

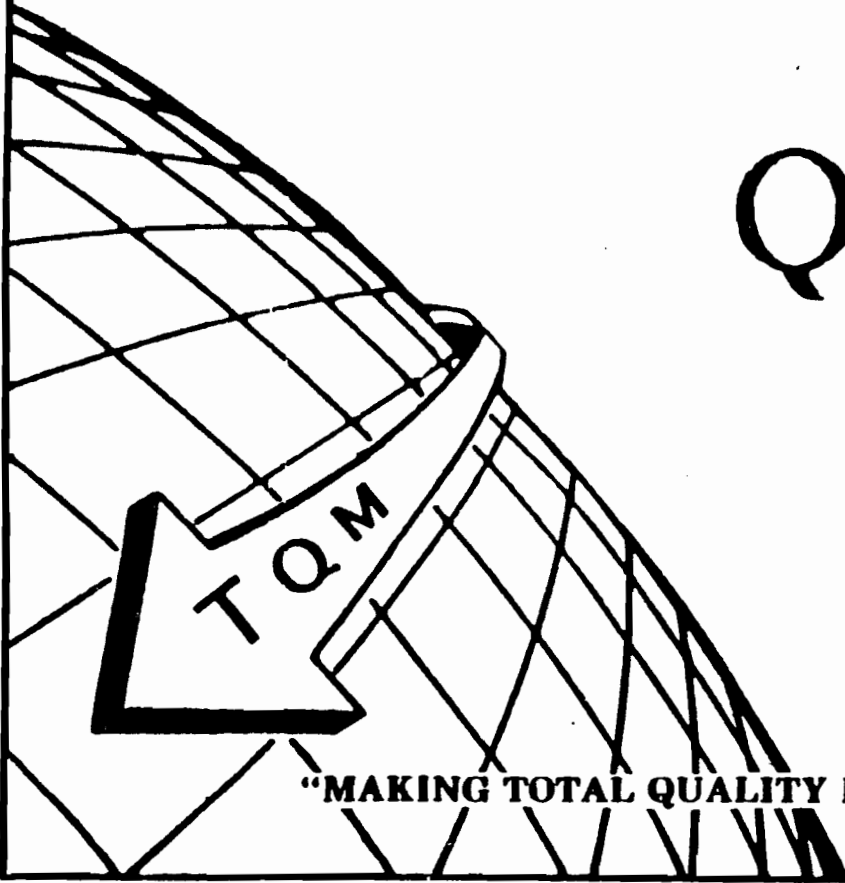
JUN 89



Total

Quality

Management



"MAKING TOTAL QUALITY MANAGEMENT HAPPEN"



DEFINITION

**A LEADERSHIP PHILOSOPHY, ORGANIZATIONAL STRUCTURE,
AND WORKING ENVIRONMENT THAT FOSTERS AND NOURISHES
A PERSONAL ACCOUNTABILITY AND RESPONSIBILITY FOR
QUALITY AND A QUEST FOR CONTINUOUS IMPROVEMENT IN
PRODUCTS, SERVICES, AND PROCESSES.**



TOTAL QUALITY MANAGEMENT

IS

A CULTURAL CHANGE

RESPONSIBILITY OF TOP MANAGEMENT

A SYSTEMATIC WAY TO IMPROVE
PRODUCTS & SERVICES

A STRUCTURED APPROACH TO
IDENTIFYING & SOLVING PROBLEMS

LONG TERM

CONVEYED BY "ACTION"

PRACTICED BY EVERYONE

IS NOT

AN OVERNIGHT CURE

DELEGATED TO SUBORDINATES

A NEW PROGRAM

"FIGHTING FIRE"

SHORT TERM

CONVEYED BY SLOGAN

A SPECIALIST DISCIPLINE

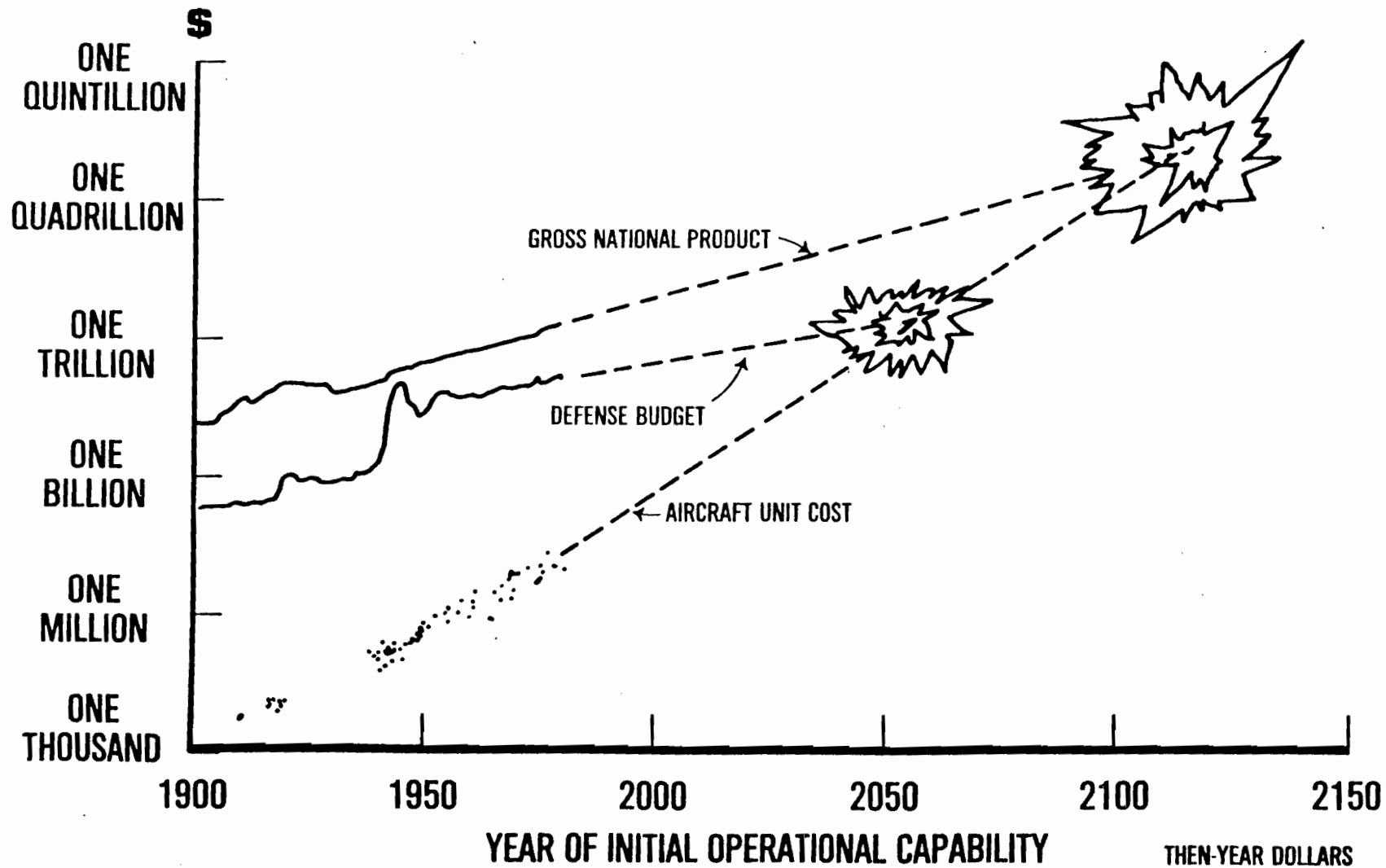


WHY DO TQM?

- **WORLDWIDE COMPETITION**
- **LOSS OF TECHNOLOGICAL SUPERIORITY**
- **ERODING INDUSTRIAL CAPABILITY AND POOR QUALITY**
- **THE “COST OF DEFENSE”**
 - **ECONOMIC PRESSURES**
 - **DO MORE WITH LESS**
 - **DECLINING BUDGETS**
 - **PUBLIC MISTRUST**
 - **CONGRESSIONAL PRESSURES**

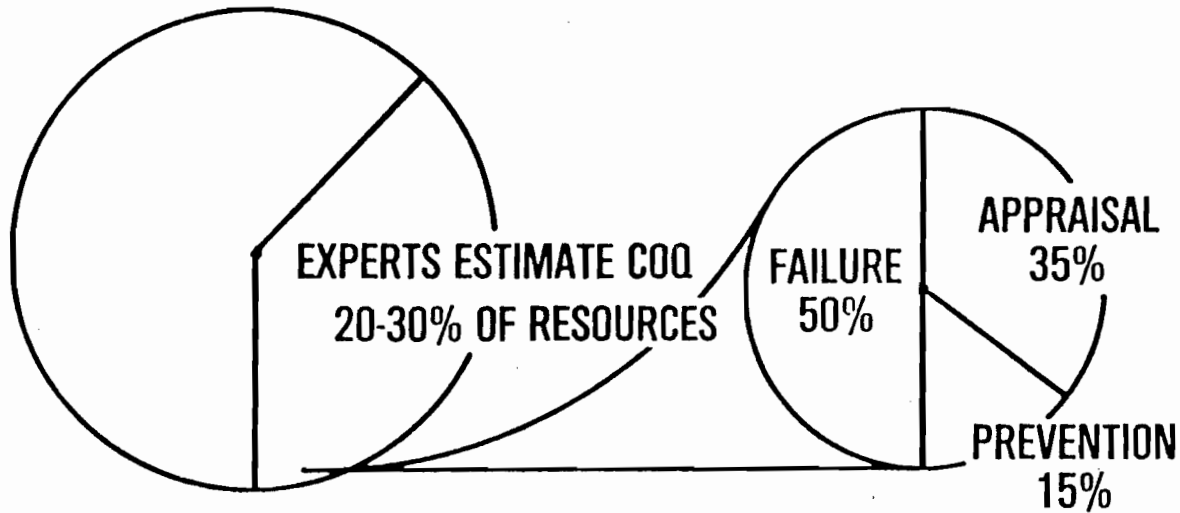


AUGUSTINE'S LAW

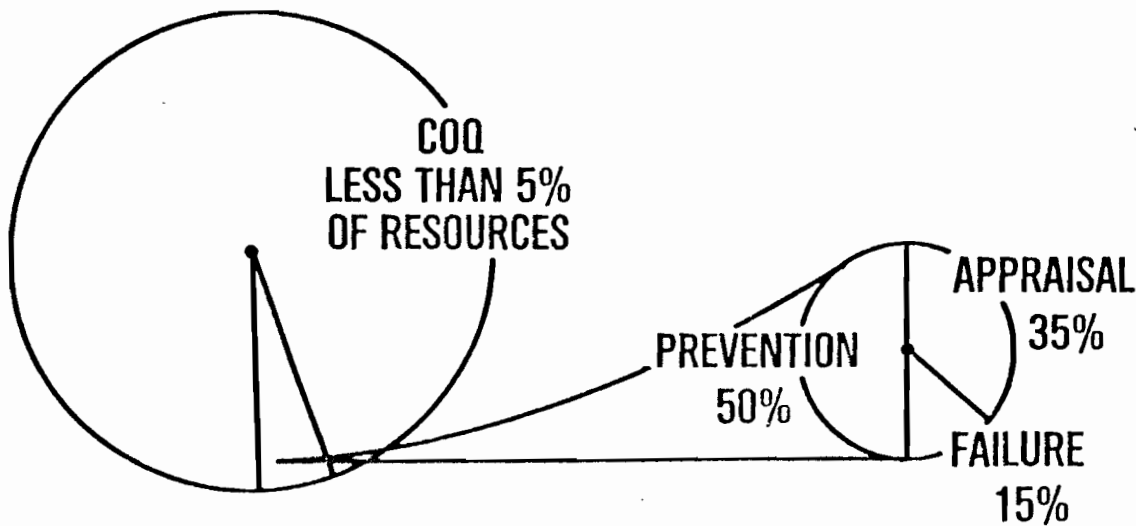




COST OF QUALITY



**AMERICAN
NORM**



**CONTINUOUS
IMPROVEMENT**

- IN A TQM ENVIRONMENT THE COQ IS ONE-HALF OF FAILURE COST ALONE -

National Quality Forum III
Dana Count

Chairman of Board ASQC

Chairmen - CEO - Presidents
615 executives (Large + Small)
Service + Industrial



CULTURAL CLIMATE

published in Quality Progress Feb 1988

1987 GALLUP SURVEY OF CEOs

81% claimed visible top management leadership

85% FELT NEED TO IMPROVE QUALITY TO SURVIVE

71% CLAIMED TO USE INVOLVEMENT TEAMS

personal education
Total Quality Control
SPC
mgmt leadership
skill training

ONLY 40% USED INVOLVEMENT/IMPROVEMENT TEAMS OR PROCESS CONTROLS

Salaries Hourly Quality Improvement

45%

50% THOUGHT THEIR COQ WAS UNDER 5%

71% DID NOT KNOW

44% FELT COMFORTABLE GUESSING

authors guess

Naivete in exec Ranks

36% = Cost Sales = Cost of quality = Customer dissatisfaction

43% Thought change in Corporate culture important to improve Quality up from 10%

MALCOLM BALDRIGE MEMORIAL QUALITY AWARD

Nat Bureau of Standards - presents
Dept Commerce

PRESIDENTIAL AWARD TO TOP SIX BUSINESSES - improve Quality

66 APPLIED IN 1988 - ONLY THREE AWARDED

MOTOROLA
Westinghouse - div
Nuclear Fuel Div
Globe Metallurgical

Leadership
Info + analysis
Quality planning
Human Resources
Quality assurance
Customer satisfaction

"WHAT THEY SAY IS NOT WHAT THEY PRACTICE!"

Nov 14 1988

30%



NEW ENVIRONMENT NEEDED

TOTAL QUALITY MANAGEMENT

- **EVERYONE'S RESPONSIBILITY**
- **PREVENTION ORIENTED**
- **IDENTIFIED HIGH COST DRIVERS**
- **WORKS FOR CONTINUOUS IMPROVEMENT**

**DEMING - "NOBODY SEEMS TO UNDERSTAND EXCEPT THE JAPANESE
THAT AS YOU IMPROVE QUALITY YOU IMPROVE PRODUCTIVITY"**



TQM PREREQUISITES

- **A BRUTALLY REALISTIC UNDERSTANDING OF THE CURRENT SITUATION AND THE INEVITABLE CONSEQUENCES IF THE STATUS QUO IS TOLERATED**
- **A COMPELLING VISION OF THE CHANGE THAT MUST BE BROUGHT ABOUT IF WE ARE TO FOSTER A CULTURAL REVOLUTION**
- **LEADERS MUST HAVE THE PERSONAL COURAGE TO ACT**



TQM PRINCIPLES

- **CHANGE THE CULTURE - A WAY OF LIFE**
- **KNOW AND SATISFY THE CUSTOMERS NEEDS**
- **EVERYONE MUST BE INVOLVED - CONTRACTOR AND GOVERNMENT**
- **EVERYONE HAS AN IMPACT ON THE QUALITY OF AN ORGANIZATION'S OUTPUT**
- **PUSH DECISION MAKING TO THE LOWEST LEVELS OF THE ORGANIZATION**
- **SET GOALS, DEVELOP METHOD, MEASURE PROGRESS, ADJUST ACCORDINGLY**
- **CREATE A CLIMATE OF TEAMWORK**
- **STRIVE FOR CONTINUOUS IMPROVEMENT - MAKE IT BETTER**
- **ALLOW MAXIMUM FLEXIBILITY FOR SUBORDINATE COMMANDS**
- **TOP MANAGEMENT COMMITMENT ENABLES DECENTRALIZED EXECUTION OF AFSC GOALS**



TQM GOALS

- **MEET USER NEEDS (CUSTOMER SATISFACTION)**
 - **REDUCED "COST OF DEFENSE"**
- **IMPROVE ACQUISITION EXCELLENCE**
- **ENHANCE TECHNOLOGICAL SUPERIORITY**



DESIRED OUTCOMES

USER NEEDS

- **TRANSLATE CUSTOMER REQUIREMENTS INTO ROBUST & DELIVERABLE SYSTEM**
- **INCREASED SOFTWARE STANDARDIZATION**
- **INCREASED R&M**
- **INCREASED COMBAT CAPABILITY**
 - **READINESS, SUBSTANTIABILITY, SURVIVABILITY**
- **IMPROVED TIMELY ATTAINMENT OF ORGANIC CAPABILITY**



TQM FUNDAMENTAL QUESTIONS:

- 1. WHO ARE MY CUSTOMERS?**
- 2. WHAT DO THEY NEED?**
- 3. WHAT ARE THEIR MEASUREMENTS/EXPECTATIONS?**
- 4. WHAT IS MY PRODUCT OR SERVICE?**
- 5. DOES MY PRODUCT OR SERVICE EXCEED THEIR EXPECTATIONS?**
- 6. WHAT IS MY PROCESS FOR PROVIDING THE NEED?**
- 7. WHAT CORRECTIVE ACTION IS NEEDED TO IMPROVE MY PROCESS?**

**WE ALL HAVE CUSTOMERS, THEY MAY
BE BOTH INTERNAL AND EXTERNAL**



USER NEEDS

A LOGISTICS EXAMPLE

- **SERVICE REPORTS/MATERIEL DEFICIENCY REPORTS**
- **MAINTENANCE STANDARDIZATION EVALUATION PROGRAM (MSEP)**
- **ACCEPTANCE INSPECTIONS**
- **PRODUCT IMPROVEMENT WORKING GROUP (PIWG)**
- **HURT LIST**
- **MISHAPS**



DESIRED OUTCOMES ACQUISITION EXCELLENCE

- **PRODUCIBILITY**
- **REDUCED LEAD TIMES (DEVELOPMENT, BUILD, REPAIR)**
- **ESSENTIAL REQUIREMENTS**
- **INCREASE DESIGN, MFGR PRODUCTIVITY**
- **ELIMINATE DEFECTS, SCRAP, AND REWORK**
- **IMPROVED SYSTEMS ENGINEERING**



DESIRED OUTCOMES TECHNOLOGICAL SUPERIORITY

- **REDUCE TECHNOLOGY DEVELOPMENT & INSERTION LEAD TIMES**
- **REGAIN TECHNOLOGY SUPERIORITY**
- **REDUCE FOREIGN DEPENDANCY**
- **IMPROVED INDUSTRIAL CAPACITY & CAPABILITY**
- **IMPROVE INVESTMENT STRATEGY FOR SCIENCE & TECHNOLOGY FUNDING**
- **ENHANCE LINK BETWEEN LABS & CUSTOMER**



DESIRED OUTCOMES

FOR INDUSTRY

- **NO MORE WAIVERS/DEVIATIONS**
- **NO MORE MATERIAL REVIEW BOARDS**
- **NO MORE REWORK**
- **NO MORE SCRAPE**
- **100% YIELDS**
- **REDUCED TIME ALLOWED FOR ENGINEERING CHANGES**
- **AIRCRAFT WITH ZERO REWORK**

—IF I WERE KING FOR A DAY, WHAT I WOULD LIKE TO SEE—



KEY FACTORS FOR TQM SUCCESS:

MANAGEMENT LEADERSHIP:

- **TOP DOWN**
- **COMMITTED**
- **ACTIVE**

CLEARLY UNDERSTOOD AND AGREED ON GOALS

BREAKTHROUGH THINKING--NOT THE SAME OLD WAY

APPROPRIATE PROCESS PERFORMANCE MEASURES

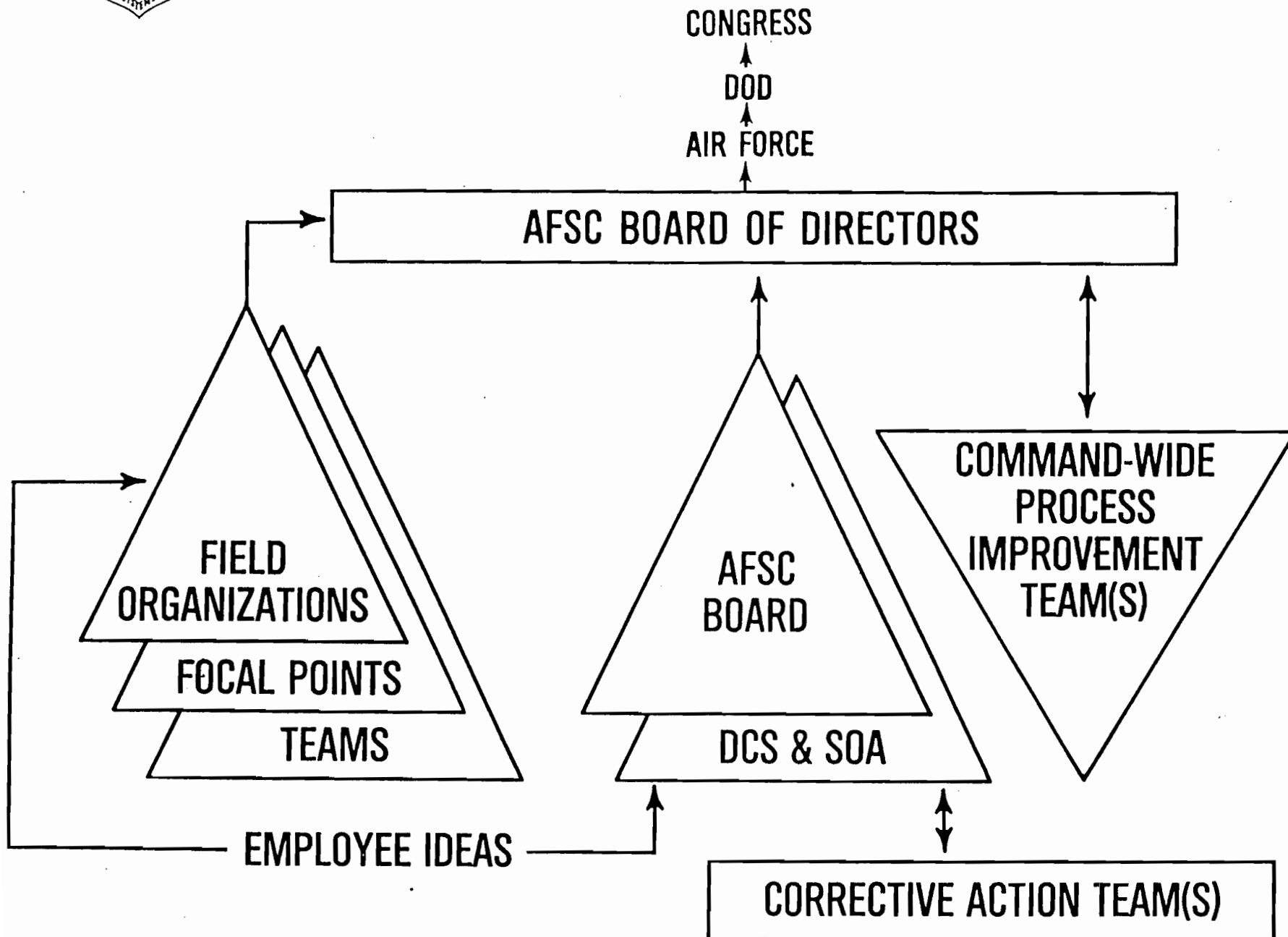
TEAMWORK

TRAINING

SHARING, PROMOTING AND REINFORCING SUCCESSES



TQM STRUCTURE





ISSUES

- AFSC APPROACH TO TQM TRAINING
- SIGNALS OF COMMITMENT
- COMMAND-WIDE PROCESS REVIEWS
- MEASURABLE DESIRED OUTCOMES
- WORKING WITH CONTRACTORS
- MEASURE AND ASSESS PROGRESS (SUCCESS STORIES, LESSONS LEARNED)
- CHANGE THAT AFFECTS PUBLIC LAW, CONGRESSIONAL OVERSIGHT,
AND DoD RELATIONSHIPS
- SIGNLE-TRACK TO INDUSTRY