
Records Management Activities

- **Management of Active records**

- **Records creation (forms)**

- **Design of records system**

  Retention schedule

  Vital records protection

- **Development of records procedures**

  Indexing

  Filing

  Access

  Disposition
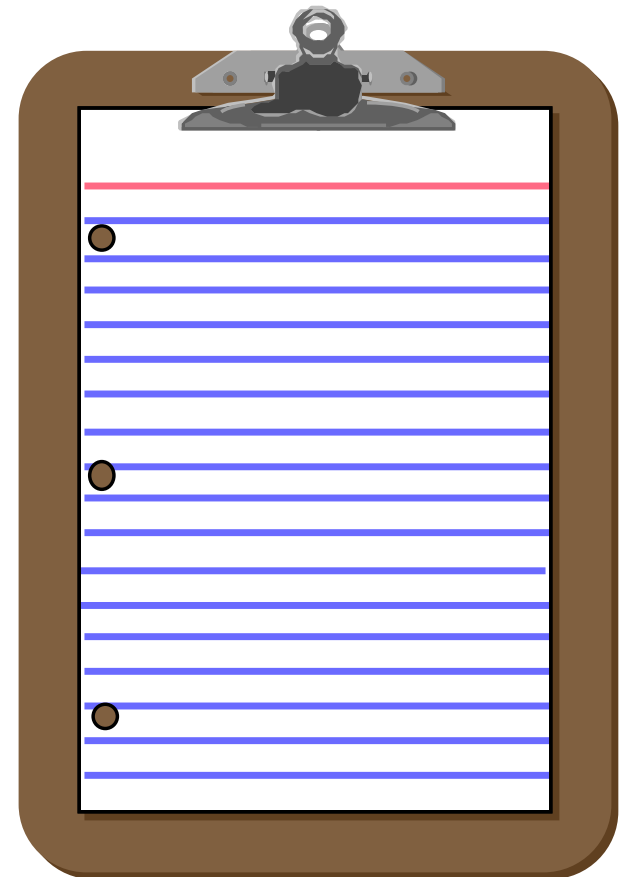
4.17 Internal Quality Audits

- This element requires that at least once a year your company audit its self against its internal documentation. This can be done by company employees or a company can sub-contract the service. However, this is in addition to the registrar's annual 'visit'

- Internal audits can be 'farmed out' (they do not have to be performed by company personnel)

4.18 Training

- Generally, in the transportation industry the CDL serves as evidence of proficiency. However, the company has to be ready to show that any need for training is identified and carried out.

4.19 Servicing

- This element is aimed at manufacturers who provide services to their customers in setting up and/or maintaining product. Transportation being a service industry this element does not strictly apply. However, many companies have people who actively support their customers.

ISO 9000 In The OTR Transportation Industry

4.20 Statistical Techniques

- The element requires a company to identify places where one or more statistical techniques would benefit their operations. In the transportation industry, on-time delivery would be one data point which would benefit a company in monitoring.

ISO 9000 Reminders

- Does NOT define quality
- Is NOT a one-time process
- Is NOT easy
- Requires commitment
- Requires resources
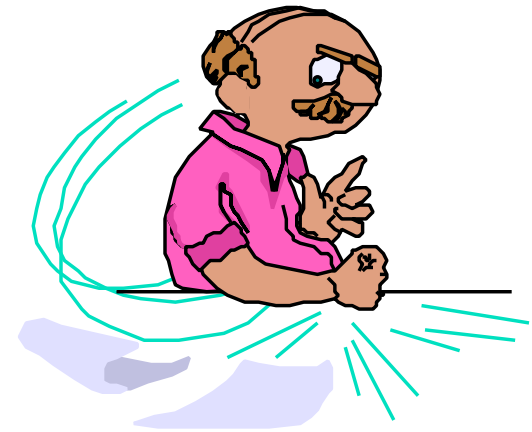
Trends

- Trend towards international agreements in business and trade (e.g.: NAFTA & GATT)

- ISO 14000: Documented environmental quality system

- Occupational Safety and Health

- Federal Transportation Agencies

Wrap-Up

- **How To Begin**
  - Examine your commitment
  - Examine your reasons
  - Define your resources
  - Further your education
- **Not a panacea, cannot neglect...**
  - Marketing 101
  - Competitive Strategy 101
  - Human Resources 101
  - Project Management 101

Customer Satisfaction

- **Improve Product**

- **Improve Performance**

- **Increase Business**

- **Increase Profits**

Additional Resources

Tune your browser to http://www.qs9000.com

- National ISO Support Group

    (616) 891-9114

- Society of Automotive Engineers

    (412) 776-4841

- American Society for Quality

    (Formerly the ASQC)

    (800) 248-1946

- Society of Manufacturing Engineers

    (800) 733-4763