



ISO 9000

Lesson 2 Overview

Prepared for NASA
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Student Notes:

Overview of ISO 9000



- **NASA Policies**
- **ISO Standards**
- **Quality System Definitions**

Student Notes:

Historical Background



- **European (EU) - Treaty of Rome**
 - **One Intent: Abolish Tariffs and Quotas**
 - **Six Members**
 - **France, West Germany, Italy, Luxembourg, the Netherlands, Belgium**
- **Responded to Growing Economic Domination by Asian Countries with Renewed Effort to Unite Europe Economically (1985)**
- **ISO Standards Published in 1987**
- **American Representation by ANSI (and ASQ)**
- **American Version Q9000 Series**

Student Notes:

The idea of a unified Europe began long before the Treaty of Rome.

World War II brought about several standards for the purpose of standardizing war material for NATO (NATO 6-49). The U.S. Department of Defense created MIL-Q-9858A and MIL-I-45208.

The American National Standards Institute (ANSI) and The American Society for Quality (ASQ) are the U.S. representatives for the ISO 9000 series and have issued the ANSI/ASQC Q 9000 series. There is essentially no difference between the ISO and the Q series except for the Americanization of the English spelling and internal reference to “this American National Standard” in place of “this International Standard.”

U.S. Move to ISO 9000



- **NASA and Other Government Agencies Movement toward ISO 9000**
- **Several Large Companies in U.S. Requiring Supplier to Be ISO Certified**
- **“Big Three” U.S. Automotive Manufacturers - QS 9000**
- **General Intent: ISO Audits Will Replace Most Auditing Performed by Customers**

Student Notes:

QS 9000 contains ISO 9001 plus three requirements that are “industry” related and several requirements peculiar to each of the automotive companies.

Even though audits by second parties may be reduced, there will probably always be some supplemental requirements imposed by some customers that will require at least a reduced audit by some second parties.

NASA Policies



- **NASA Office of Safety and Mission Assurance Issued Directive Recommending Adoption of ISO 9000 (February 1994)**
- **NMI 1270.3 Approved by NASA (December 1995)**
- **Directive Requiring MSFC, JSC, and SSC to Become ISO Certified by April 1998; HQ and Remaining Centers by September 1999 (November 1996)**
- **White Sands Test Facility Certified (October 1995); First Federal Facility to Be Certified**

Student Notes:

NMI 1270.3 directs compliance of NASA installations and suppliers with ISO 9001. It applies to the NASA HQ, Centers, and suppliers whose processes affect the quality of deliverable products and services. It is optional for the following:

- Contracts in existence as of December 6, 1995
- Construction of facilities
- Institutional support services
- Off-the-shelf items
- DOD bailed aircraft
- Non-complex, non-critical, ground-support equipment and commercial items

Expected Benefits to NASA



- **Improve Customer Relations**
- **Replace Reactive Attitude with Preventive Attitude**
- **Develop Well Documented Management System Consistent throughout Agency**
- **Minimize Duplication of Effort**
- **Provide Better Trained and Skilled Workforce with Improved Efficiency and Effectiveness**
- **Enhance Ability to Compete**
- **Advance NASA's Implementation of Federal Reform Initiatives**
- **Establish NASA as Preeminent Federal Agency for Quality Improvement**

Student Notes:

Responsibilities



The Administrator's November 13, 1996 Directive Requires the Following:

- **Center Directors Will Appoint a Management Representative for the Following Purposes:**
 - **Ensure Quality System Requirements Are**
 - Established
 - Implemented
 - Maintained
 - **Report on Performance of Quality System**
- **Headquarters Office of Safety and Mission Assurance Responsible for the Following:**
 - **Facilitating ISO 9001 Transition**
 - **Reporting Agency Performance to HQ Senior Management**

Student Notes:

Overview of the Standards



- **Basic Documents**
 - ISO 9000
 - ISO 9001
 - ISO 9002
 - ISO 9003
 - ISO 9004
- **Several Other Supporting Documents**
- **Two Types:**
 - **Guidance (Descriptive)**
 - **Conformance or Requirements (Prescriptive)**

Student Notes:

Guidance documents are helpful suggestions on how to comply with the requirements documents. Organizations register to the requirements documents and not to the guidance documents.

Common Terms



- **Organization**
- **Subcontractor-Supplier-Customer**
- **ISO Verbs: Shall, Should**
- **Processed Material**
- **Services**
- **Hardware**
- **Software**
- **Quality**
- **Quality System**

Student Notes:

In ISO documents, reference is very often made to the “supplier.” The “supplier” is the organization seeking certification. The “customer” is the organization that purchases products or services from the “supplier.” The “subcontractor” or “vendor” is the organization from which the “supplier” purchases products or services.