QUALITY ASSURANCE
(ORGANIZATION OVERVIEW)

HUBERT F. HARRIS
QUALITY ASSURANCE
4810 - EXT. 6-6096

OBJECTIVE

- FAMILIARIZE PARTICIPANTS IN THE VARIOUS FUNCTIONS OF THE QUALITY ASSURANCE ORGANIZATION

QUALITY PRODUCT - A MEASURE OF THE DEGREE TO WHICH THE PRODUCT (IN PART OR WHOLE) COMPLIES WITH THE DESIGN REQUIREMENTS AND STANDARDS OF WORKMANSHIP.

POLICY

- CORPORATE POLICY 5H1 CHARGES QUALITY ASSURANCE WITH THE RESPONSIBILITY OF FINAL ACCEPTANCE OF COMPANY PRODUCTS TO PRESCRIBED QUALITY STANDARDS.

- POLICY ESTABLISHES PRIMARY ACCOUNTABILITY FOR PRODUCT QUALITY WITH SPECIFIC ORGANIZATION ELEMENTS AS THEIR FUNCTIONS RELATE TO QUALITY. ENGINEERING FOR DESIGN QUALITY, MANUFACTURING FOR PRODUCTION QUALITY, MATERIEL FOR PURCHASED SUPPLIES.

- POLICY DIRECTS OVERALL SURVEILLANCE IS TO BE MAINTAINED BY AN INDEPENDENT QUALITY ORGANIZATION.

THE BOEING COMPANY

Manual

CORPORATE POLICY

DATE: February 19, 1979

NUMBER: 5H1

SUBJECT: QUALITY ASSURANCE

It is the policy of The Boeing Company to provide products and services of the highest quality commensurate with the costs and missions of the products and quality requirements of the customers. Companies and divisions will assure the attainment of the required quality levels in the design, development, manufacture, test, inspection, installation, modification, maintenance and repair of Boeing products including purchased items incorporated therein.

Company presidents and division general managers are accountable for the quality of products delivered by their organizations and shall assure the adoption of sound, cost effective quality practices by all organizations with functions or operations that affect product quality. Uniformity of quality practices is also encouraged to simplify and enhance interdivisional relationships and promote good relationships with our customers, suppliers and industry associates.

The primary responsibility for obtaining product quality rests with specific functional organizations; such as, Engineering for design quality, Materiel for the quality of purchased items, and Manufacturing for production quality. Final acceptance of Company products to prescribed quality standards is the assigned responsibility of Quality Assurance/Control organizations. This latter assignment does not relieve other organizations of their more direct and immediate responsibilities of designing, purchasing and building quality into Boeing products. Delegation of the Quality Assurance assignment to another functional organization requires the approval of the Company President/ Division General Manager.

Quality Assurance/Control organizations will be organizationally structured to assure their independence and objectivity in discharging their responsibilities.

T. A. Wilson

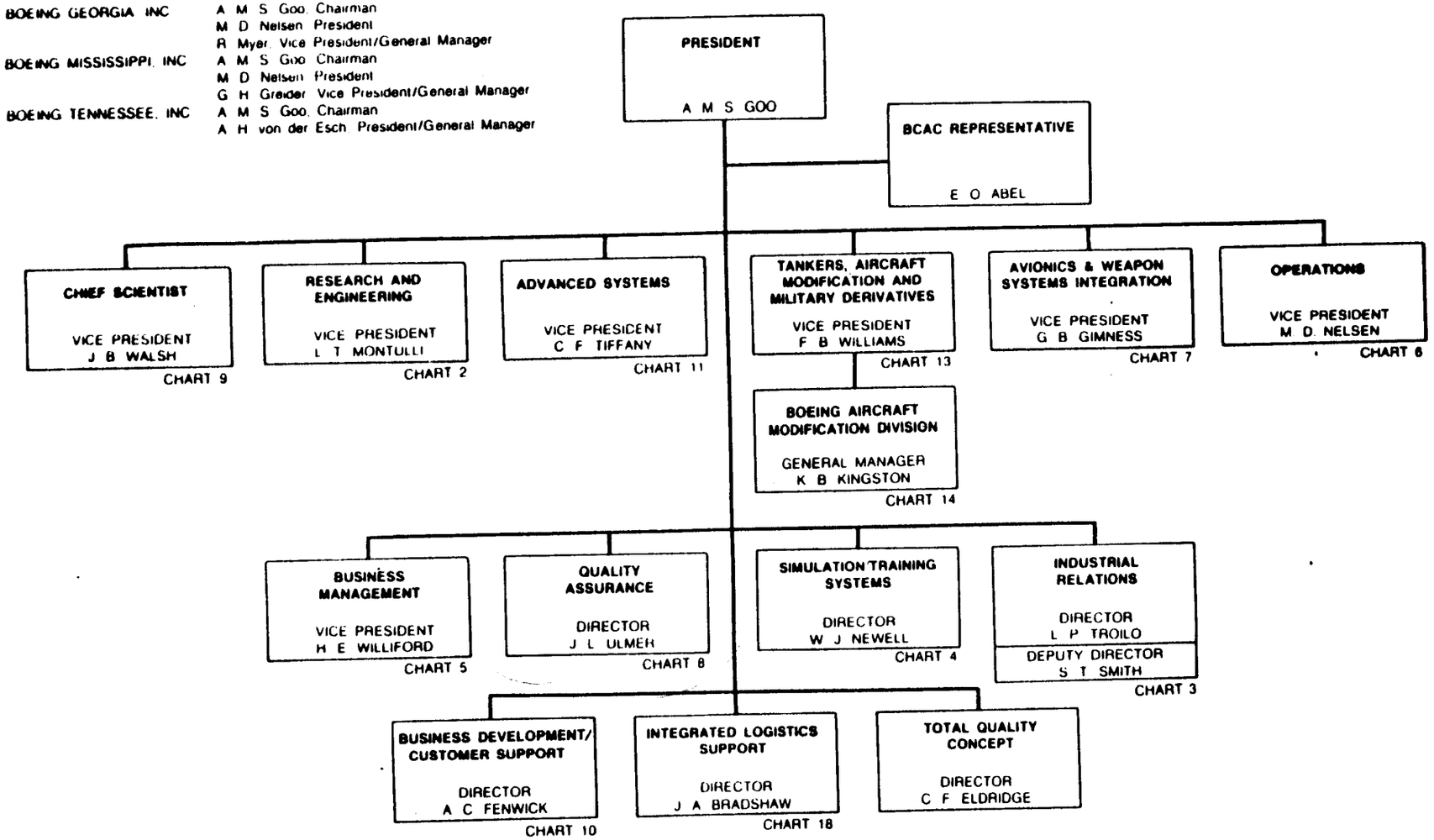
T. A. Wilson

This Policy Statement supersedes 5H1 and 5H1-1 dated August 15, 1973.

BOEING MILITARY AIRPLANE COMPANY

SUBSIDIARIES

BOEING GEORGIA, INC	A M S Goo, Chairman M D Nelsen, President R Myer, Vice President/General Manager
BOEING MISSISSIPPI, INC	A M S Goo, Chairman M D Nelsen, President G H Greider, Vice President/General Manager
BOEING TENNESSEE, INC	A M S Goo, Chairman A H von der Esch, President/General Manager

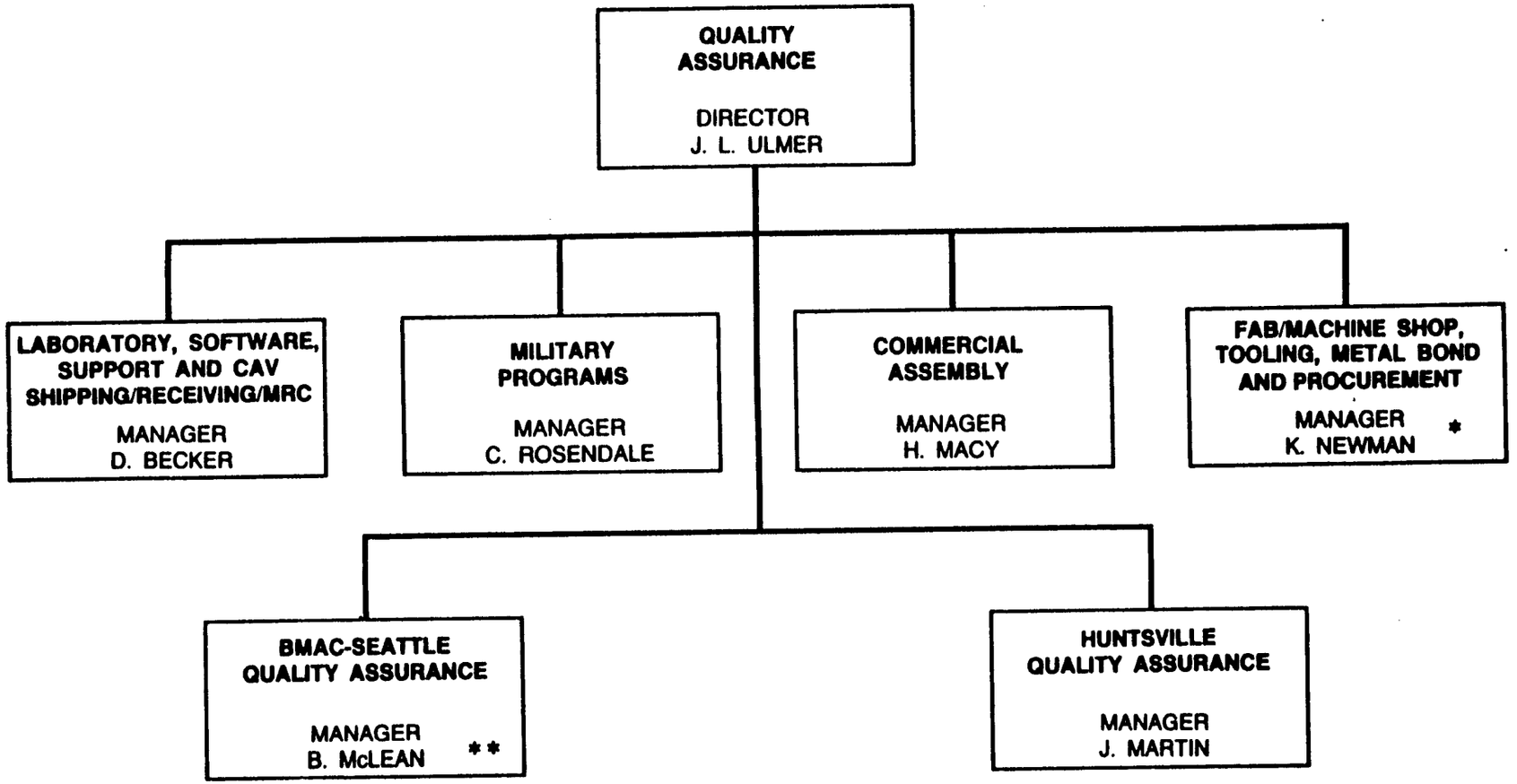


BOEING MILITARY AIRPLANE COMPANY

Chart No 1 Date 6-22-88

5

QUALITY ASSURANCE



* BGI, BECSI, and BMI are Source QA controlled for those items delivered to BMAC.
* * Edwards AFB BMAC QA activity reports to BMAC Seattle QA.

BOEING MILITARY AIRPLANE COMPANY

Chart No. 8 Date: 3-19-86

DEFINITIONS

- **INSPECTION:** THE PHASE OF QUALITY ASSURANCE THAT DETERMINES WHETHER PRODUCTS CONFORM WITH THE SPECIFIED CHARACTERISTICS. IT ALLOWS CONTINUED PROCESSING OR DELIVERY OF PRODUCTS THAT DO CONFORM AND REQUIRES NONCONFORMING PRODUCTS TO BE BROUGHT INTO CONFORMANCE.

- **QUALITY CONTROL:** THE MANAGEMENT FUNCTION WHICH ESTABLISHES AND ADMINISTERS THE COMPANY POLICY TO ASSURE FULFILLMENT OF COMPANY OBJECTIVES IN PRODUCING ITS PRODUCTS AT A QUALITY LEVEL CONSISTENT WITH SAFETY, COSTS, AND CUSTOMER SATISFACTION.

- **QUALITY ASSURANCE:** THE DEFINITIZED MEANS AND/OR METHODS AND ACTION TAKEN DURING THE DESIGN, PRODUCTION, AND PRODUCT USE PHASES TO ASSURE THAT SPECIFIED PRODUCT QUALITY LEVELS ARE OBTAINED AND MAINTAINED.

QUALITY ASSURANCE SYSTEM

- QUALITY ASSURANCE SYSTEM
  - IS DEDICATED TO DEFECT DETECTION AND PREVENTION
  - ENCOMPASSES DESIGN PROCUREMENT PRODUCTION TESTING AND DELIVERY
  - BACKED BY OVER HALF A CENTURY OF COMPANY EXPERIENCE

- QUALITY ASSURANCE MANUAL D3-4800
  - IMPLEMENTS CORPORATE POLICY AT BMAC
  - DOCUMENTS MANAGEMENT POLICIES
  - SINGLE STANDARD SYSTEM
    - COMMERCIAL - FAA
    - MILITARY - MIL-Q-9858, MIL-STD-45662, MIL-STD-1520
- FURTHER DETAILED BY BMAC OPERATING PROCEDURES

PROCUREMENT QUALITY ASSURANCE

- PROCUREMENT QUALITY ASSURANCE IS RESPONSIBLE FOR CONTROLLING PRODUCT QUALITY SUPPLIED BY OUR NUMEROUS SUPPLIERS
- SUPPLIER QUALITY SYSTEM IS APPROVED THRU PRE-AWARD SURVEYS, ANNUAL RESURVEYS, AND PERIODIC AUDITS
- PURCHASE ORDER SCREENING BY QUALITY ASSURANCE
  - ALL CUSTOMER & BMAC QUALITY REQUIREMENTS IMPOSED
  - INITIATE RECEIVING INSPECTION PLANS
  - COORDINATE SOURCE QA REPRESENTATIVE REQUIREMENTS IF SOURCE ACCEPTANCE IS NECESSARY
  - MILITARY - GSI LEVIED THRU PURCHASE ORDER
- SUPPLIER QUALITY PERFORMANCE TREND ANALYSIS

RECEIVING INSPECTION

- HAS THE QUALITY ASSURANCE RESPONSIBILITY TO PERFORM THE FUNCTION OF INSPECTING INCOMING ARTICLES.
- ASSURES THAT INCOMING MATERIALS ARE PROPERLY IDENTIFIED.
- ASSURES ARTICLES CONFORM TO THE REQUIREMENTS OF THE PURCHASE ORDER, DRAWINGS AND SPECIFICATIONS.
- RECEIVING FUNCTIONAL TEST PERFORMED WHEN APPLICABLE.

QUALITY ASSURANCE LABORATORY

- THE QA LAB MAINTAINS TEST FACILITIES TO ASSURE QUALITY IN ALL ITEMS PROCURED FOR USE IN BMAC PRODUCTS AND SUPPORTS OUR IN-PROCESS PRODUCTION

- CHEMICAL LABORATORY
  - PERFORMS CHEMICAL ANALYSIS
  - PROVIDES AREA FOR STORAGE AND ISSUANCE OF CHEMICALS
  - CONDUCTS SPECIAL TESTS UPON REQUEST

- METALLURGY LABORATORY
  - X-RAY PARTS AND MATERIALS
  - MAINTAIN SURVEILLANCE OF X-RAY FILM AND REPORTS

- NONDESTRUCTIVE TEST LABORATORY
  - PERFORMS ULTRASONIC TESTS
  - PROVIDE NECESSARY TRAINING FOR CERTIFICATION OF PERSONNEL PERFORMING THESE TESTS

QUALITY ASSURANCE LABORATORY (CONT'D)

- PYROMETRICS LABORATORY
  - PERFORM EQUIPMENT QUALIFICATION AND PROCESS CERTIFICATION TESTS ON TEMPERATURE CONTROLLED PROCESSING EQUIPMENT
- PRECISION GAGE LABORATORY
  - CALIBRATE AND CERTIFY PRECISION GAGES, TOOLS, ETC.
  - PERFORMS PRECISION MEASUREMENTS ON PARTS AND PRECISION TOOLS
- MATERIAL TEST LABORATORY
  - PERFORMS TESTS TO CONTROL MANUFACTURING PROCESSES
  - CALIBRATE TEST MACHINES FOR THE LABORATORY AND OTHER DEPARTMENTS
- CALIBRATION/CERTIFICATION
  - PERFORM CALIBRATION OF MEASUREMENT AND TEST EQUIPMENT
  - CERTIFY ALL EQUIPMENT THAT MEETS APPLICABLE REQUIREMENTS
  - PREPARE AND MAINTAIN ADEQUATE CALIBRATION/CERTIFICATION TEST PROCEDURES

COMPUTER AIDED VERIFICATION

- COMPUTERIZED VERIFICATION OF HARDWARE
  - PROGRAMMING
  - DATA VERIFICATION
  - VALIDATION

TOOLING INSPECTION

- PRODUCTION TOOLING PROVED PRIOR TO RELEASE
- PERIODIC TOOL INSPECTION ESTABLISHED FOR TIMELY ADJUSTMENT REPLACEMENT OR REPAIR DECISIONS
- TOOLS USED FOR ACCEPTANCE MEDIA MUST DEMONSTRATE ACCURACY COMMENSURATE WITH PLANNED PRODUCTION
- NON DESIGN
  - TOOL SHOP MAKES PART TO PROVE TOOL TO ENGINEERING RELEASED DWG
  - TOOL TRYOUT IS ACCOMPLISHED ON 1ST PRODUCTION
- MAJOR ASSEMBLY TOOLS
  - PERIODIC SCHEDULES SET UP AFTER 1ST LOAD IS OBSERVED AND ACCEPTED BY TOOLING QUALITY ASSURANCE
- DESIGNED DETAIL TOOLS ARE ACCEPTED TO TOOL DRAWING AND PARTS ACCEPTED TO RELEASED PRODUCTION ENGINEERING DRAWINGS

FABRICATION INSPECTION

- ASSURE THE PLANNING ORDER'S COMPLETENESS AND SEQUENCE OF OPERATIONS.
- INSPECTS DETAIL PARTS PER PLANNING ORDERS AND ENGINEERING DRAWING REQUIREMENTS.
- PARTS ARE INSPECTED AT VARIOUS PLANNED STAGES OF FABRICATION.
- INSPECTORS ASSURE ALL OPERATIONS HAVE BEEN PERFORMED; SUCH AS, HEAT TREATING, FORMING, DRILLING, CHEMICAL AND ORGANIC FINISHES, ETC.
- PERFORM PENETRANT AND ULTRASONIC NDI INSPECTIONS.

METAL BOND INSPECTION

- METAL BONDING IS THE PROCESS OF CEMENTING TO JOIN TWO PIECES OF METAL IN LIEU OF USING CONVENTIONAL FASTENERS.

- ENSURE THAT EACH METAL BOND OPERATION IS ACCOMPLISHED AS REQUIRED BY ENGINEERING DOCUMENT, SPECIFICATION, OR CONTRACT.

- IMPERATIVE TO CONTROL THE METAL BOND PROCESS.

- USE OF DEFECTIVE MATERIAL OR DEPARTURES FROM PROCESS SPECIFICATIONS COULD RESULT IN SCRAPPAGE OF PARTS DUE TO UNCORRECTABLE DEFECTS.

ASSEMBLY INSPECTION

- ASSEMBLY INSPECTION SHALL MAINTAIN CONTROL OF PRODUCT QUALITY DURING TESTING OF THE FINISHED PRODUCT AS REQUIRED BY APPLICABLE ENGINEERING OR WORK STATEMENT
  - CONTROL THE ASSEMBLY OF DETAIL PARTS, STRUCTURAL & ELECTRICAL ASSEMBLIES, TUBES & CABLES INTO SUBASSEMBLIES AND MAJOR ASSEMBLIES
  - CONTROL THE INSTALLATION OF PARTS, ASSEMBLIES, FUEL CELLS, EQUIPMENT ITEMS, AND SYSTEMS IN THE PRODUCT
  - MAINTAIN INTERCHANGEABILITY
  - CONTROL THE JOINING OF MAJOR COMPONENTS; THE FIN, HORIZONTAL STABILIZER, LANDING GEAR, WINGS, ENGINES, AND BODY SECTIONS
  - CONTROL THE TESTING OF FUNCTIONAL SYSTEMS AFTER INSTALLATION IN THE COMPANY PRODUCT; ALL ELECTRICAL, HYDRAULIC, MECHANICAL, AND PNEUMATIC SYSTEMS

MODIFICATION AND INSPECTION

- RESPONSIBLE FOR THE QUALITY ASSURANCE FUNCTIONS APPLYING TO MODIFICATION, PRODUCTION PREFLIGHT, EXPERIMENTAL DEVELOPMENT, EXPERIMENTAL FLIGHT TEST, PDM, AND ELECTRONICS TESTING.

- PROVIDE RECORDS TO DEMONSTRATE AND/OR CERTIFY CONFORMANCE OF AIRCRAFT AND AIRCRAFT COMPONENTS AND EQUIPMENT TO APPLICABLE ENGINEERING AND CUSTOMER REQUIREMENTS, THE AIRWORTHINESS OF THE AIRCRAFT, AND THE SUITABILITY OF AIRCRAFT FOR FLIGHT AND/OR TAXI TESTS.

- MOD RECORDS GROUP

  - A/C RECORDS ARE BMAC'S OBJECTIVE EVIDENCE THAT THE CONTRACTED WORK HAS BEEN COMPLETED WITH. EACH A/C HAS A COMPLETE SET OF DOCUMENTATION WHICH IDENTIFIES CONFIGURATION.

  - THESE RECORDS ARE RECEIVED/APPROVED BY THE CUSTOMER PRIOR TO PAYMENT.

  - ALL ORGANIZATIONS MUST ASSURE CORRECT AND ACCURATE RECORDS ARE MAINTAINED THROUGHOUT MODIFICATION, BUILT, PDM, ETC.

ELECTRICAL/ELECTRONIC INSPECTION

- ELECTRONIC COMPONENTS RECEIVING INSPECTION
  - PRINTED CIRCUIT CARD TESTING
  - PIECE PART COMPONENT SCREENING
- WIRING
  - ELECTRICAL CABLE FABRICATION MEETS STRINGENT REQUIREMENTS INCLUDING NUCLEAR HARDNESS.
  - AUTOMATED WIRE ASSY DRAWING SYSTEM (AWADS)
  - FORM BOARD WIRE HARNESS ASSEMBLY FOR COMPLEX ROUTING, CRITICAL BENDS, ETC.
  - PROCESS SURVEILLANCE
  - DITMCO TESTING

ELECTRICAL/ELECTRONIC INSPECTION (CONT'D)

- PRINTED CIRCUIT BOARD ASSEMBLIES
  - ENVIRONMENTAL CONTROLS
  - PROCESS CONTROLS
  - LOADING AND CONFIGURATION
  - ELECTROSTATIC DISCHARGE SENSITIVE DEVICES - SPECIAL HANDLING
  - GENRAD AUTOMATED FUNCTIONAL TEST
- BOX, DRAWER CONSOLE ASSEMBLY
  - ASSEMBLY/INSTALLATION OF COMPONENTS
  - CONFIGURATION EXAMINATION
  - TESTING: BURN-IN, DITMCO, MANUAL AND AUTOMATED ATP

SOFTWARE QUALITY ASSURANCE

- ENGINEERING HAS PRIME RESPONSIBILITY
- SOFTWARE QUALITY ASSURANCE
  - VERIFY CONFIGURATION
  - VALIDATE ACCEPTANCE
  - AUDIT DOCUMENTATION
  - MAINTAIN SOFTWARE MASTER LIBRARY
- RIGOROUS TESTING WITH OBJECTIVE PASS/FAIL CRITERIA

CORRECTIVE ACTION

- CORRECTIVE ACTION INITIATED DURING WITHHOLD TAG PROCESS
  - REVIEW FOR REPETITIVE OCCURRENCE
  - RESPONSIBLE DEPARTMENTS DEFINE AND IMPLEMENT CORRECTIVE ACTION
- SCRAP AND REWORK CHARTING
  - COSTS/HOURS
  - RETURN RATES
  - GOALS

CORRECTIVE ACTION (CONT'D)

- CORRECTIVE ACTION BOARD
  - A CONTRACTOR BOARD CONSISTING OF MANAGEMENT REPRESENTATIVES WITH THE LEVEL OF RESPONSIBILITY AND AUTHORITY NECESSARY TO ASSURE THAT CAUSES OF NONCONFORMANCES ARE IDENTIFIED AND THAT CORRECTIVE ACTIONS ARE EFFECTED THROUGHOUT THE CONTRACTOR'S ORGANIZATION
  - THE CAB SHALL ASSURE THAT CAUSES OF NONCONFORMANCES ARE DETERMINED AND APPROPRIATE CORRECTIVE ACTION IS TAKEN
  - THIS FUNCTION SHALL BE PERFORMED BY REVIEW AND ANALYSIS OF NONCONFORMANCE DATA
  - CAB ACTIVITY WILL BE SUBJECT TO REVIEWS BY AND SHALL BE ACCEPTABLE TO THE GOVERNMENT

CORRECTIVE ACTION UNIT

(CAU)

- CAU WILL OBTAIN CORRECTIVE ACTION ON -
  - THOSE WITHHOLD TAGS WHERE THE RESPONSIBILITY IS NOT READILY ASCERTAINED
  - THOSE WITHHOLD TAGS THAT ARE "OUT OF STATION"

- CONDUCT INVESTIGATIONS TO DETERMINE THE CAUSE OF DISCREPANCIES

MATERIAL REVIEW CRIB

- MAINTAIN CLOSED FILE OF WITHHOLD TAGS
- PERFORM STOCK CHECKS
- PROVIDE STORAGE AREAS FOR WITHHELD PARTS
- PROCESS CLOSED WITHHOLD TAGS

MATERIAL REVIEW

- MATERIAL REVIEW FOR NONCONFORMING MATERIAL
- MATERIAL IDENTIFICATION AND SEGREGATION
- QA AND LIAISON ENGINEERING MRB MEMBERS -
  - PLANT WIDE ASSISTANCE WHEN NEEDED
- DISPOSITIONING: REWORK, REPAIR, USE-AS-IS, RTS
- STANDARD REPAIRS

195 724395

(CONF VERF/DELIVERY RECORDS USE ONLY)

GENERAL ☐ SHAKEDOWN ☐ STANDARD REPAIR ☐ SPECIAL REPAIR ☐ PLANNING ERROR ☐

PART NUMBER _____ DESCRIPTION _____ INDEX PAGE NO. _____

ITEM NO	BE SPECIFIC — THE FOLLOWING DISCREPANCIES MUST BE CORRECTED PRIOR TO FINAL ACCEPTANCE — PRINT CLEARLY	DEFECT CODE	NO. OF DEFECTS	REPORTED DATE	REPORTED BY	FUNCT. TEST NO	FUNCT. TEST YES	ATTEND TO DATE	ATTEND TO BY	ACCEPTE DATE	ACCEPTE B

TEAR LINE FOR FLIMSY

SHOP	POS/AREA	JOB	AIRPLANE	MODEL
	WORK ORDER	CHARGE		

724395

BOEING MILITARY AIRPLANE COMPANY

INSPECTION PICKUP

27

WITHHOLD TAG No. 387999

Inspector	Stamp	Part Name	Part/Tool Number	Code	Work Order	Inter	Part Serial	Incl
Date / Orig. Shop		Total Qty Recd / Total Qty Accept. / Total Qty Withheld	Unit Number / Model / Repair Thr.			Parts Affected Yes No	Other Tools Affected Yes No	
Part Serial / A/P Serial No.	Equip. Oper. Time	Fit Time / Proc. Code	Supplier Name / Date Rec'd / Rec. Notice No. / Purchase Order No.					PCA

Description of Discrepancy (Be Specific, Print Clearly)

Repair Instructions

Defect Code

Corrective Action

Q.A. Preliminary Review Action	Std. Repair	Cust. Disp	R.T.S.	Complete	MRB
	Stock Check Req'd Yes / No	Q.A. Supervisor Validation			Date

Test and Investigation Results

Nonrecurring / Recurring / Frequency

Material Disposition	Repair CE / SE	Debit Supplier Yes / No

Dwg. No.	ECR No.	Eng. Stamp	PTAR No.	Tool Coord. Stamp	Date

Responsible for Correction — Date — Orgn No. — C.A.B. Approv and Date

Responsible for Correction — Date — Orgn No.

Mat'l Review Disposition	Mfg Supervisor in Charge	Repair Code(s)

Engineer/Tool Coord	Use As Is	Repair	Acceptance of Repair or Retest	Charge
Q. A. Supervisor	Scrap	R.T.S.	Shop / Boeing Insp. / Cust.	Charge Rev. Stamp
Customer Review/Approval				Charge Rev. 28 Stamp

* ALL YELLOW COPIES TO Q.A.M.R. FILES-INCLUDES TOOLING

NONCONFORMANCE DISPOSITION/ CORRECTIVE ACTION REPORT

2. DATES			
PREPARED	DUE	REPLY RCVD	REPLY CLOSED

1. CONTROL NO.

5. SDC

3. TO:

4. FROM:

6. ACTY CODE

8. ZONE/STATION

7. NONCONFORMANCE

9. FORM 914 CONTROL NO.

10. CHARACTERISTIC NO.

11. MSI - CQ

12. DEFECT CODE

13. CAUSE CODE

14. PROCESS CODE

15. CLASSIFICATION

16. LOCAL USE

CONTRACTOR RESPONSE

17. CAUSE OF NONCONFORMANCE

18. CONTRACTOR CORRECTIVE/PREVENTIVE ACTION

19. LOCAL USE

20. AF SIGNOFF			21. CONTRACTOR SIGNOFF		
	SIGNATURE	DATE		SIGNATURE	DATE
SUPVRY REVIEW			RECEIPT		
REPLY REJECTED					
AF REP APPROVAL					
SUPVRY APPROVAL					
C/A FOLLOWUP	PROJECT NO.		FUNCTIONAL MANAGER		

AFSC FORM AUG 85 921 REPLACES AFCMD FORM 21, JAN 83, WHICH IS OBSOLETE.

STATISTICAL PROCESS CONTROL

(SPC)

- WHAT IS SPC?

  - SPC IS A MATHEMATICAL METHOD FOR ANALYZING DATA AND USING THE RESULTS TO SOLVE PRACTICAL PROBLEMS.

  - CONTROL CHARTS ARE USED TO GRAPHICALLY SHOW THE PROGRESS OF THE PROCESS. LIMITS ARE SET BASED ON THE NATURAL VARIATION OF THE PROCESS. A PROCESS IS SAID TO BE "IN CONTROL" WHEN ALL POINTS FALL WITHIN THE STATISTICAL CONTROL LIMITS. A PROCESS IS "OUT OF CONTROL" WHEN A POINT FALLS OUTSIDE OF THOSE LIMITS. THAT POINT IS SAID TO HAVE AN "ASSIGNABLE CAUSE" WHICH SHOULD BE LOCATED AND ELIMINATED.

STATISTICAL PROCESS CONTROL

(SPC)

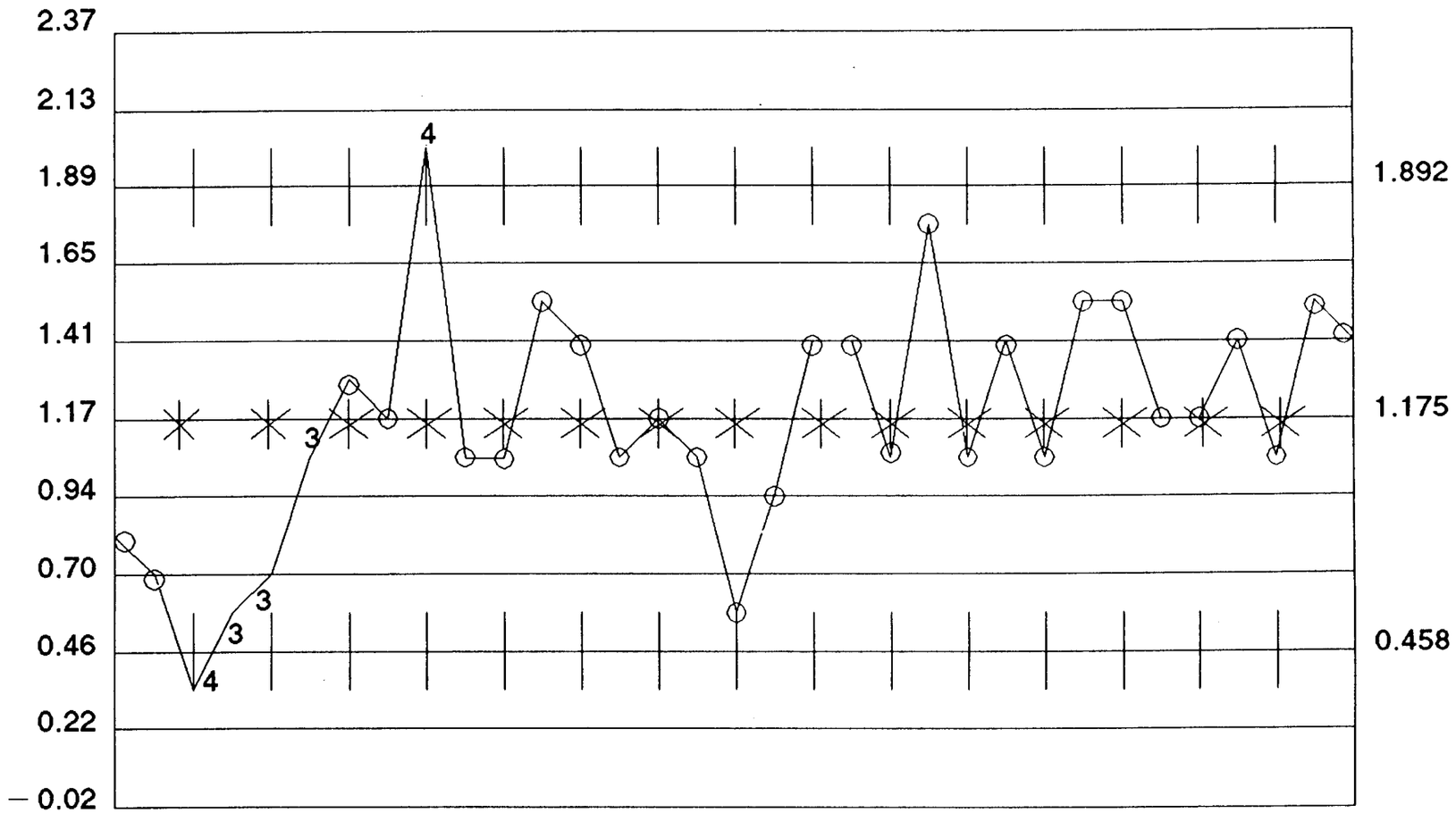
- WHY USE SPC?
  - TO IMPROVE AND ENSURE QUALITY
  - VARIATION
    - THE DIFFERENCE BETWEEN INDIVIDUALS
    - EVERY INDIVIDUAL, WHETHER A PERSON OR AN AIRPLANE PART, IS UNIQUE. SOMETIMES INDIVIDUALS VARY A LOT, SUCH AS THE DIFFERENCE IN HEIGHT AND WEIGHT AMONG ANY GROUP OF PEOPLE. SOMETIMES THE DIFFERENCES ARE VERY SMALL, SUCH AS THE DIFFERENCES IN HEIGHT AND WEIGHT OF PRECISION BUILT AIRPLANE PARTS. VARIATION IS THE MEASURE OF HOW MUCH ONE INDIVIDUAL CAN BE EXPECTED TO DIFFER FROM ANOTHER.

STATISTICAL PROCESS CONTROL
(SPC)

- WHY USE SPC? (CONT'D)
  - SPC IS A TOOL THAT USES THE NATURAL VARIATION OF A PROCESS TO HELP PINPOINT PROBLEM AREAS QUICKLY AND ACCURATELY.
  - SPC IS USED TO IDENTIFY
    - COMMON CAUSES - INHERENT VARIABILITY IN THE PROCESS, RANDOM IN NATURE, AND ARE OFTEN MINOR IN SIGNIFICANCE
    - SPECIAL CAUSES - ARE THE RESULT OF AN ABNORMALITY IN THE SYSTEM THAT PREVENTS THE PROCESS FROM BECOMING STABLE
- INTERPRETATION
  - CONTROL CHARTS PROVIDE A BASIS FOR WHEN TO ACT TO SOLVE A PROBLEM - AND WHEN NOT TO ACT

ERROR RATES

JULY 1983 TO DECEMBER 1986



1 8 IN A ROW (1) SIDE OF AVG
2 4 OUT OF 5 SPCL SD OF 1
3 2 OUT OF 3 2*SPCL SD OF 2
4 3*SPCL (1) SD OVER 3

––*–* X AVG. MR AVG.
+ – + – + CONTROL LIMITS
– – – – – POINT OFF PLOT

PRODUCT INTEGRITY - AUDIT GROUP

- AUDITS

  - AUDIT FUNCTION ENCOMPASSES ACTIVITIES OF ALL BMAC ORGANIZATIONS WHICH AFFECT PRODUCT INTEGRITY/QUALITY.

  - AUDITS WILL CONSIST OF A PHYSICAL REVIEW OF HARDWARE/SOFTWARE SYSTEMS, PROCEDURES, ETC. TO ENSURE COMPLIANCE IS MAINTAINED.

  - AUDITORS WILL COORDINATE ALL FINDINGS WITH AFFECTED SUPERVISION FOR ON-THE-SPOT CORRECTIVE ACTION WHENEVER POSSIBLE.

  - AUDIT REPORTS NOTING ALL FINDINGS WILL BE PUBLISHED AND ROUTED TO THE AFFECTED MANAGEMENT.

  - AUDIT GROUP WILL MAINTAIN A FOLLOW-UP SYSTEM TO ENSURE RECEIPT OF CORRECTIVE ACTION REPLIES IN A TIMELY MANNER AND THAT CORRECTIVE ACTION IS ESTABLISHED BY AFFECTED ORGANIZATIONS.

CUSTOMER INTERFACE

- MILITARY - AFQA (DET 34) 160 people
  NAVY, ETC.

- COMMERCIAL - BCAC, VERTOL, BAC, FAA

QUALITY SUPPORT

- MAINTAIN A SCRAP AND REWORK VISIBILITY SYSTEM
- PROVIDE FAA DESIGNEES TO CONDUCT CONFORMITY INSPECTIONS
- REVIEW AND COORDINATE NEW OR REVISED BOEING PROCESS SPECIFICATIONS, OPERATING PROCEDURES, AND QUALITY ASSURANCE MANUAL
- CONTROL ISSUANCE AND RETURN OF QUALITY ASSURANCE STAMPS

CONFIGURATION VERIFICATION

- ASSURES RECORDS ACCOUNTABILITY OF THE DELIVERED ARTICLE
- ASSURES RELEASED PLANNING TO ACCOMPLISH ASSEMBLY OF EACH END ITEM IS ADEQUATE TO COMPLY WITH QUALITY ASSURANCE, ENGINEERING, AND CUSTOMER REQUIREMENTS
- PREPARE DELIVERY DATA PACKAGES

SHIPPING

- ASSURE CONFORMITY TO SHIPPING DOCUMENT REQUIREMENTS
- PACKAGING AND PRESERVATION
- VERIFY PRODUCT ACCEPTANCE
- MILITARY
  - PRESENT DD250 TO AFQA FOR GOVERNMENT ACCEPTANCE