



ISO 9000 and NASA



**Office of Safety &
Mission Assurance**

(Code Q)

April 24, 1995

WHERE WE WERE

- NASA QUALITY PROCESS DEFINED IN NHB - 5300.4(1B) DATED 1969 (INSPECT IN QUALITY)
 - **PRODUCT** FOCUS
 - DEFECT DETECTION AND CORRECTION
 - PRESCRIPTIVE "HOW TO" APPROACH
 - APPLICABLE TO NASA CONTRACTORS ONLY
- 1980'S QUALITY PARADIGM CHANGE (DESIGN IN QUALITY)
 - EMPHASIS ON PROCESS CONTROL
 - EARLY DESIGN INVOLVEMENT AND INTEGRATION
 - HEIGHTENED CUSTOMER AWARENESS

GLOBAL QUALITY PERSPECTIVE

- EMERGENCE OF ISO 9000 QUALITY STANDARD (1987)
 - TC 176 CREATED 1979
- WHAT ISO 9000 IS
 - WORLD WIDE STANDARD, ADOPTED BY 94 COUNTRIES
 - QUALITY MANAGEMENT **SYSTEM** FOCUS
 - **FLEXIBLE** MINIMUM SET OF REQUIREMENTS
- WHAT ISO 9000 IS NOT
 - A PRODUCT ORIENTED SPECIFICATION
 - A GUARANTEE OF HIGH QUALITY HARDWARE
 - ANOTHER LAYERING OF REQUIREMENTS

ISO 9000 QUALITY STANDARDS

- **ISO 9000** *GUIDELINES FOR SELECTION AND USE OF QUALITY MANAGEMENT AND QUALITY ASSURANCE STANDARDS*
- **ISO 9001** *QUALITY SYSTEMS -MODEL FOR QUALITY ASSURANCE IN DESIGN, DEVELOPMENT, PRODUCTION, INSTALLATION, AND SERVICING (9 PAGES OF REQ'TS)*
- **ISO 9002** *QUALITY SYSTEMS- MODEL FOR QUALITY ASSURANCE IN PRODUCTION , INSTALLATION AND SERVICING*
- **ISO 9003** *QUALITY SYSTEMS- MODEL FOR FINAL INSPECTION AND TEST*
- **ISO 9004** *GUIDELINES - QUALITY MANAGEMENT AND QUALITY SYSTEM ELEMENTS*

ISO 9001 REQUIREMENTS

- 1. MANAGEMENT RESPONSIBILITY**
2. QUALITY SYSTEM
3. CONTRACT REVIEW
4. DESIGN CONTROL
5. DOCUMENT/ DATA CONTROL
6. PURCHASING
7. CONTROL OF CUSTOMER SUPPLIED PRODUCT
8. PRODUCT IDENTIFICATION AND TRACEABILITY
9. PROCESS CONTROL
10. INSPECTION AND TESTING
11. CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT
12. INSPECTION AND TEST STATUS
13. CONTROL OF NONCONFORMING PRODUCT
- 14. CORRECTIVE AND PREVENTIVE ACTION**
15. HANDLING, STORAGE, PACKAGING, PRESERVATION, AND DELIVERY
16. CONTROL OF QUALITY RECORDS
- 17. INTERNAL QUALITY AUDITS**
18. TRAINING
19. SERVICING
20. STATISTICAL TECHNIQUES

ISO 9000 REGISTRATION

- AN INDICATION OF THE COMPLIANCE OF A QUALITY MANAGEMENT SYSTEM TO ISO 9000 STANDARDS
 - NOT A MEASURE OF PRODUCT QUALITY
- NOT A REQUIREMENT OF ISO 9000 STANDARDS
- HAS **POTENTIAL** TO SAVE SUPPLIERS AND CUSTOMERS CONSIDERABLE COSTS
- PROMOTES INTERNATIONAL COMPETITION
- U.S. REGISTRATION SYSTEM LACKS WORLD WIDE CREDIBILITY
 - MANY U.S. REGISTRATIONS ADMINISTERED BY FOREIGN REGISTRARS
- NASA PROCEEDING CAUTIOUSLY
 - OPTIONAL FOR EACH NASA CENTER

NASA ISO 9000 POLICY

- OFFICE OF SAFETY AND MISSION ASSURANCE (CODE Q)
POLICY LETTER INITIATED TRANSITION
 - FEBRUARY 4, 1994
- NASA MANAGEMENT INSTRUCTION (NMI) 1270.3 -
DECEMBER 6, 1995
 - APPLICABLE TO NASA CENTERS AND CONTRACTORS
- FIELD CENTER WORKING GROUP (W/G) FORMED TO
IMPLEMENT CHANGE
 - ASSURES CONSENSUS AMONG NASA CENTERS
 - IN-HOUSE NASA IMPLEMENTATION PLANNING
 - » COMPLIANCE BY 1997

WHERE WE ARE GOING

- APPLY ISO 9000 ON NEW NASA PROCUREMENTS
 - CONSOLIDATED SHUTTLE OPERATIONS CONTRACT
 - SMALL EXPENDABLE LAUNCH VEHICLE (SELV) RFP
- APPLY ISO 9000 TO NASA IN-HOUSE OPERATIONS
 - FIELD INSTALLATIONS IMPLEMENTATION PLANS SUBMITTED (FULL IMPLEMENTATION BY MID 1997)
- MAINTAIN CLOSE COOPERATION WITH OTHER FEDERAL AGENCIES AND INDUSTRY ASSOCIATIONS
 - GOVERNMENT INDUSTRY QUALITY LIAISON PANEL (GIQLP)

IMPLEMENTATION ISSUES

- INCREASED NASA ASSESSMENT RESPONSIBILITY
 - DIVERSE CONTRACTOR QUALITY MANAGEMENT SYSTEMS
 - UNIQUE AND **OPTIMAL** QUALITY PROCESS AT EACH CONTRACTOR
- ISO 9000 3RD PARTY REGISTRATION NOT INTERNATIONALLY ACCEPTED AND DEPENDENT ON INTEGRITY OF REGISTRARS
 - US GOVERNMENT NOT STEPPING UP TO ACTIVE OVERSIGHT ROLE
 - THE JURY IS STILL OUT ON ITS USEFULNESS

INTERAGENCY PARTNERSHIP

- GOVERNMENT INDUSTRY QUALITY LIAISON PANEL (GIQLP)
 - ENABLE USE OF A SINGLE QUALITY MANAGEMENT SYSTEM AT A CONTRACTOR'S FACILITY
 - PROMOTE ADVANCED QUALITY CONCEPTS
 - STREAMLINE OVERSIGHT PROCESS
- MOU SIGNED APRIL 24, 1995
 - 12 GOVERNMENT AGENCIES
 - 3 INDUSTRY ASSOCIATIONS
- ENTERING DEMONSTRATION PHASE ON SINGLE QUALITY SYSTEM
 - VOLUNTARY TO CONTRACTORS



PARTICIPATING AGENCIES

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