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28 JULY 1967

VOLUME 5

DATA MANAGEMENT STUDY

APPENDIX E
CONTRACTOR DATA PACKAGE
QUALITY ASSURANCE (QA)

PREPARED BY

T.F. SMYTH
J.R. GOTTSHALL

QUALITY ASSURANCE MANAGEMENT
VOYAGER SPACECRAFT SYSTEM PROJECT

APPROVED BY

A. FRANK, COGNIZANT ENGINEER
DATA MANAGEMENT AND CONTROL TASK
VOYAGER SPACECRAFT SYSTEM PROJECT

PREPARED FOR

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
4800 OAK GROVE DRIVE
PASADENA, CALIFORNIA

UNDER JPL CONTRACT NO. 951112

GENERAL ELECTRIC
MISSILE AND SPACE DIVISION
Valley Forge Space Technology Center
P.O. Box 8555 • Philadelphia, Penna. 19101

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INTRODUCTION

This appendix presents the Contractor Data Package (Data Item Matrix, Data Requirement Descriptions, User Flow Diagram, Document Relationship Tree, and Frequency and Phasing Charts) for Quality Assurance (QA).

These data include control and review procedures to ensure that component, subsystem, and system design, manufacture, assembly, and testing will produce items that meet the established specifications. This category also includes manufacturing verification tests to obtain quality assurance.

The complete list of Contractor Data Package appendixes is as follows:

Appendix A - Technical Description and System Engineering (SE)

Appendix B - Planetary Quarantine (PQ)

Appendix C - Manufacturing (MG)

Appendix D - Configuration Management (CM)

Appendix E - Quality Assurance (QA)

Appendix F - Test (TE) and Mission Operations (MP)

Appendix G - Reliability Assurance (RA)

Appendix H - Logistics and Support (LS)

Appendix I - Overall Management (MA), Scheduling (SC), Manning and Financial (MF)

Appendix J - Procurement and Contracting (PC)

Appendix K - Data Management (DM)

Appendix L* - Facilities (FA)

Appendix M* - Safety (SA)

Appendix N* - Site Activation for Launch (AL)

* Appendixes L through Q prepared under Contract NAS 7-584

Appendix O* - Science (SI)

Appendix P* - Related Project Interfaces (RP)

Appendix Q* - Advanced Missions (AM)

*** Appendixes L through Q prepared under Contract NAS 7-584**

DATA ITEM NUMBER	DATA ITEM	DESCRIPTION
	QUALITY ASSURANCE	
	MANUALS	
QA-003	Manual, Instrument Calibration and Maintenance	An approved set of procedures for calibration cycle instruments so that reliable data and confidence can ting procedure.
QA-004	Manual, Quality Assurance Operating Procedures	Formalizes the specific requirements of the Quality established operations procedures.
QA-005	Manual, Special Test Equipment, Component	Controls and maintains the equipment current, nece formance requirements.
QA-006	Manual, Workmanship Standards	Provides visual aids and standards jointly selected for use during the program.
	MINUTES	
QA-007	Minutes, Material Review Board	Minutes of formal meetings of the Material Review B
	PLANS	
QA-008	Plan, Inspection	Documents the specific parameters of inspection and the required quality levels in fabrication, assembly,
QA-009	Plan, Quality Assurance Program	The system contractor's total quality plan which mee tractual requirements.
QA-010	Plan, Sampling	Documents and controls the sample size necessary t quality levels.
QA-011	Plan, Test and Operating, for Special Test Equipment (STE), Component	A detailed checkout and operating procedure for test grity and confidence in the test results. In process checkout equipment.

* KEY INFORMAL DATA

.DATA ITEM LIST/USER MATRIX

	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL															
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	FA	SA
and maintenance cycles **for** ɔe maintained in the opera-	-	-	-	-	A	U	-	-	-	-	-	-	-	-	-	-
Assurance Plan into	-	-	U	-	A	U	U	-	-	-	-	-	-	-	-	U
sitated by design and per-	-	-	-	-	A	U	-	-	-	-	-	-	-	-	-	-
r contractor and customer	-	-	A	-	R	-	U	-	-	-	-	-	-	-	-	-
oard (MRB).	U	-	U	-	R	U	U	-	U	-	U	-	-	-	-	-
the tolerances to maintain **and** configuration.	-	-	U	-	A	U	-	-	U	-	-	-	-	-	-	-
ts all the customer con-	U	U	U	-	R	U	R	-	PM	-	U	-	-	-	-	-
ı maintain acceptance	U	U	U	-	A	-	U	-	-	-	-	-	-	-	-	-
equipment to maintain inte- est of hardware **using** bench	U	-	-	-	A	R	U	-	-	-	-	-	-	-	-	U

U - USE R - REVIEW AUTHORITY A - APPROVAL AUTHORITY PM - PROJECT MANAGER APPROVAL

AL	SI	RP	AM	APPLICABILITY AT SUBCONTRACTOR SUPPLIER LEVELS						APPLICABILITY TO PROJECT BOARDS										
				PRINCIPAL SUB-CONTRACTORS	MAJOR SUB-CONTRACTORS	KEY SUBCON AND VENDORS	OTHER VENDORS	KEY SUPPLIERS	KEY SUBSUPPLIERS	CONFIGURATION CONTROL	CONFIGURATION MANAGEMENT	DATA REVIEW	DESIGN REVIEW	FAILURE REVIEW	INTEGRATED SAFETY	INTEGRATED TEST	MAKE OR BUY	MATERIAL REVIEW	SOURCE EVALUATION	SOURCE SELECTION
U	–	–	–	S	S	S	NA	NA	NA	–	–	–	–	–	–	–	–	–	–	–
U	–	–	–	C/S	C/S	(C/S)	NA	(C/S)	NA	–	–	–	–	–	–	–	–	–	–	–
U	–	–	–	S	S	S	NA	NA	NA	–	–	–	–	–	–	–	–	–	–	–
U	–	–	–							–	–	–	–	–	–	U	–	–	–	–
–	–	–	–	(S)	(S)	(S)	NA	(S)	NA	–	–	–	–	–	–	U	–	A	–	–
–	–	–	–	S	S	S	NA	(S)	(S)	–	–	–	–	–	–	–	–	–	–	–
U	U	–	–	S	S	S	S	S	S	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	S	S	S	S	S	S	–	–	–	–	–	–	U	–	–	–	–
–	U	–	–	S	S	(S)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–

– PREPARED BY CONTRACTOR S – PREPARED BY SUBCONTRACTOR/VENDOR/SUPPLIER ( ) – OPTIONAL APPLICATION NA – NOT APPLICABLE

2-2-2

DATA ITEM NUMBER	DATA ITEM	DESCRIPTION
	QUALITY ASSURANCE	
	PROCEDURES	
QA-012	Procedure, Process Control	Essential process controls needed to supplement the procedure.
QA-013	Procedure, Test/Inspection	Specific test and inspection procedures to be perfor contractor.
QA-014	Procedure, Rework	
QA-015	Procedure, Area Control	
	RECORDS	
QA-016	Record, Calibration	
QA-017	Record, Shelf Life	
QA-018	Record, Tool and Gauge Usage	
QA-019	Record, Test {Materials, Parts, Sub-Assemblies)	
QA-001	Logbook, Component	A chronological and historical record used in review status, solving of anomalies and verifying acceptanc component reauirements,
QA-002	Logbook, Vehicle	To verify to the customer the chronological and hist for the vehicle presented for buy-off.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL															
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	FA	SA
est and inspection	-	-	U	-	A	-	-	-	U	-	-	-	-	-	-	U
ed **by the system**	-	U	U	-	A	U	U	-	U	-	-	-	-	-	-	U
	-	-	U	-	A	-	-	-	-	-	-	-	-	-	-	-
	-	R	U	-	R	U	U	U	PM	-	-	-	-	-	-	U
	-	-	-	-	A	U	-	-	-	-	-	-	-	-	-	-
	-	U	U	-	A	U	U	-	-	-	-	-	-	-	-	-
	-	-	U	-	A	-	-	-	-	-	-	-	-	-	-	-
	-	-	U	-	A	U	-	-	-	-	-	-	-	-	-	-
ng component criteria for the	-	-	-	-	A	U	R	-	-	-	-	-	-	-	-	-
rical acceptance	U	-	-	-	A	R	R	R	R	-	U	-	U	-	-	-

U - USE R - REVIEW AUTHORITY A - APPROVAL AUTHORITY PM - PROJECT MANAGER APPROVAL

AL	SI	RP	AM	APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS: PRINCIPAL SUBCONTRACTORS	MAJOR SUBCONTRACTORS	KEY SUBCON AND VENDORS	OTHER VENDORS	KEY SUPPLIERS	KEY SUBSUPPLIERS	APPLICABILITY TO PROJECT BOARDS: CONFIGURATION CONTROL	CONFIGURATION MANAGEMENT	DATA REVIEW	DESIGN REVIEW	FAILURE REVIEW	INTEGRATED SAFETY	INTEGRATED TEST	MAKE OR BUY	MATERIAL REVIEW	SOURCE EVALUATION	SOURCE SELECTION
-	-	-	-	S	S	S	(S)	S	(S)	-	-	-	-	-	-	-	-	U	-	-
-	-	-	-	S	S	S	(S)	S	(S)	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	S	S	S	(S)	S	(S)	-	-	-	-	-	-	-	-	U	-	-
-	-	-	-	(S)	(S)	(S)	NA	(S)	(S)	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	S	S	S	(S)	(S)	(S)	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	(S)	(S)	(S)	(S)	(S)	(S)	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	(S)	(S)	(S)	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	S	S	S	S	S	S	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	S	S	S	S	S	S	-	-	-	-	-	-	U	-	-	-	-
-	U	-	-	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	R	-	-	-	-

- PREPARED BY CONTRACTOR S - PREPARED BY SUBCONTRACTOR/VENDOR/SUPPLIER ( ) - OPTIONAL APPLICATION NA - NOT APPLICABLE

DATA ITEM NUMBER	DATA ITEM	DESCRIPTION
	QUALITY ASSURANCE	
	REPORTS	
QA-020	*Report, Failure Analysis	Documentation of the investigatory analysis of nonc problem cause, and prevention.
QA-021	*Report, Nonconforming Material (NCMR)	A document to report nonconformance in fabrication assembly, and inspection and the cause, corrective and disposition.
QA-022	*Report, Process Trends	Identifies shifts in quality levels during processes s corrective action can be taken.
QA-023	*Report, Quality Audit	Measures the level of compliance in all areas of fab assembly and test to the governing quality document
QA-024	*Report, Quality Status	A report of the system contractor's quality perform; submitted to the customer.
QA-025	Report, Special Measurement and Test Equipment Evaluation (Component)	A special capability study of test equipment to verify and confidence in test and inspection results
QA-026	Report, Quality Assurance Audit Summary	Summary of the audits verifying compliance in fabric testing, inspection, to specific control documents.
QA-027	Report, Quality Assurance Trend Summary	Summarization of QA trend reports to determine any quality levels and to emphasize corrective action.
QA-028	Report, Break of Inspection	Identifies the break of inspection event which causes processing to be stopped and verifies that all materi a component is maintained as prime.
QA-029	*Report, Failure Categorization	An analysis report categorizing failures and assignin for failures to design, component, fabrication, or te
QA-030	Report, Qualification Status	Reports the status of the type approval (TA) program customer.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL															
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	FA	SA
formance,	U	U	U	-	R	U	A	-	U	-	-	-	-	-	-	U
test, ction,	-	-	U	-	A	U	U	-	U	-	-	-	-	-	-	-
that	U	-	U	-	A	-	U	-	U	-	-	-	-	-	-	-
cation,	U	-	U	-	A	U	U	-	U	-	U	-	-	-	-	U
me	U	-	U	-	A	U	U	U	U	-	U	-	-	-	-	-
integrity	u	u	-	-	A	R	-	-	-	-	U	-	-	-	-	-
ıtion,	U	U	U	-	A	U	U	-	U	-	U	-	-	-	-	-
shifts in	U	-	U	-	A	-	U	-	U	-	U	-	-	-	-	-
ıardware l within	-	U	-	-	A	U	-	-	-	-	-	-	-	-	-	-
; responsibility t.	-	-	U	-	A	R	U	-	U	-	-	-	-	-	-	-
to the	U	-	U	-	A	R	U	-	U	-	U	-	-	-	-	-

U - USE R - REVIEW AUTHORITY A - APPROVAL AUTHORITY PM - PROJECT MANAGER APPROVAL

				APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS						APPLICABILITY TO PROJECT BOARDS										
AL	SI	RP	AM	PRINCIPAL SUB-CONTRACTORS	MAJOR SUB-CONTRACTORS	KEY SUBCON AND VENDORS	OTHER VENDORS	KEY SUPPLIERS	KEY SUBSUPPLIERS	CONFIGURATION CONTROL	CONFIGURATION MANAGEMENT	DATA REVIEW	DESIGN REVIEW	FAILURE REVIEW	INTEGRATED SAFETY	INTEGRATED TEST	MAKE OR BUY	MATERIAL REVIEW	SOURCE EVALUATION	SOURCE SELECTION
U	U	-	-	S	S	S	NA	(S)	(S)	-	-	-	-	R	-	U	-	U	-	-
U	-	-	-	S	S	S	S	S	S	-	-	-	-	-	-	U	-	U	-	-
-	-	-	-	S	S	(S)	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
U	-	-	-	S	S	S	NA	(S)	NA	-	-	-	-	-	-	U	-	U	-	-
-	-	-	-	S	S	S	NA	(S)	NA	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	S	S	(S)	NA	NA	NA	-	-	-	-	-	-	U	-	-	-	-
-	-	-	-	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	U	-	-
U	-	-	-	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	S	S	S	NA	(S)	(S)	-	-	-	-	-	-	U	-	-	-	-
U	-	-	-	S	S	S	NA	NA	NA	-	-	-	-	-	-	R	-	-	-	-
-	-	-	-	(S)	NA	NA	NA	NA	NA	-	-	-	-	-	-	U	-	U	-	-

- PREPARED BY CONTRACTOR S - PREPARED BY SUBCONTRACTOR/VENDOR/SUPPLIER ( ) - OPTIONAL APPLICATION NA - NOT APPLICABLE

2-6-2

[redacted]

DATA ITEM NUMBER	DATA ITEM	DESCRIPTION
	QUALITY ASSURANCE	
	SPECIFICATIONS	
QA-031	**Specification, Special Test Equipment (STE),. Component**	

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL															
	SE	PQ	MG	CM	QA	TE	RA	_S	MA	SC	PC	MF	MP	DM	FA	SA
	U	-	-	U	A	R	U	-	-	U	U	-	_	-	-	U

U - USE R - REVIEW AUTHORITY A - APPROVAL AUTHORITY PM - PROJECT MANAGER APPROVAL

AL	SI	RP	AM	APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS: PRINCIPAL SUBCONTRACTORS	MAJOR SUBCONTRACTORS	KEY SUBCON AND VENDORS	OTHER VENDORS	KEY SUPPLIERS	KEY SUBSUPPLIERS	APPLICABILITY TO PROJECT BOARDS: CONFIGURATION CONTROL	CONFIGURATION MANAGEMENT	DATA REVIEW	DESIGN REVIEW	FAILURE REVIEW	INTEGRATED SAFETY	INTEGRATED TEST	MAKE OR BUY	MATERIAL REVIEW	SOURCE EVALUATION	SOURCE SELECTION
-	U	-	-	S	S	(S)	NA	(S)	NA	-	U	-	-	-	-	R	-	-	-	-

- PREPARED BY CONTRACTOR S - PREPARED BY SUBCONTRACTOR/VENDOR/SUPPLIER ( ) - OPTIONAL APPLICATION NA - NOT APPLICABLE

2-8-2

USER FLOW DIAGRAMS

The Quality Assurance Data User Flow Diagrams were developed to show the quality activities and required data items on Voyager to meet customer requirements (NPC 200-2, 3, 4) and the needs of a long-life space system quality program. Interfaces with the systems office, the contractor Voyager project, and procurement sources have been indicated from contract award through launch. The quality assurance data items shown in the diagrams agree with Voyager data item lists.

Early attention is devoted to the quality assurance program plan, conducting special quality system studies, and obtaining rapid integration of major subcontractor quality programs into the prime contractor quality assurance system; Continuous from the systems design phase through launch, key quality activities are:

SDR through PDR

- Develop parts qualification plan
- Review specifications and drawings
- Initiate training program
- Monitor breadboard activities
- Establish procurement source (supplier) evaluation system

PDR through HDR

- Begin parts and process qualifications
- Finalize Quality Assurance Operating Procedures Manual
- Initiate component special test equipment design
- Calibrate tools and gages
- Continue certification of personnel
- Establish QA engineer residents at major subcontractors
- Monitor model fabrication and tests

MDR through CDR

- Continue test plan development
- Conduct failure analyses
- Inspect engineering model procurement, fabrication and tests
- Conduct audits
- Review purchase requisitions for TA and PTM hardware

CDR through FACI

- Update procedures and processes
- Update component STE
- Continue STE, tool and gage calibrations
- Inspect TA and PTM fabrication and tests
- Review process trends and conduct failure analyses
- Compile documentation, including deviation data for FACI

FACI through MAR

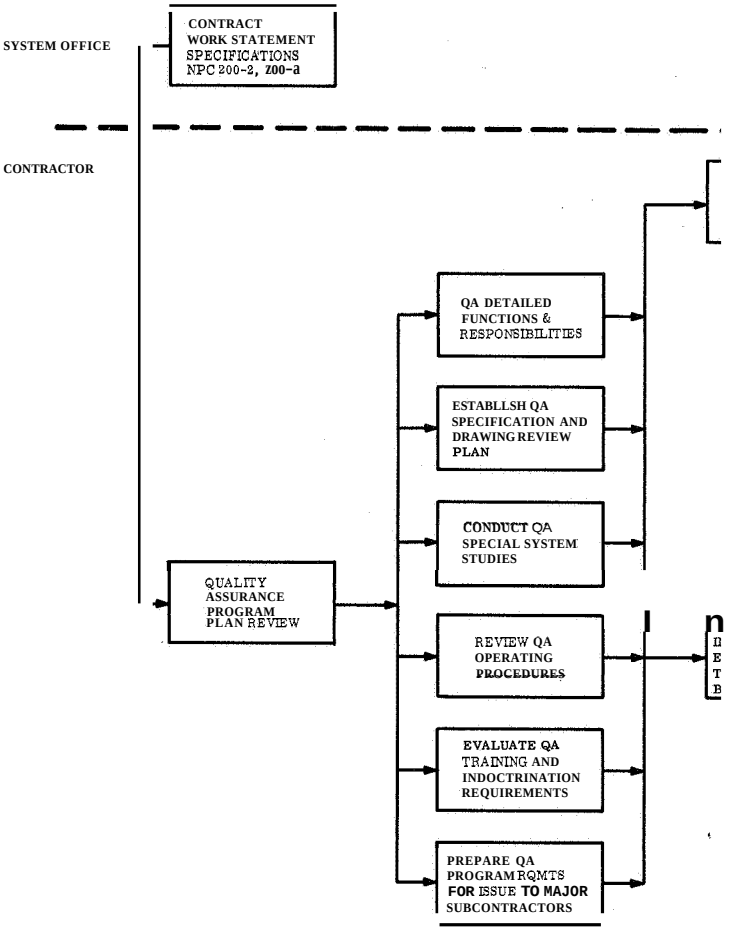
- Prepare launch operations QA plan
- Implement defect preventive measures evolving from FACI
- Perform FA and OSE in-process inspection test and certification
- Conduct failure analyses
- Compile Mission Acceptance Review documentation
- Review status of each vehicle

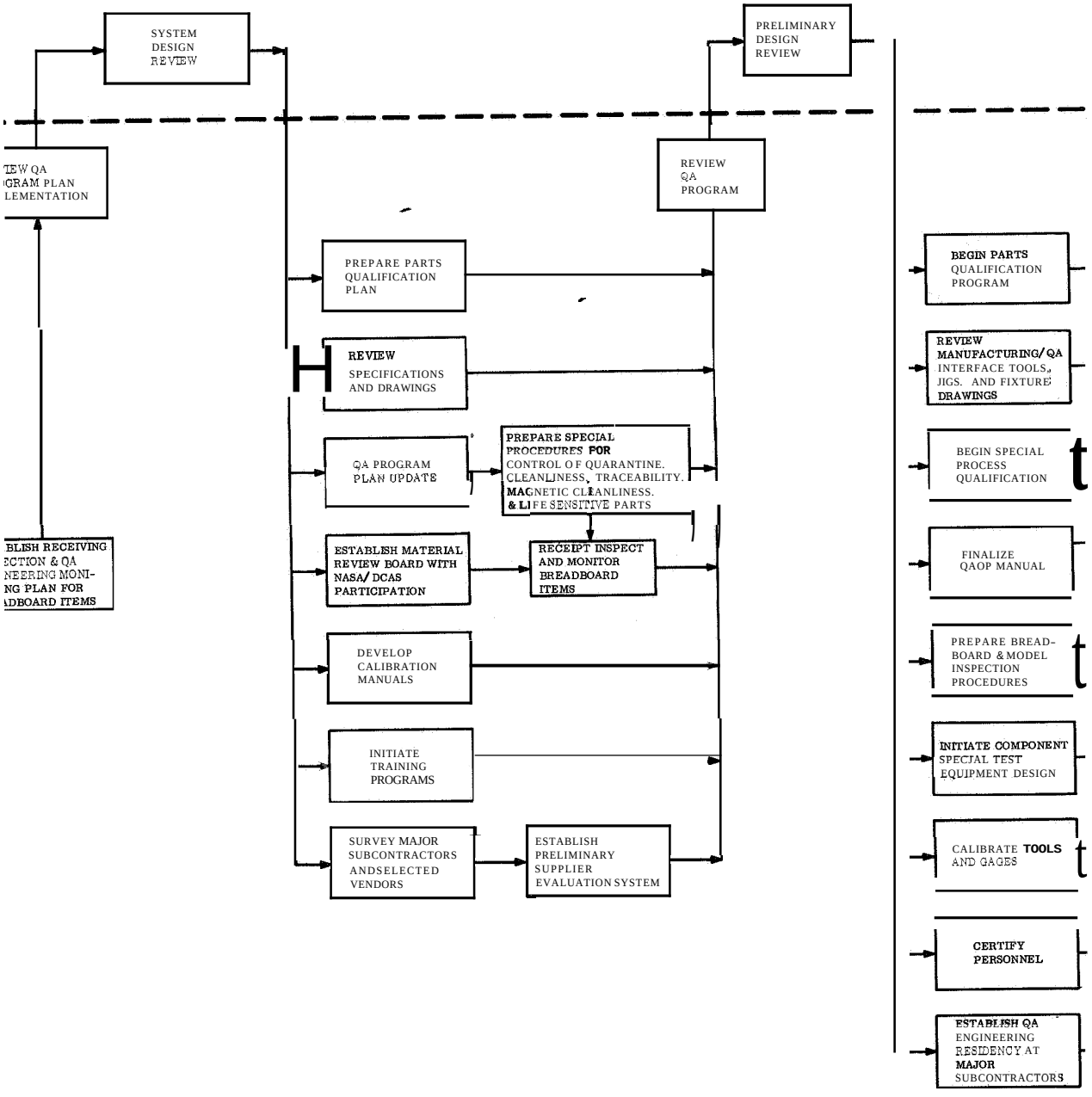
MAR through Launch

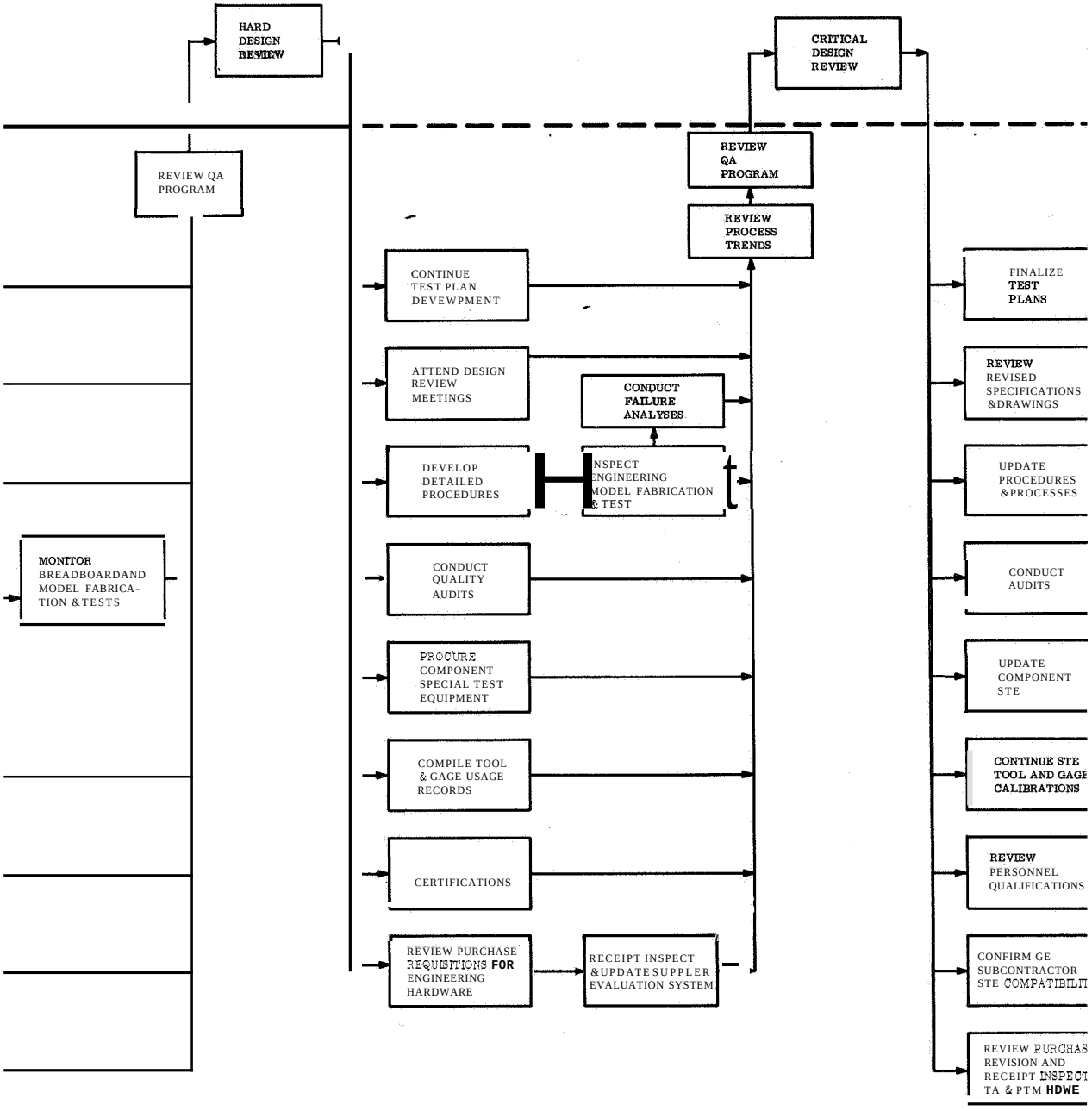
- Inspect shipments of FA, OSE and STE
- Receipt inspection at launch site
- Monitor pre-launch tests
- Provide QA data for problem solving areas

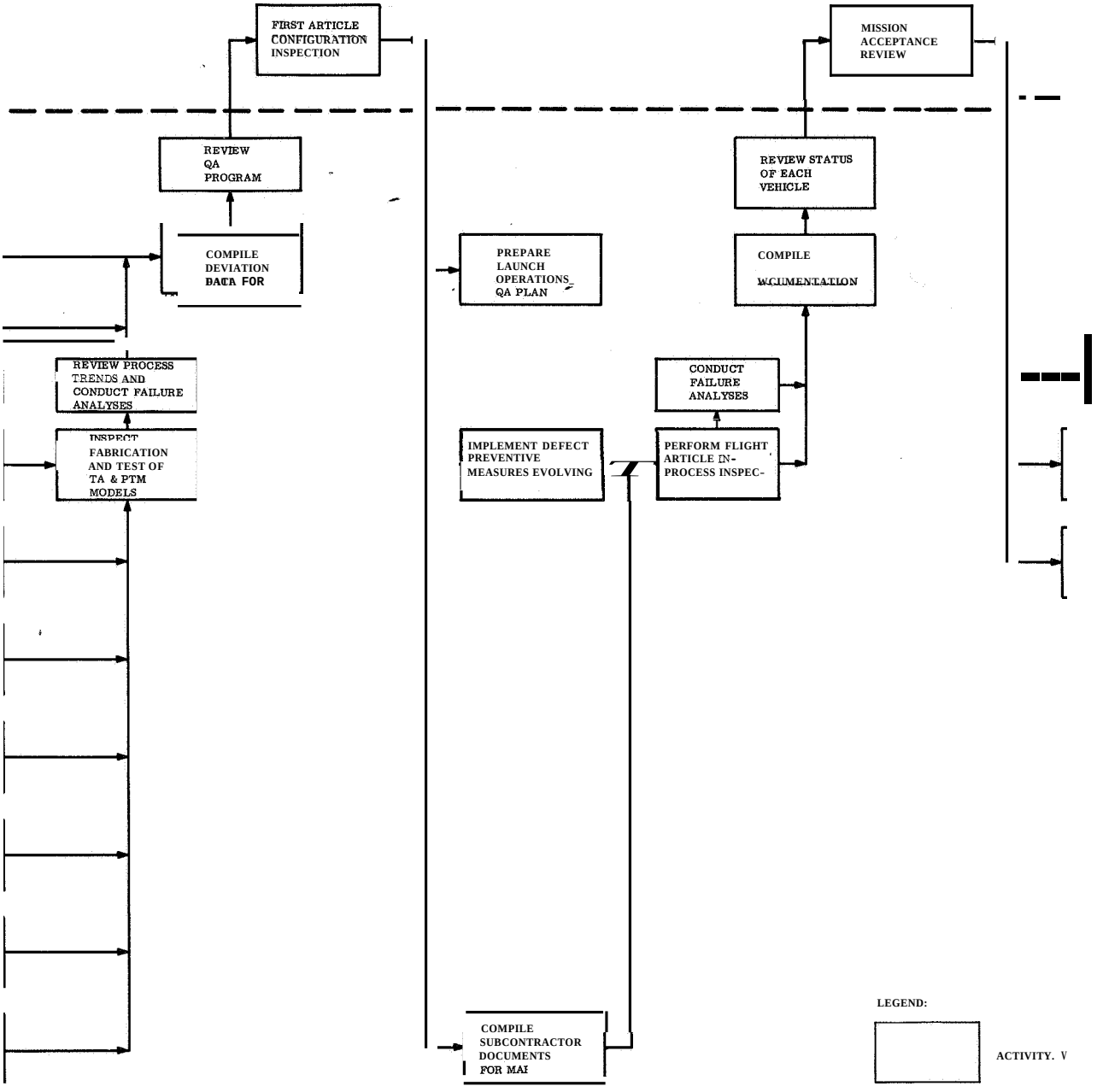
Quality Assurance User Flow Diagrams

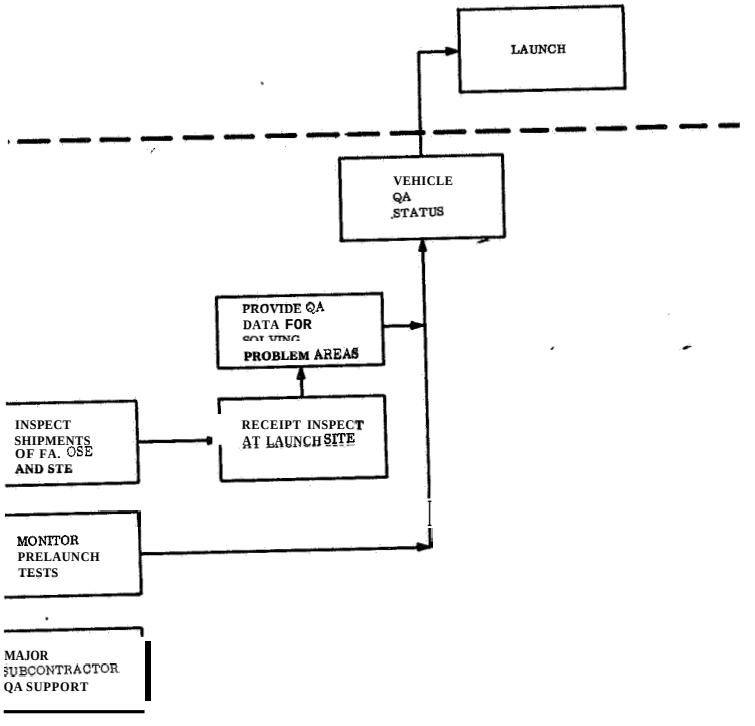
Figure Number	Title
E-1	Quality Assurance User Flow Diagram – Summary
E-2	Quality Assurance User Flow Diagram – Contract Award Through Preliminary Design Review
E-3	Quality Assurance User Flow Diagram – Preliminary Design Review Through Critical Design Review
E-4	Quality Assurance User Flow Diagram – Critical Design Review Through Launch (2 sheets)


SYSTEM OFFICE
CONTRACT WORK STATEMENT SPECIFICATIONS NPC 200-2, Z00-a
CONTRACTOR
QA DETAILED FUNCTIONS & RESPONSIBILITIES
ESTABLLSH QA SPECIFICATION AND DRAWING REVIEW PLAN
CONDUCT QA SPECIAL SYSTEM STUDIES
QUALITY ASSURANCE PROGRAM PLAN REVIEW
REVIEW QA OPERATING PROCEDURES
EVALUATE QA TRAINING AND INDOCTRINATION REQUIREMENTS
PREPARE QA PROGRAM RQMTS FOR ISSUE TO MAJOR SUBCONTRACTORS


SYSTEM DESIGN REVIEW
PRELIMINARY DESIGN REVIEW
TEW QA GRAM PLAN LEMENTATION
REVIEW QA PROGRAM
PREPARE PARTS QUALIFICATION PLAN
REVIEW SPECIFICATIONS AND DRAWINGS
QA PROGRAM PLAN UPDATE
PREPARE SPECIAL PROCEDURES FOR CONTROL OF QUARANTINE. CLEANLINESS, TRACEABILITY. MAGNETIC CLEANLINESS. & LIFE SENSITIVE PARTS
BLISH RECEIVING ECTION & QA NEERING MONI- NG PLAN FOR ADBOARD ITEMS
ESTABLISH MATERIAL REVIEW BOARD WITH NASA/ DCAS PARTICIPATION
RECEIPT INSPECT AND MONITOR BREADBOARD ITEMS
DEVELOP CALIBRATION MANUALS
INITIATE TRAINING PROGRAMS
SURVEY MAJOR SUBCONTRACTORS ANDSELECTED VENDORS
ESTABLISH PRELIMINARY SUPPLIER EVALUATION SYSTEM
BEGIN PARTS QUALIFICATION PROGRAM
REVIEW MANUFACTURING/QA INTERFACE TOOLS, JIGS. AND FIXTURE DRAWINGS
BEGIN SPECIAL PROCESS QUALIFICATION
FINALIZE QAOP MANUAL
PREPARE BREAD- BOARD & MODEL INSPECTION PROCEDURES
INITIATE COMPONENT SPECIAL TEST EQUIPMENT DESIGN
CALIBRATE TOOLS AND GAGES
CERTIFY PERSONNEL
ESTABLISH QA ENGINEERING RESIDENCY AT MAJOR SUBCONTRACTORS


HARD DESIGN REVIEW
CRITICAL DESIGN REVIEW
REVIEW QA PROGRAM
REVIEW QA PROGRAM
REVIEW PROCESS TRENDS
CONTINUE TEST PLAN DEVEWPMENT
ATTEND DESIGN REVIEW MEETINGS
CONDUCT FAILURE ANALYSES
DEVELOP DETAILED PROCEDURES
INSPECT ENGINEERING MODEL FABRICATION & TEST
MONITOR BREADBOARDAND MODEL FABRICA-TION &TESTS
CONDUCT QUALITY AUDITS
PROCURE COMPONENT SPECIAL TEST EQUIPMENT
COMPILE TOOL & GAGE USAGE RECORDS
CERTIFICATIONS
REVIEW PURCHASE REQUISITIONS FOR ENGINEERING HARDWARE
RECEIPT INSPECT &UPDATE SUPPLER EVALUATION SYSTEM
FINALIZE TEST PLANS
REVIEW REVISED SPECIFICATIONS &DRAWINGS
UPDATE PROCEDURES &PROCESSES
CONDUCT AUDITS
UPDATE COMPONENT STE
CONTINUE STE TOOL AND GAGE CALIBRATIONS
REVIEW PERSONNEL QUALIFICATIONS
CONFIRM GE SUBCONTRACTOR STE COMPATIBILTI
REVIEW PURCHAS REVISION AND RECEIPT INSPECT TA & PTM HDWE

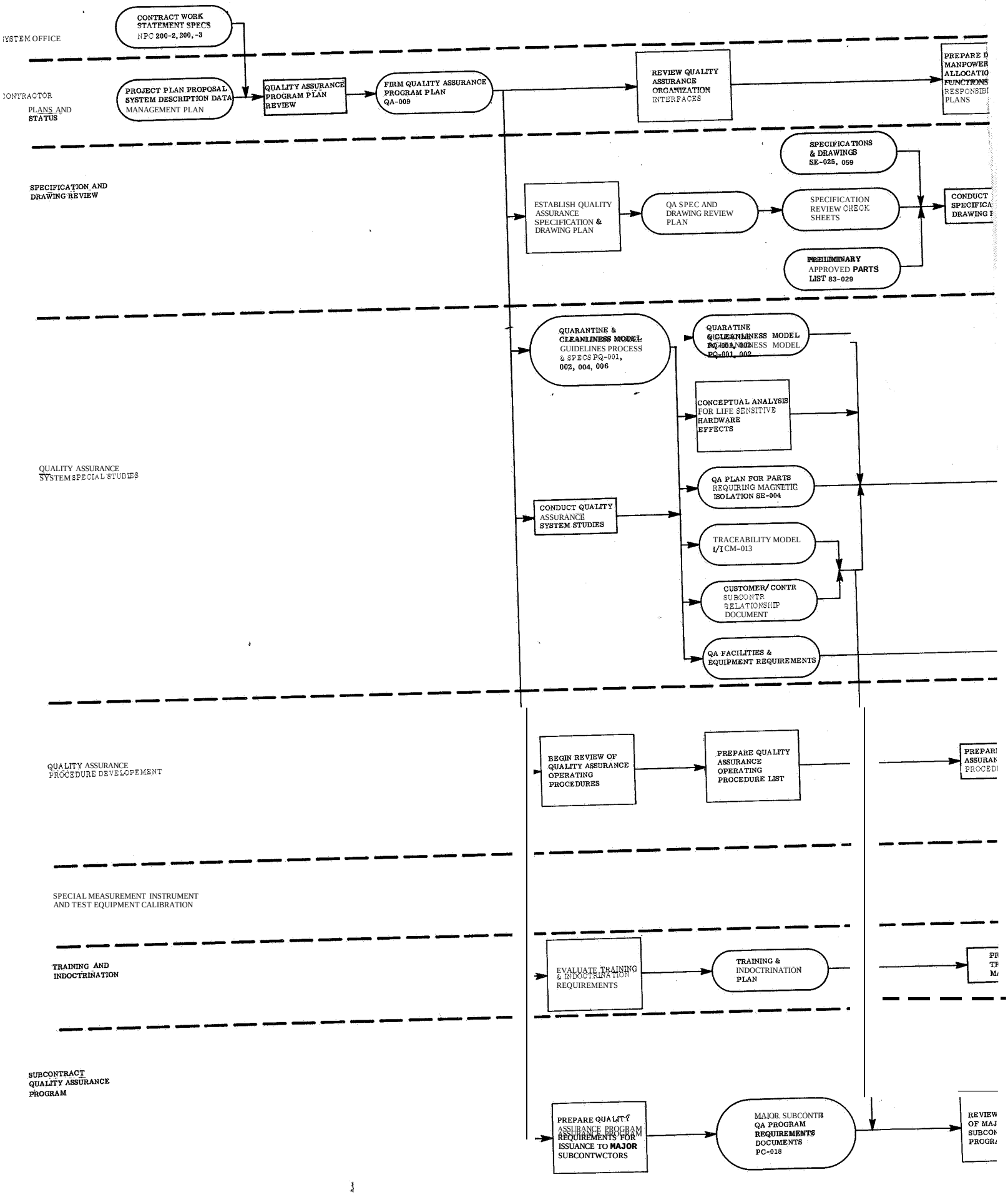

FIRST ARTICLE CONFIGURATION INSPECTION
MISSION ACCEPTANCE REVIEW
REVIEW QA PROGRAM
REVIEW STATUS OF EACH VEHICLE
COMPILE DEVIATION DATA FOR
PREPARE LAUNCH OPERATIONS QA PLAN
COMPILE DOCUMENTATION
REVIEW PROCESS TRENDS AND CONDUCT FAILURE ANALYSES
CONDUCT FAILURE ANALYSES
INSPECT FABRICATION AND TEST OF TA & PTM MODELS
IMPLEMENT DEFECT PREVENTIVE MEASURES EVOLVING
PERFORM FLIGHT ARTICLE IN-PROCESS INSPEC-
COMPILE SUBCONTRACTOR DOCUMENTS FOR MAI
LEGEND:
ACTIVITY. V

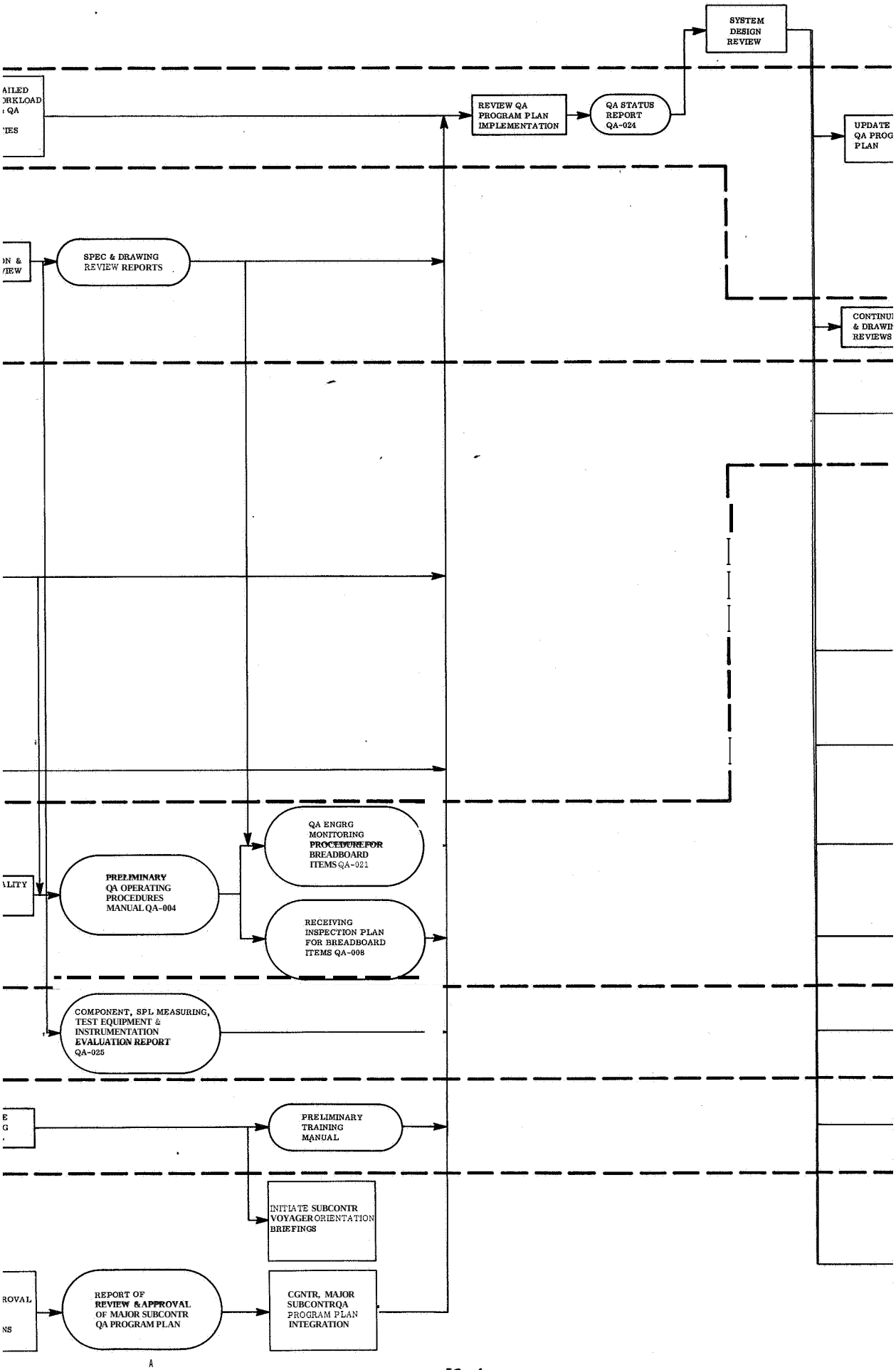


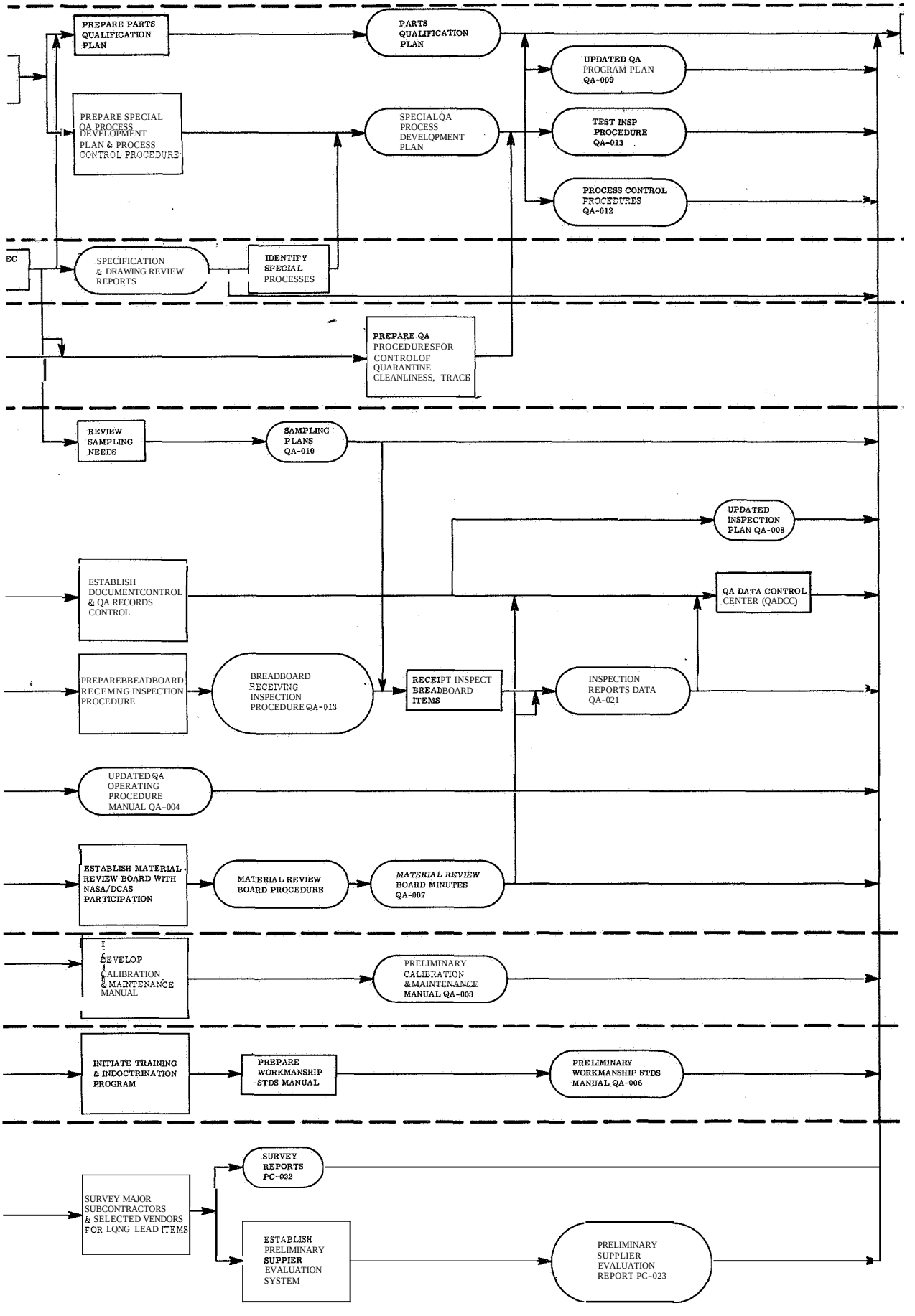
TH DESCRIPTION INSIDE

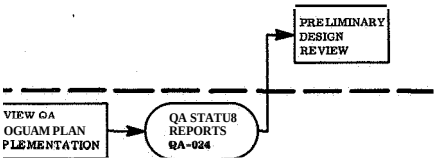
Figure E–1. Quality Assurance User Flow Diagram - Summary

3-6-4


CONTRACT WORK STATEMENT SPECS NPC 200-2, 200, -3
PROJECT PLAN PROPOSAL SYSTEM DESCRIPTION DATA MANAGEMENT PLAN
QUALITY ASSURANCE PROGRAM PLAN REVIEW
FIRM QUALITY ASSURANCE PROGRAM PLAN QA-009
REVIEW QUALITY ASSURANCE ORGANIZATION INTERFACES
PREPARE D MANPOWER ALLOCATIO FUNCTIONS RESPONSIBI PLANS
PLANS AND STATUS
SPECIFICATIONS & DRAWINGS SE-025, 059
SPECIFICATION AND DRAWING REVIEW
ESTABLISH QUALITY ASSURANCE SPECIFICATION & DRAWING PLAN
QA SPEC AND DRAWING REVIEW PLAN
SPECIFICATION REVIEW CHECK SHEETS
CONDUCT SPECIFICA DRAWING R
PRELIMINARY APPROVED PARTS LIST 83-029
QUARANTINE & CLEANLINESS MODEL GUIDELINES PROCESS & SPECS PQ-001, 002, 004, 006
QUARATINE CLEANLINESS MODEL PQ-001, 002
CONCEPTUAL ANALYSIS FOR LIFE SENSITIVE HARDWARE EFFECTS
QUALITY ASSURANCE SYSTEMS SPECIAL STUDIES
QA PLAN FOR PARTS REQUIRING MAGNETIC ISOLATION SE-004
CONDUCT QUALITY ASSURANCE SYSTEM STUDIES
TRACEABILITY MODEL I/I CM-013
CUSTOMER/ CONTR SUBCONTR RELATIONSHIP DOCUMENT
QA FACILITIES & EQUIPMENT REQUIREMENTS
QUALITY ASSURANCE PROCEDURE DEVELOPEMENT
BEGIN REVIEW OF QUALITY ASSURANCE OPERATING PROCEDURES
PREPARE QUALITY ASSURANCE OPERATING PROCEDURE LIST
PREPARI ASSURAN PROCEDI
SPECIAL MEASUREMENT INSTRUMENT AND TEST EQUIPMENT CALIBRATION
TRAINING AND INDOCTRINATION
EVALUATE TRAINING & INDOCTRINATION REQUIREMENTS
TRAINING & INDOCTRINATION PLAN
PR TR MA
SUBCONTRACT QUALITY ASSURANCE PROGRAM
PREPARE QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR ISSUANCE TO MAJOR SUBCONTWCTORS
MAJOR SUBCONTR QA PROGRAM REQUIREMENTS DOCUMENTS PC-018
REVIEW OF MAJ SUBCON PROGR


SYSTEM DESIGN REVIEW
REVIEW QA PROGRAM PLAN IMPLEMENTATION
QA STATUS REPORT QA-024
UPDATE QA PROG PLAN
SPEC & DRAWING REVIEW REPORTS
CONTINU & DRAWI REVIEWS
QA ENGRG MONITORING PROCEDURE FOR BREADBOARD ITEMS QA-021
PRELIMINARY QA OPERATING PROCEDURES MANUAL QA-004
RECEIVING INSPECTION PLAN FOR BREADBOARD ITEMS QA-008
COMPONENT, SPL MEASURING, TEST EQUIPMENT & INSTRUMENTATION EVALUATION REPORT QA-025
PRELIMINARY TRAINING MANUAL
INITIATE SUBCONTR VOYAGER ORIENTATION BRIEFINGS
REPORT OF REVIEW & APPROVAL OF MAJOR SUBCONTR QA PROGRAM PLAN
CGNTR, MAJOR SUBCONTRQA PROGRAM PLAN INTEGRATION


PREPARE PARTS QUALIFICATION PLAN
PARTS QUALIFICATION PLAN
UPDATED QA PROGRAM PLAN QA-009
PREPARE SPECIAL QA PROCESS DEVELOPMENT PLAN & PROCESS CONTROL PROCEDURE
SPECIALQA PROCESS DEVELQPMENT PLAN
TEST INSP PROCEDURE QA-013
PROCESS CONTROL PROCEDURES QA-012
SPECIFICATION & DRAWING REVIEW REPORTS
IDENTIFY SPECIAL PROCESSES
PREPARE QA PROCEDURESFOR CONTROLOF QUARANTINE CLEANLINESS, TRACE
REVIEW SAMPLING NEEDS
SAMPLING PLANS QA-010
UPDATED INSPECTION PLAN QA-008
ESTABLISH DOCUMENTCONTROL & QA RECORDS CONTROL
QA DATA CONTROL CENTER (QADCC)
PREPAREBBEADBOARD RECEMNG INSPECTION PROCEDURE
BREADBOARD RECEIVING INSPECTION PROCEDURE QA-013
RECEIPT INSPECT BREADBOARD ITEMS
INSPECTION REPORTS DATA QA-021
UPDATED QA OPERATING PROCEDURE MANUAL QA-004
ESTABLISH MATERIAL REVIEW BOARD WITH NASA/DCAS PARTICIPATION
MATERIAL REVIEW BOARD PROCEDURE
MATERIAL REVIEW BOARD MINUTES QA-007
DEVELOP CALIBRATION & MAINTENANCE MANUAL
PRELIMINARY CALIBRATION & MAINTENANCE MANUAL QA-003
INITIATE TRAINING & INDOCTRINATION PROGRAM
PREPARE WORKMANSHIP STDS MANUAL
PRELIMINARY WORKMANSHIP STDS MANUAL QA-006
SURVEY REPORTS PC-022
SURVEY MAJOR SUBCONTRACTORS & SELECTED VENDORS FOR LQNG LEAD ITEMS
ESTABLISH PRELIMINARY SUPPIER EVALUATION SYSTEM
PRELIMINARY SUPPLIER EVALUATION REPORT PC-023

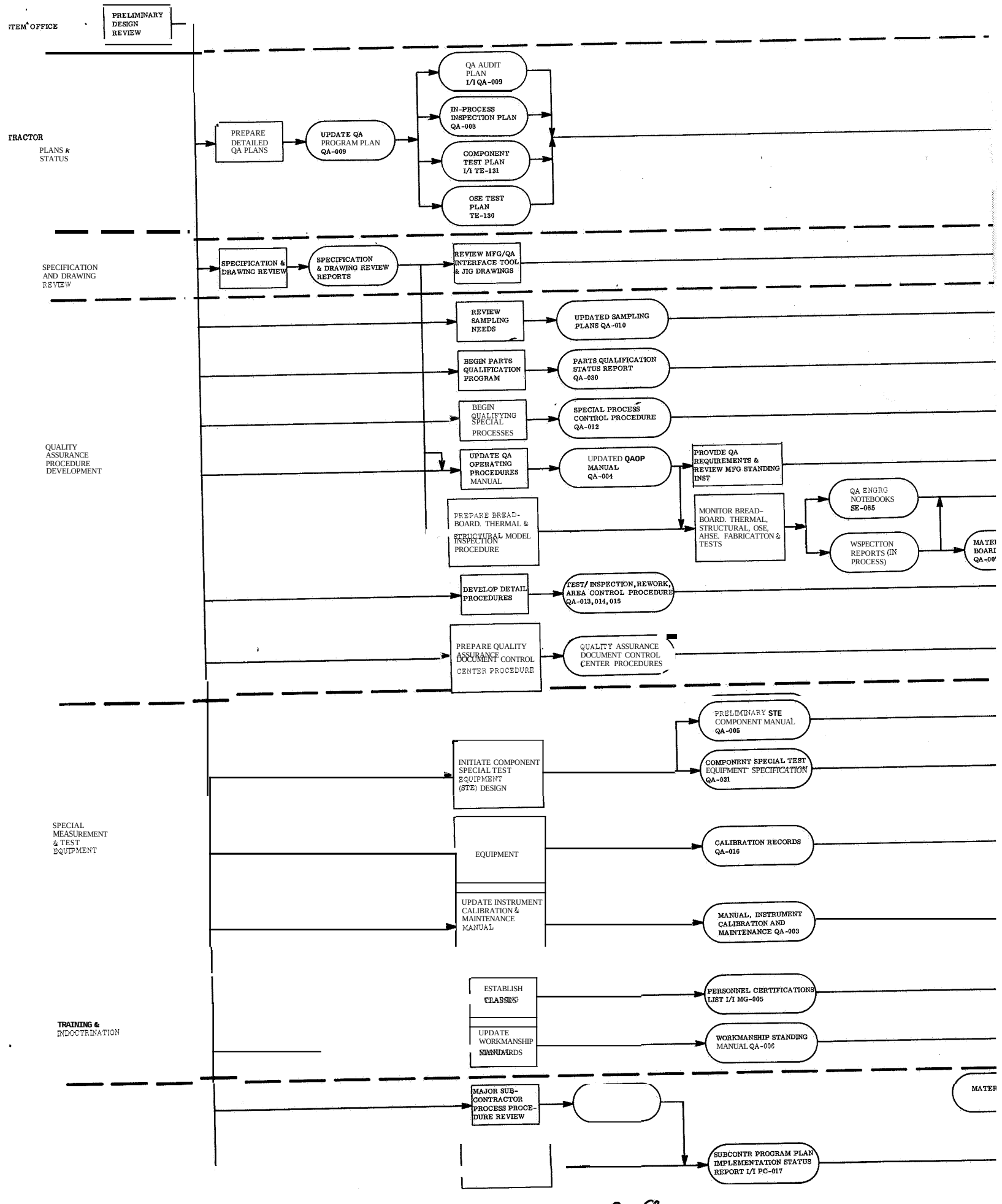


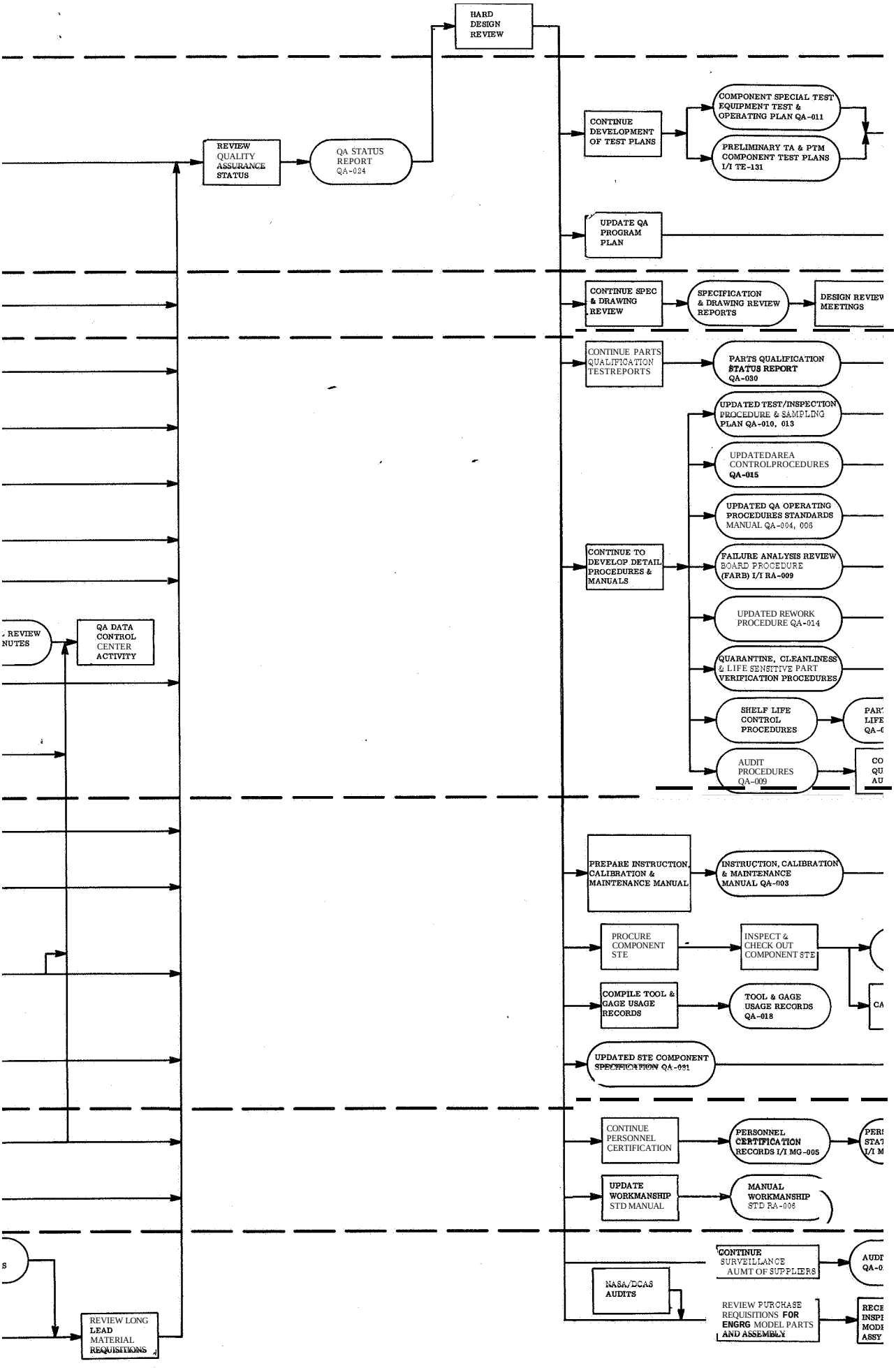
LEGEND:

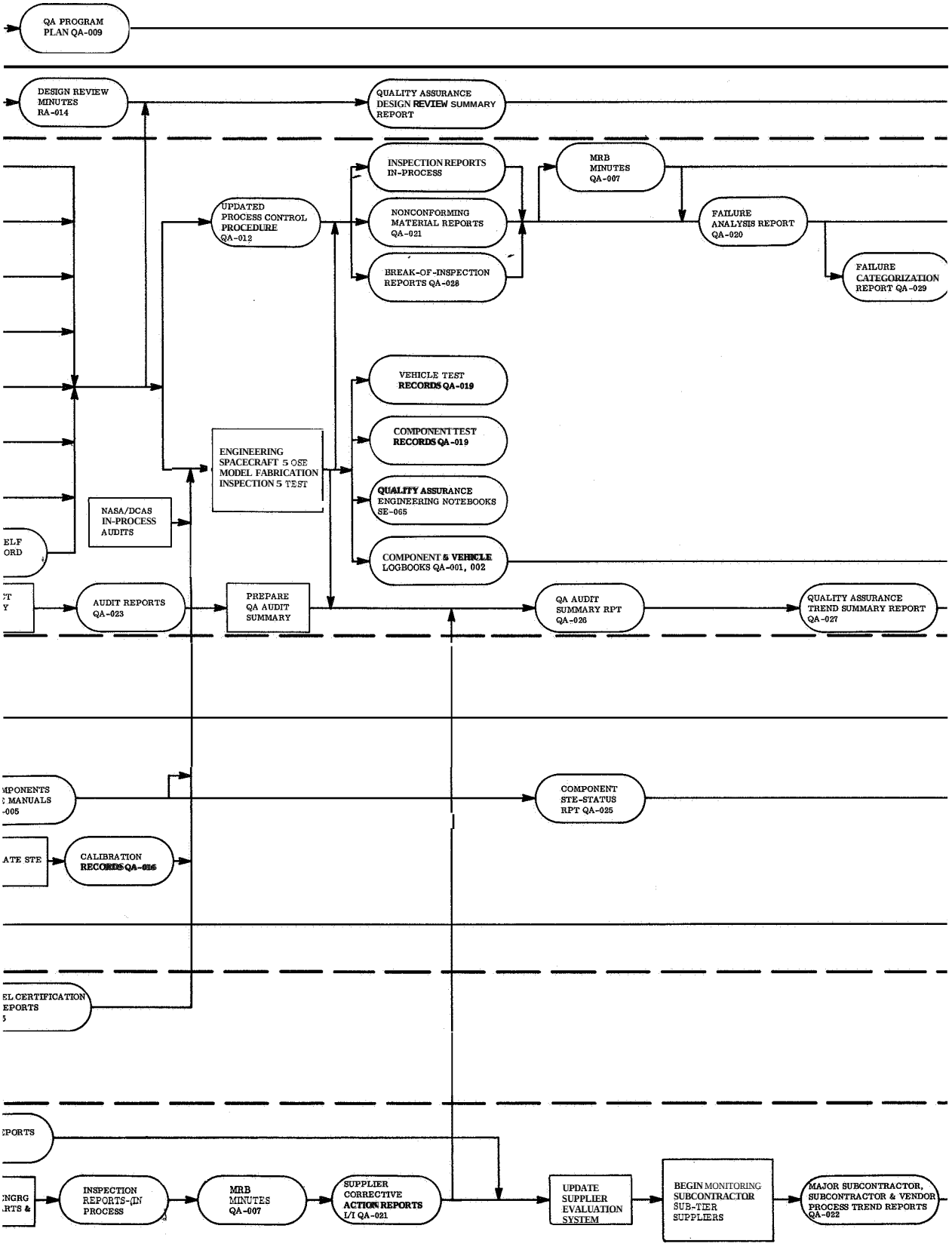
ACTIVITY, WITH DESCRIPTION INSIDE

DATA ITEM(S), WITH TITLE(S) INSIDE

Figure E-2. Quality Assurance User Flow Diagram - Contract Award Through Preliminary Design Review


ITEM OFFICE
PRELIMINARY DESIGN REVIEW
TRACTOR
PLANS & STATUS
PREPARE DETAILED QA PLANS
UPDATE QA PROGRAM PLAN QA-009
QA AUDIT PLAN I/I QA-009
IN-PROCESS INSPECTION PLAN QA-008
COMPONENT TEST PLAN I/I TE-131
OSE TEST PLAN TE-130
SPECIFICATION AND DRAWING REVIEW
SPECIFICATION & DRAWING REVIEW
SPECIFICATION & DRAWING REVIEW REPORTS
REVIEW MFG/QA INTERFACE TOOL & JIG DRAWINGS
QUALITY ASSURANCE PROCEDURE DEVELOPMENT
REVIEW SAMPLING NEEDS
UPDATED SAMPLING PLANS QA-010
BEGIN PARTS QUALIFICATION PROGRAM
PARTS QUALIFICATION STATUS REPORT QA-030
BEGIN QUALIFYING SPECIAL PROCESSES
SPECIAL PROCESS CONTROL PROCEDURE QA-012
UPDATE QA OPERATING PROCEDURES MANUAL
UPDATED QAOP MANUAL QA-004
PROVIDE QA REQUIREMENTS & REVIEW MFG STANDING INST
PREPARE BREAD-BOARD, THERMAL & STRUCTURAL MODEL INSPECTION PROCEDURE
MONITOR BREAD-BOARD, THERMAL, STRUCTURAL, OSE, AHSE, FABRICATTON & TESTS
QA ENGRG NOTEBOOKS SE-065
WSPECTTON REPORTS (IN PROCESS)
DEVELOP DETAIL PROCEDURES
TEST/ INSPECTION, REWORK, AREA CONTROL PROCEDURE QA-013, 014, 015
PREPARE QUALITY ASSURANCE DOCUMENT CONTROL CENTER PROCEDURE
QUALITY ASSURANCE DOCUMENT CONTROL CENTER PROCEDURES
SPECIAL MEASUREMENT & TEST EQUIPMENT
PRELIMINARY STE COMPONENT MANUAL QA-005
INITIATE COMPONENT SPECIAL TEST EQUIPMENT (STE) DESIGN
COMPONENT SPECIAL TEST EQUIPMENT SPECIFICATION QA-031
EQUIPMENT
CALIBRATION RECORDS QA-016
UPDATE INSTRUMENT CALIBRATION & MAINTENANCE MANUAL
MANUAL, INSTRUMENT CALIBRATION AND MAINTENANCE QA-003
TRAINING & INDOCTRINATION
ESTABLISH CLASSES
PERSONNEL CERTIFICATIONS LIST I/I MG-005
UPDATE WORKMANSHIP MANUAL STANDARDS
WORKMANSHIP STANDING MANUAL QA-006
MAJOR SUB-CONTRACTOR PROCESS PROCE-DURE REVIEW
SUBCONTR PROGRAM PLAN IMPLEMENTATION STATUS REPORT I/I PC-017


HARD DESIGN REVIEW
REVIEW QUALITY ASSURANCE STATUS
QA STATUS REPORT QA-024
CONTINUE DEVELOPMENT OF TEST PLANS
COMPONENT SPECIAL TEST EQUIPMENT TEST & OPERATING PLAN QA-011
PRELIMINARY TA & PTM COMPONENT TEST PLANS I/I TE-131
UPDATE QA PROGRAM PLAN
CONTINUE SPEC & DRAWING REVIEW
SPECIFICATION & DRAWING REVIEW REPORTS
DESIGN REVIEW MEETINGS
CONTINUE PARTS QUALIFICATION TESTREPORTS
PARTS QUALIFICATION STATUS REPORT QA-030
UPDATED TEST/INSPECTION PROCEDURE & SAMPLING PLAN QA-010, 013
UPDATEDAREA CONTROLPROCEDURES QA-015
UPDATED QA OPERATING PROCEDURES STANDARDS MANUAL QA-004, 006
CONTINUE TO DEVELOP DETAIL PROCEDURES & MANUALS
FAILURE ANALYSIS REVIEW BOARD PROCEDURE (FARB) I/I RA-009
UPDATED REWORK PROCEDURE QA-014
QUARANTINE, CLEANLINESS & LIFE SENSITIVE PART VERIFICATION PROCEDURES
SHELF LIFE CONTROL PROCEDURES
AUDIT PROCEDURES QA-009
QA DATA CONTROL CENTER ACTIVITY
PREPARE INSTRUCTION, CALIBRATION & MAINTENANCE MANUAL
INSTRUCTION, CALIBRATION & MAINTENANCE MANUAL QA-003
PROCURE COMPONENT STE
INSPECT & CHECK OUT COMPONENT STE
COMPILE TOOL & GAGE USAGE RECORDS
TOOL & GAGE USAGE RECORDS QA-018
UPDATED STE COMPONENT SPECIFICATION QA-031
CONTINUE PERSONNEL CERTIFICATION
PERSONNEL CERTIFICATION RECORDS I/I MG-005
UPDATE WORKMANSHIP STD MANUAL
MANUAL WORKMANSHIP STD RA-006
CONTINUE SURVEILLANCE AUMT OF SUPPLIERS
NASA/DCAS AUDITS
REVIEW PURCHASE REQUISITIONS FOR ENGRG MODEL PARTS AND ASSEMBLY
REVIEW LONG LEAD MATERIAL REQUISITIONS


QA PROGRAM PLAN QA-009
DESIGN REVIEW MINUTES RA-014
QUALITY ASSURANCE DESIGN REVIEW SUMMARY REPORT
INSPECTION REPORTS IN-PROCESS
MRB MINUTES QA-007
UPDATED PROCESS CONTROL PROCEDURE QA-012
NONCONFORMING MATERIAL REPORTS QA-021
FAILURE ANALYSIS REPORT QA-020
BREAK-OF-INSPECTION REPORTS QA-028
FAILURE CATEGORIZATION REPORT QA-029
VEHICLE TEST RECORDS QA-019
COMPONENT TEST RECORDS QA-019
ENGINEERING SPACECRAFT & OSE MODEL FABRICATION INSPECTION & TEST
QUALITY ASSURANCE ENGINEERING NOTEBOOKS SE-065
NASA/DCAS IN-PROCESS AUDITS
COMPONENT & VEHICLE LOGBOOKS QA-001, 002
AUDIT REPORTS QA-023
PREPARE QA AUDIT SUMMARY
QA AUDIT SUMMARY RPT QA-026
QUALITY ASSURANCE TREND SUMMARY REPORT QA-027
COMPONENT STE-STATUS RPT QA-025
CALIBRATION RECORDS QA-016
INSPECTION REPORTS-(IN PROCESS
MRB MINUTES QA-007
SUPPLIER CORRECTIVE ACTION REPORTS I/T QA-021
UPDATE SUPPLIER EVALUATION SYSTEM
BEGIN MONITORING SUBCONTRACTOR SUB-TIER SUPPLIERS
MAJOR SUBCONTRACTOR, SUBCONTRACTOR & VENDOR PROCESS TREND REPORTS QA-022

3-10-2

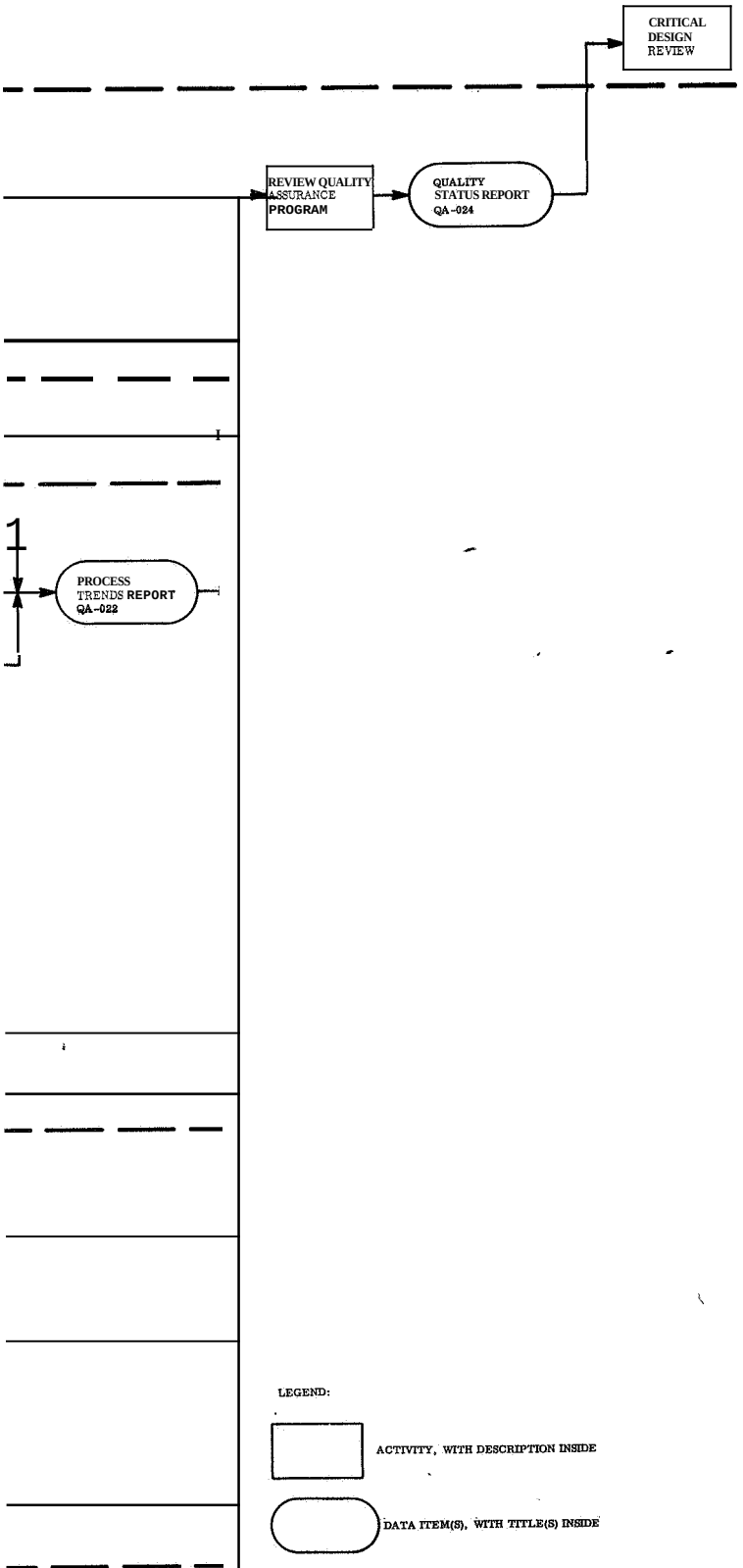
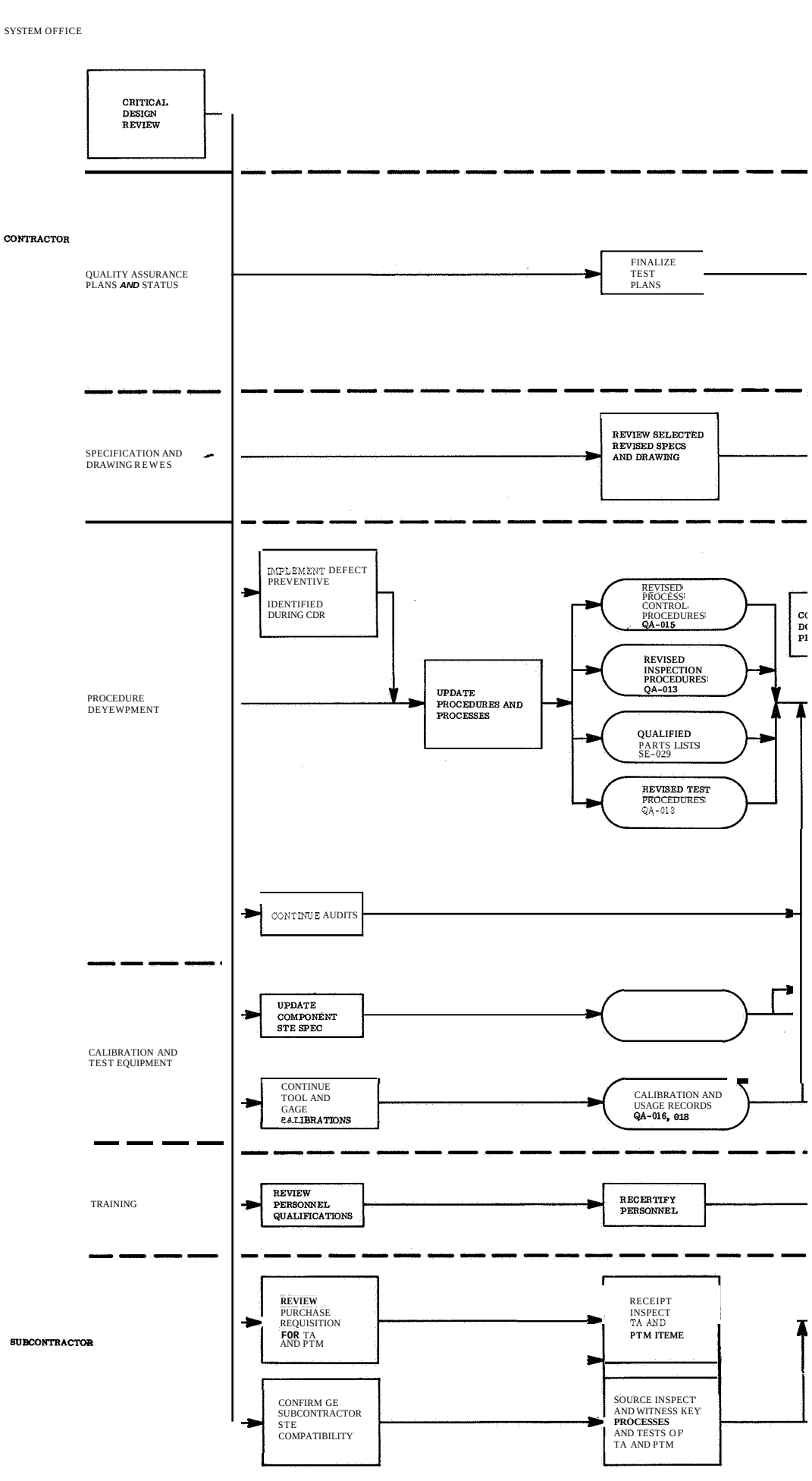
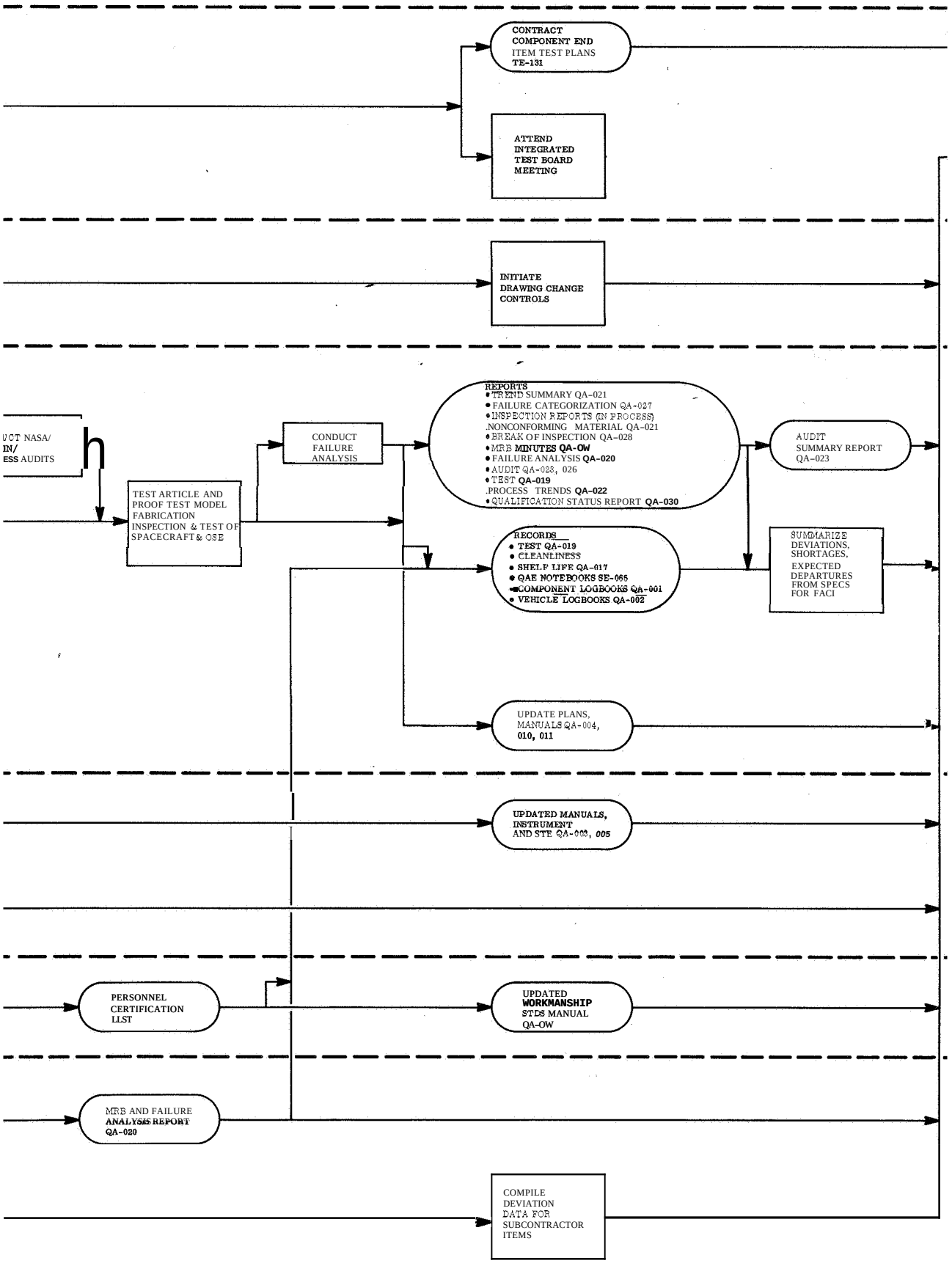


Figure E-3. Quality Assurance User Flow Diagram - Preliminary Design Review **Through** Critical Design Review

3-10-3


SYSTEM OFFICE
CRITICAL DESIGN REVIEW
CONTRACTOR
QUALITY ASSURANCE PLANS AND STATUS
FINALIZE TEST PLANS
SPECIFICATION AND DRAWING REWES
REVIEW SELECTED REVISED SPECS AND DRAWING
IMPLEMENT DEFECT PREVENTIVE
IDENTIFIED DURING CDR
PROCEDURE DEYEWPMENT
UPDATE PROCEDURES AND PROCESSES
REVISED PROCESS CONTROL PROCEDURES QA-015
REVISED INSPECTION PROCEDURES QA-013
QUALIFIED PARTS LISTS SE-029
REVISED TEST PROCEDURES QA-013
CONTINUE AUDITS
UPDATE COMPONENT STE SPEC
CALIBRATION AND TEST EQUIPMENT
CONTINUE TOOL AND GAGE CALIBRATIONS
CALIBRATION AND USAGE RECORDS QA-016, 018
TRAINING
REVIEW PERSONNEL QUALIFICATIONS
RECERTIFY PERSONNEL
SUBCONTRACTOR
REVIEW PURCHASE REQUISITION FOR TA AND PTM
RECEIPT INSPECT TA AND PTM ITEME
CONFIRM GE SUBCONTRACTOR STE COMPATIBILITY
SOURCE INSPECT AND WITNESS KEY PROCESSES AND TESTS OF TA AND PTM


CONTRACT
COMPONENT END
ITEM TEST PLANS
TE-131
ATTEND
INTEGRATED
TEST BOARD
MEETING
INITIATE
DRAWING CHANGE
CONTROLS
UCT NASA/
IN/
ESS AUDITS
TEST ARTICLE AND
PROOF TEST MODEL
FABRICATION
INSPECTION & TEST OF
SPACECRAFT & OSE
CONDUCT
FAILURE
ANALYSIS
REPORTS
• TREND SUMMARY QA-021
• FAILURE CATEGORIZATION QA-027
• INSPECTION REPORTS (IN PROCESS)
.NONCONFORMING MATERIAL QA-021
• BREAK OF INSPECTION QA-028
• MRB MINUTES QA-OW
• FAILURE ANALYSIS QA-020
• AUDIT QA-023, 026
• TEST QA-019
.PROCESS TRENDS QA-022
• QUALIFICATION STATUS REPORT QA-030
AUDIT
SUMMARY REPORT
QA-023
RECORDS
• TEST QA-019
• CLEANLINESS
• SHELF LIFE QA-017
• QAE NOTEBOOKS SE-065
• COMPONENT LOGBOOKS QA-001
• VEHICLE LOGBOOKS QA-002
SUMMARIZE
DEVIATIONS,
SHORTAGES,
EXPECTED
DEPARTURES
FROM SPECS
FOR FACI
UPDATE PLANS,
MANUALS QA-004,
010, 011
UPDATED MANUALS,
INSTRUMENT
AND STE QA-003, 005
PERSONNEL
CERTIFICATION
LLST
UPDATED
WORKMANSHIP
STDS MANUAL
QA-OW
MRB AND FAILURE
ANALYSIS REPORT
QA-020
COMPILE
DEVIATION
DATA FOR
SUBCONTRACTOR
ITEMS

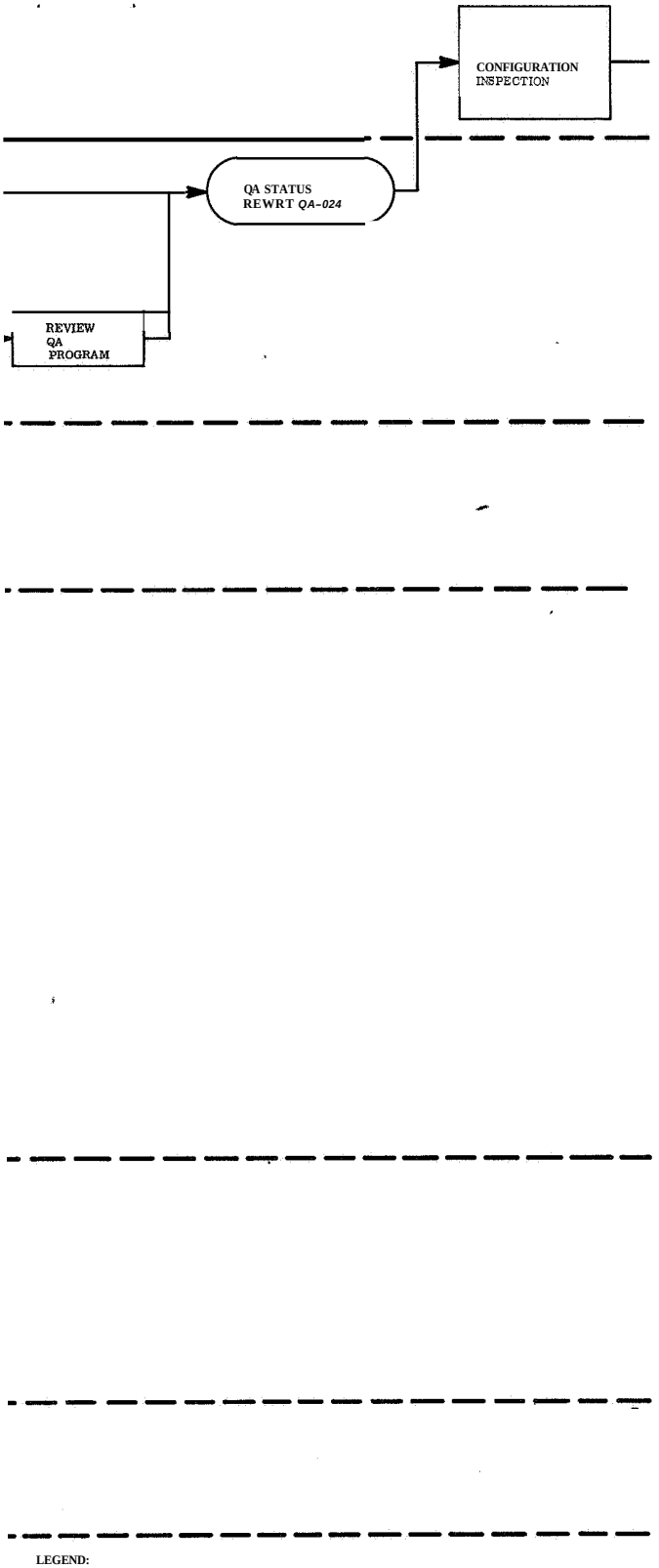
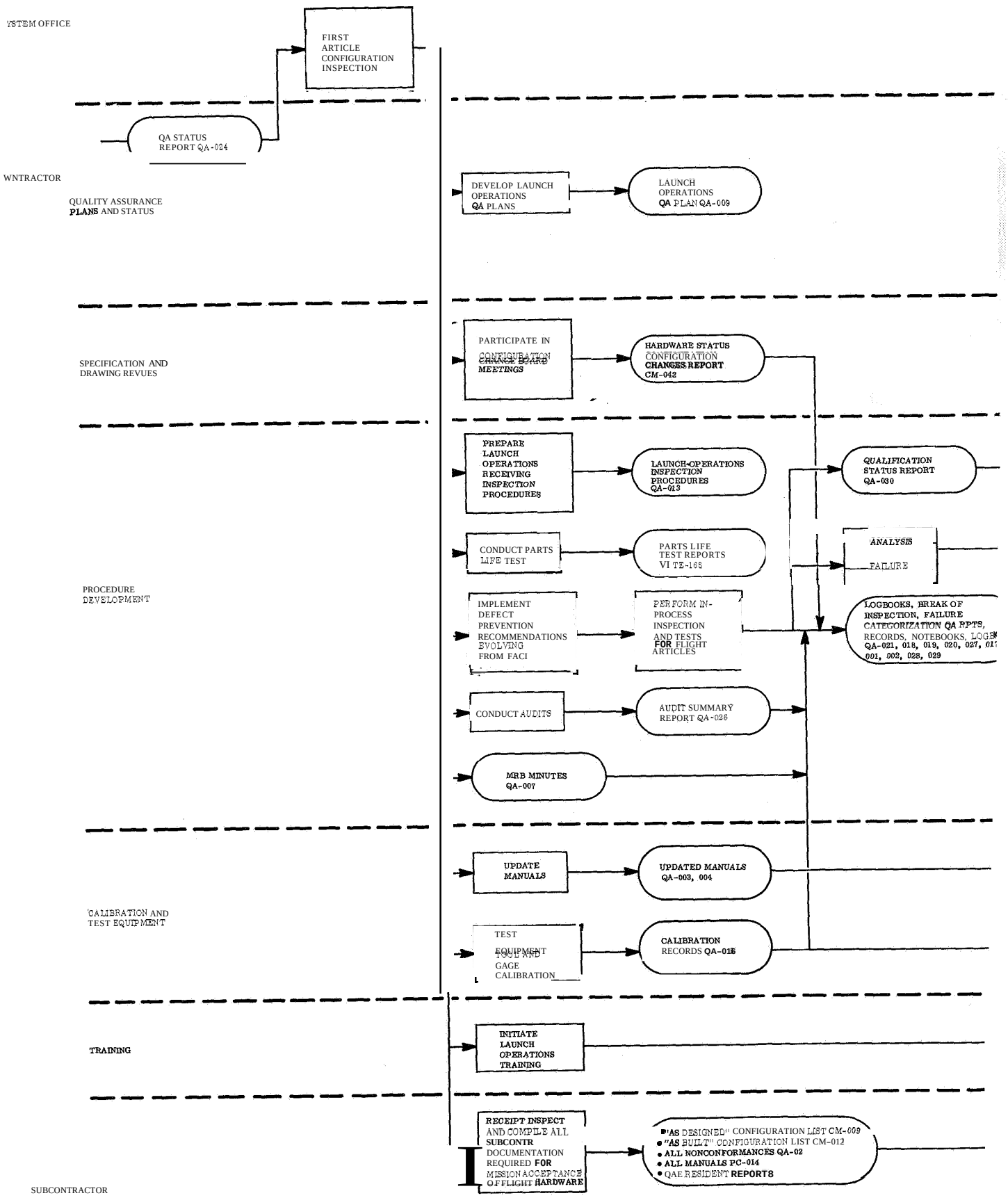
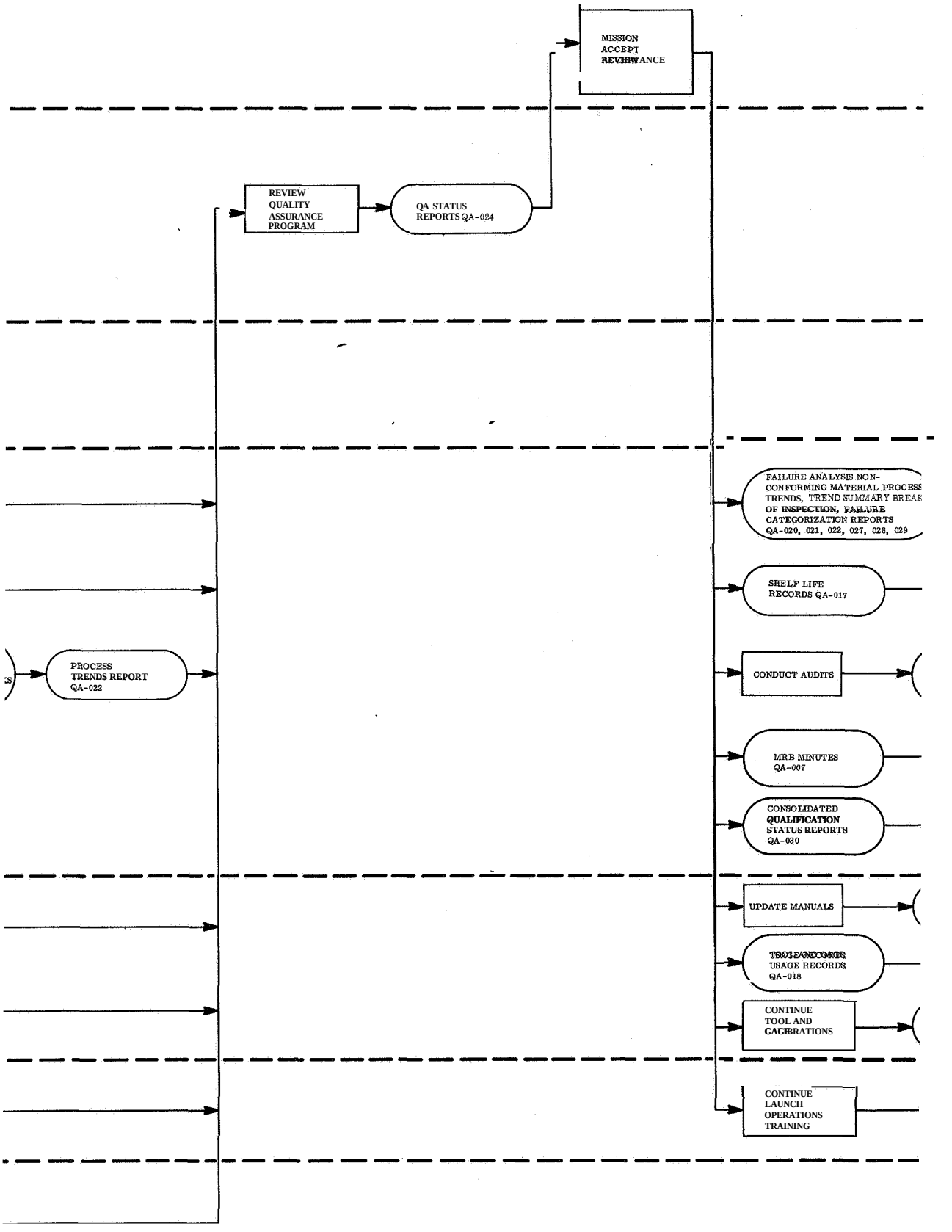
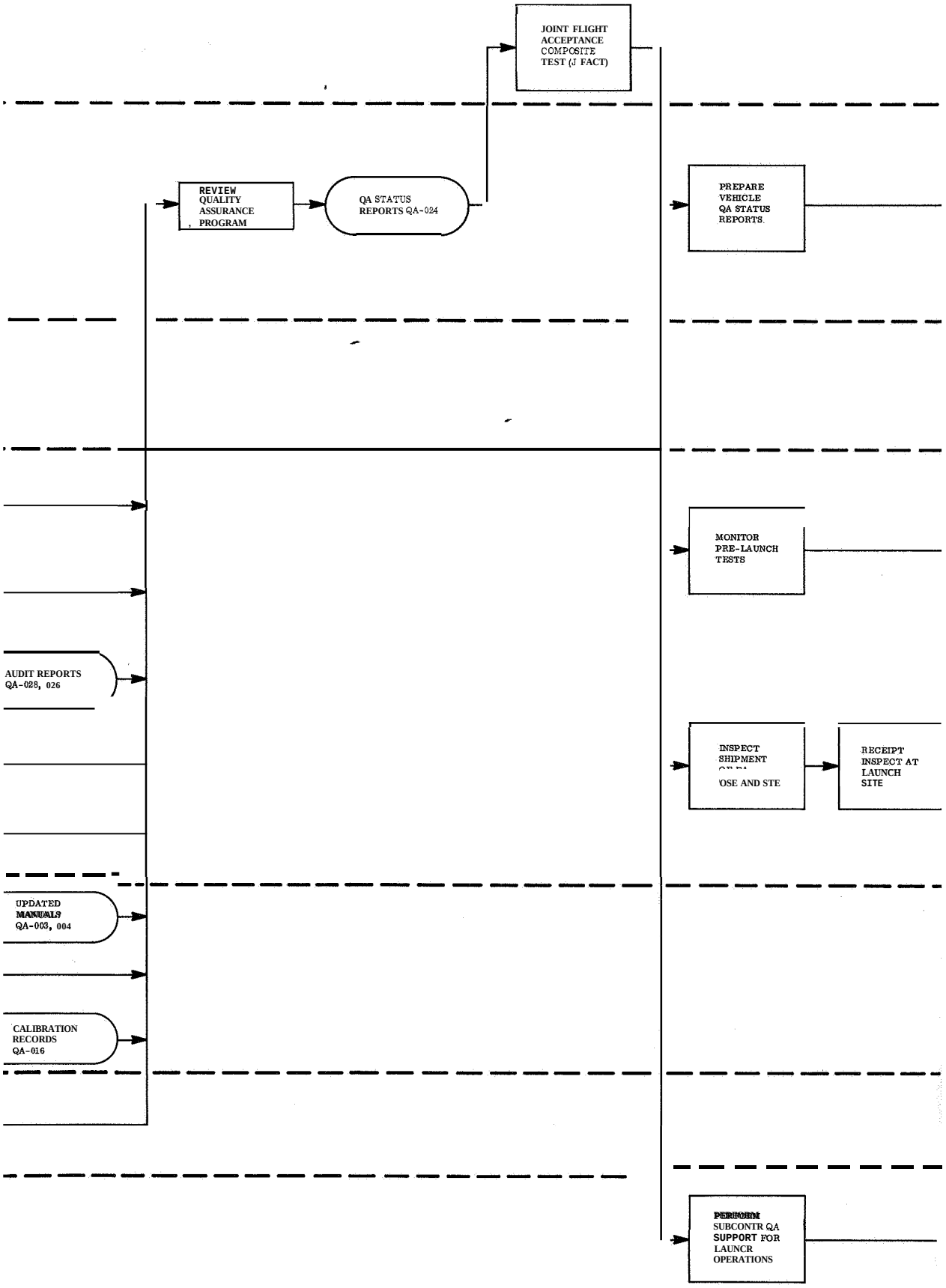


Figure E-4. Quality Assurance User Flow Diagram - Critical Design Review Through Launch (Sheet 1 of 2)


YSTEM OFFICE
FIRST ARTICLE CONFIGURATION INSPECTION
QA STATUS REPORT QA-024
WNTRACTOR
QUALITY ASSURANCE PLANS AND STATUS
DEVELOP LAUNCH OPERATIONS QA PLANS
LAUNCH OPERATIONS QA PLAN QA-009
SPECIFICATION AND DRAWING REVUES
PARTICIPATE IN CONFIGURATION CHANGE BOARD MEETINGS
HARDWARE STATUS CONFIGURATION CHANGES REPORT CM-042
PROCEDURE DEVELOPMENT
PREPARE LAUNCH OPERATIONS RECEIVING INSPECTION PROCEDURES
LAUNCH-OPERATIONS INSPECTION PROCEDURES QA-013
QUALIFICATION STATUS REPORT QA-030
CONDUCT PARTS LIFE TEST
PARTS LIFE TEST REPORTS VI TE-108
ANALYSIS
FAILURE
IMPLEMENT DEFECT PREVENTION RECOMMENDATIONS EVOLVING FROM FACI
PERFORM IN-PROCESS INSPECTION AND TESTS FOR FLIGHT ARTICLES
LOGBOOKS, BREAK OF INSPECTION, FAILURE CATEGORIZATION QA RPTS, RECORDS, NOTEBOOKS, LOGB QA-021, 018, 019, 020, 027, 01 001, 002, 028, 029
CONDUCT AUDITS
AUDIT SUMMARY REPORT QA-026
MRB MINUTES QA-007
'CALIBRATION AND TEST EQUIPMENT
UPDATE MANUALS
UPDATED MANUALS QA-003, 004
TEST EQUIPMENT TOOL AND GAGE CALIBRATION
CALIBRATION RECORDS QA-015
TRAINING
INITIATE LAUNCH OPERATIONS TRAINING
RECEIPT INSPECT AND COMPILE ALL SUBCONTR DOCUMENTATION REQUIRED FOR MISSION ACCEPTANCE OF FLIGHT HARDWARE
"AS DESIGNED" CONFIGURATION LIST CM-009
"AS BUILT" CONFIGURATION LIST CM-012
ALL NONCONFORMANCES QA-02
ALL MANUALS PC-014
QAE RESIDENT REPORTS
SUBCONTRACTOR


MISSION
ACCEPTANCE REVIEW
REVIEW
QUALITY
ASSURANCE
PROGRAM
QA STATUS
REPORTS QA-024
FAILURE ANALYSIS NON-
CONFORMING MATERIAL PROCESS
TRENDS, TREND SUMMARY BREAK
OF INSPECTION, FAILURE
CATEGORIZATION REPORTS
QA-020, 021, 022, 027, 028, 029
SHELF LIFE
RECORDS QA-017
PROCESS
TRENDS REPORT
QA-022
CONDUCT AUDITS
MRB MINUTES
QA-007
CONSOLIDATED
QUALIFICATION
STATUS REPORTS
QA-030
UPDATE MANUALS
USAGE RECORDS
QA-018
CONTINUE
TOOL AND
CALIBRATIONS
CONTINUE
LAUNCH
OPERATIONS
TRAINING


JOINT FLIGHT ACCEPTANCE COMPOSITE TEST (J FACT)
REVIEW QUALITY ASSURANCE PROGRAM
QA STATUS REPORTS QA-024
PREPARE VEHICLE QA STATUS REPORTS
MONITOR PRE-LAUNCH TESTS
AUDIT REPORTS QA-028, 026
INSPECT SHIPMENT
OSE AND STE
RECEIPT INSPECT AT LAUNCH SITE
UPDATED MANUALS QA-003, 004
CALIBRATION RECORDS QA-016
PERFORM SUBCONTR QA SUPPORT FOR LAUNCR OPERATIONS

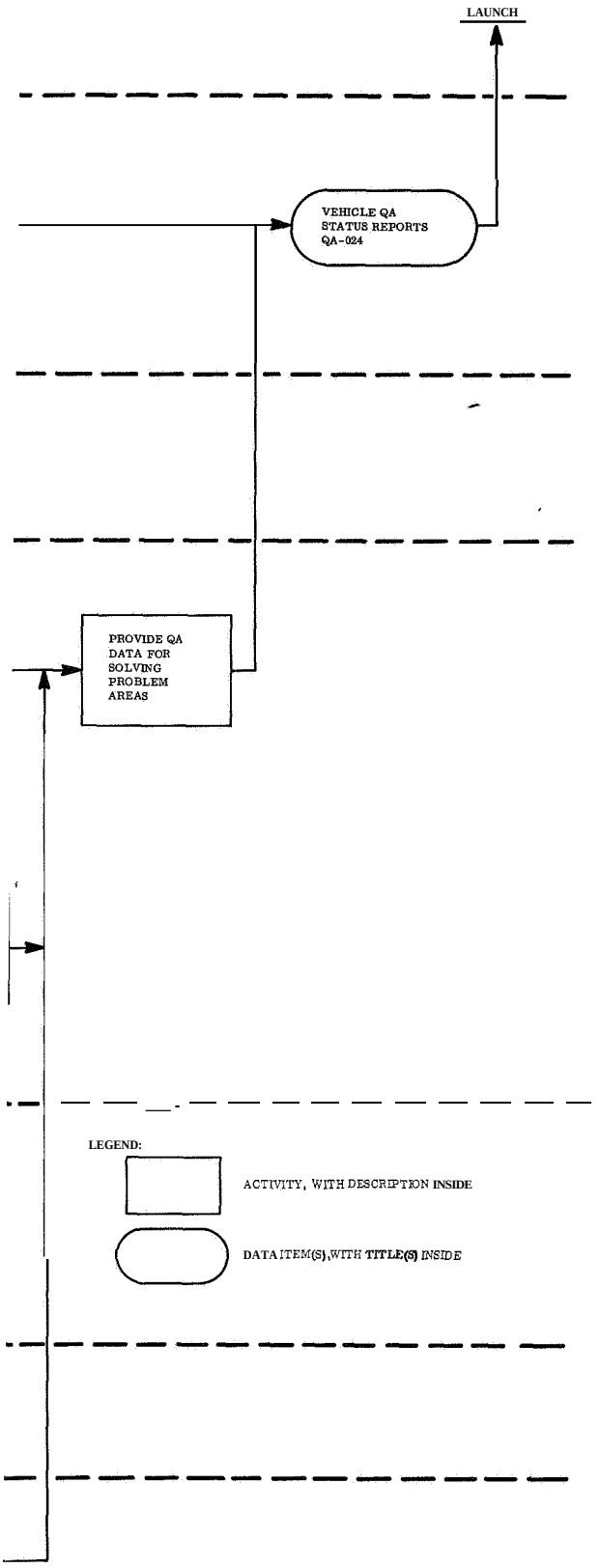


Figure E-4. Quality Assurance User Flow Diagram - Critical Design Review Through Launch **(Sheet 2 of 2)**

Quality Assurance Data Requirement Descriptions

DRD Number	Title
QA-001	Logbook, Component
QA-002	Logbook, 'Vehicle
QA-003	Manual, Instrument Calibration and Maintenance
QA-004	Manual, Quality Assurance Operating Procedures
QA-005	Manual, Special Test Equipment, Component
QA-006	Manual, Workmanship Standards
QA-007	Minutes, Material Review Board
QA-008	Plan, Inspection
QA-009	Plan, Quality Assurance Program
QA-010	Plan, Sampling
QA-011	Plan, Test and Operating, for Special Test Equipment (STE), Component
QA-012	Procedure, Process Control
QA-013	Procedure, Test/Inspection
QA-014	Procedure, Rework
QA-015	Procedure, Area Control
QA-016	Record, Calibration
QA-017	Record, Shelf Life
QA-018	Record, Tool and Gauge Usage
QA-019	Record, Test (Materials, Parts, Sub-Assemblies)
QA-020	*Report, Failure Analysis
QA-021	*Report Nonconforming Material (NCMR)
QA-022	*Report, Process Trends
QA-023	*Report, Quality Audit
QA-024	*Report, Quality Status
QA-025	Report, Special Measurement and Test Equipment Evaluation (Component)

*Key Informal Data

DRD Number	Title
QA-026	Report, Quality Assurance Audit Summary
&A-027	Report, 'Quality Trend Summary
QA-028	Report, Break of Inspection
QA-029	*Report, Failure Categorization
&A-030	Report, Qualification Status
&A-031	Specification, Special Test Equipment (STE), Component

*Key Informal Data

GE EXHIBIT DRD QA-001

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY | DATE: | DATA CATEGORY:

ORGANIZATION ORIGINATING REOUIREMENT: CODE QA | OFFICE RESPONSIBLE FOR DRD: CODE | DRD PREPARED BY: T. Smyth | DATE 7/28/67 | CONTRACT NO.: | DRD NO.: QA-001

TITLE OF DOCUMENT.

LOGBOOK, COMPONENT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance | TASK OR SUBTASK: | DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION: | DRL NO.: | LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION: | DDL NO.: | FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:
To record chronological historical data and pertinent information used in reviewing component status, tracing and solving anomalies and to determine suitability in meeting requirement and acceptance criteria.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE. | NO. OF COPIES: 1

ESTIMATED MANHOURS FOR SINGLE PREPARATION. | INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION | DATE DATA DUE TO USER.

INTERRELATIONSHIP WITH OTHER DATA REOUIREMENTS:
CM-003, Change Notice
QA-009, Plan, Quality Assurance Program
QA-021, *Report, Nonconforming Material (NCMR)
TE-027, *Logbook, Test
TE-061, *Logbook Cumulative Test Time

FREOUENCY OF ISSUE.
- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- O 81-MONTHLY
- ☐ MONTHLY
- O SEMI-MONTHLY
- O €31-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED

1)for each comp.

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Daily thru MA]

ESTIMATED EXPIRATION DATE

CLASSIFICATION:
- O SECRET
- ☐ CONFIDENTIAL
- O SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- O GROUP I
- O GROUP 2
- ☐ GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN
- O SPECIAL HANDLING
- O NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

ORM OF DATA:
- ☒ PRINTED DOCUMENT
- O CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- O ILLUSTRATION
- O MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA.
- O ABSTRACT
- ☐ BROCHURE
- O BULLETIN
- ☐ CATALOG
- O CONTRACT
- O DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
- O ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- O INDEX
- ☐ INSTRUCTION
- O LETTER
- O LIST
- ☒ LOG
- O MANUAL
- O MEMORANDUM
- O MINUTES
- ☐ PLAN
- O PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- O SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS'

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: **QA-00**

SPECIAL INSTRUCTIONS:

A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL OISTRIBUTION' (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Component Logbook is a chronological, historical record of component activity starting with the first functional test.
2. Each Component Logbook is serialized and is assigned to a specific piece of hardware identified by a lot number or serial number.
3. The cognizant engineer identifies the various parameters to be recorded in the logbook.
   a. Number of mate and demating of connectors.
   b. Number of hours power was applied to the component.
   c. Number of operating test cycles of the component.
   d. Number of out-of-specification readings (failures) troubleshooting procedure, assignable for the out-of-specification reading and how the correction was accomplished. This is in addition to **MRB** documentation.
   e. Any abnormal occurrence, no matter how insignificant, is recorded.
4. References break of inspection record and nonconforming material record.
5. References the failures and failure analysis reports.
6. Identifies component configuration.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-002

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: QA

CODE:

OFFICE RESPONSIBLE FOR DRD:

CODE:

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-002

TITLE OF DOCUMENT:

LOGBOOK, VEHICLE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To verify by a documented logbook to the customer the historical and chronological acceptance events of the vehicle presented for buy off.

FOR DOCUMENT STOWAGE:

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

(CM-005, Index, Contract End Item Approved Configuration
(CM-010, List, Hardware Incorporated Changes
(?A-001, Logbook, Component
(?A-009, Plan, Quality Assurance Program
(?A-021, *Report, Nonconforming Material (NCMR)
]RA-006, Log, Problem/Failure Summary

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ EI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ EI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED: As required

PUBLICATION DATE: HDR

UPD R MILESTONE]: As required thru launch

ESTIMATED EXPIRATION DATE:

'CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP I
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA.

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ☐ LETTER
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- ☒ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager Quality Assurance	BY		BY

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO. QA-00

SPECIAL INSTRUCTIONS'

Logbooks may be any number of volumes dependent upon events (number of BOI's etc.) occuring during vehicle processing. Since the books are a completion of numerous types of data items, they will be in notebook form with appropriate covers.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Lists all components by serial number, drawing and revision number, and verifies acceptance buy off.
2. Verifies inspection buy off during assembly.
3. List of all nonconforming material reports written during assembly and test and verifies acceptance buy off.
4. Lists all **MRB** actions and dispositions.
5. Lists all tests and results and verifies acceptance.
6. Records power on time, cycle times, mating and demating **of** connectors, etc. All pertinent actions as performed on the vehicle during assembly and test.
7. Records all break of inspection events.
8. Record of compliance to the latest configuration.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-003

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT:

CODE: QA

OFFICE RESPONSIBLE FOR DRD:

CODE:

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-003

TITLE OF DOCUMENT:

MANUAL INSTRUMENT CALIBRATION AND MAINTENANCE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☒ REFERENCE ☐ INFORMATION

USE OF DOCUMENT: Provide a standardized, approved set of procedures for performing the scheduled calibration and maintenance of test and measurement instruments. These controlled procedures maintain the accuracy standards for reliability and confidence in the inspection and test data.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 5

ESTIMATED MANHOURS FOR SINGLE PREPARATION

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION.

DATE DATA DUE TO USER.

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ 81-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED

Maintain Current

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Maintain current thru launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLOSURE
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- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☒ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

MIL-C-45662 - Calibration System Requirements

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS'

DRD NO.: QA-00

Calibration and maintenance procedures for equipment used in tests are published by the equipment engineer. Calibration cycles are based on manufacturer's recommendations and from established historical records on the equipment. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING ODL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Type of Equipment, by Manufacturer.
2. A brief description of the equipment.
3. Equipment accuracy limits and ranges.
4. Maintenance procedure as recommended by the manufacturers and supplemented by the equipment engineer.
5. Calibration procedure for the technician utilizing secondary standards traceable to the Bureau of Standards.
6. Description of the method of documenting the calibration and maintenance performed.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-004

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT.

CODE: QA

OFFICE RESPONSIBLE FOR DRD:

CODE

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-004

TITLE OF DOCUMENT:

MANUAL, QUALITY ASSURANCE OPERATING PROCEDURES

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK

DRL ITEM NO.

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION

DRL NO.

LEVEL NO.

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION.

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: O CONTROL ☐ ACTION ☒ REFERENCE O INFORMATION

USE OF DOCUMENT.

To meet the historical and specific customer requirements with established Voyager Management Quality Assurance Procedures

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE

NO OF COPIES: 30

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

GATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)

FREQUENCY OF ISSUE:

- O ANNUALLY
- ☐ SEMI-ANNUALLY
- O QUARTERLY
- ☐ EI-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- O BI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED

Maintain current

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Monthly thru launch

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP 1
- O GROUP 2
- ☐ GROUP 3
- O GROUP 4
- ☐ PROPRIETARY
- O PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- O CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA.

- O ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- O CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- O DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- ☐ INDEX

- ☐ INSTRUCTION
- O LETTER
- ☐ LIST
- O LOG
- O MANUAL
- O MEMORANDUM
- O MINUTES
- ☐ PLAN
- ☒ PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

Military Specifications
Configuration Management (JPL)
NPC 200-2
NPC 200-3

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-00

SPECIAL INSTRUCTIONS:

Procedures incorporate specific customer, and established quality requirements as governed by NASA and Military documents.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING ODL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Defines the purpose and scope of the operating procedure.
2. Assigns specific responsibilities for implementation and control of the procedure.
3. Defines method of implementation by manufacturing.
4. Defines method of measurement and audit requirements.
5. Defines the documentation required to meet the procedure/requirements.

Example: Processing of Nonconformance Material Report through the Material Review Board.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-005

VOYAGER DATA REQUIREMENT DESCRIPTION

DRO APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: T. F. Smyth DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-005

TITLE OF DOCUMENT:

MANUAL, SPECIAL TEST EQUIPMENT, COMPONENT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

NO. OF COPIES: 10

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☒ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To control the configuration of the special test equipment consistent with changes necessitated by design and performance requirements and represents an operation manual for special test equipment.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

CM-003, Change Notice
QA-009, Plan, Quality Assurance Program
TE-030, Procedure, Test Operating

FREQUENCY OF ISSUE:

- ○ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ○ BI-MONTHLY
- ☒ MONTHLY
- ○ SEMI-MONTHLY
- ☐ BI-WEEKLY
- ☐ WEEKLY
- ○ DAILY
- ☒ OTHERWISE, AS SPECIFIED: Maintain current

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Monthly thru FAC

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ○ SECRET
- ○ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ○ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ○ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ○ SPECIAL HANDLING
- ○ NASA DISCREET
- ○ JPL DISCREET
- ○ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ○ FILM (STATIC OR MDTION)
- ☐ ILLUSTRATION
- ○ MODEL
- ○ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

- ☐ ABSTRACT
- ○ BROCHURE
- ○ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLDSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☒ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REWRT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-00

SPECIAL INSTRUCTIONS:

Quality Assurance Engineer is responsible for maintaining the manual current with the design and performance requirements and changes.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Manual describes the test equipment by drawing number and alteration notice and covers its test capabilities as related to a specific piece of hardware.
2. A complete set of print control drawings are a part of the manual.
3. Each modification to test equipment is authorized by a print control drawing and the manual is updated.
4. Changes in operating procedures are made at each revision, and manual is maintained current.
5. Special precautions for operation are detailed in manual.
6. Equipment troubleshooting procedures are detailed.
7. Checkoff lists are detailed for operating equipment.
8. Defines the limitation of the equipment.
9. Calibration and maintenance cycles.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA–006

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-006

TITLE OF DOCUMENT:

MANUAL, WORKMANSHIP STANDARDS

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ○ ACTION ☒ REFERENCE ○ INFORMATION

USE OF DOCUMENT:

To provide visual aids for operators and inspectors as acceptance criteria for applicable processes.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA–009, Plan, Quality Assurance Program

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ 81-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ○ WEEKLY
- ○ DAILY
- ☒ OTHERWISE, AS SPECIFIED: Maintain current

PUBLICATION DATE:

UPDATE (FREQUENCY OR MILES ONE): Monthly thru FACI

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ○ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ○ GROUP 1
- ○ GROUP 2
- ☐ GROUP 3
- ○ GROUP 4
- ○ PROPRIETARY
- ○ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ○ NASA DISCREET
- ○ JPL DISCREET
- ○ PROJECT DISCREET
- ○ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ○ CHART
- ○ DIAGRAM
- ☐ DRAWING
- ○ FILM (STATIC OR MOTION)
- ○ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ○ COMPUTER CARD
- ○ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ○ OTHER

KIND OF DATA.

- ☐ ABSTRACT
- ○ BROCHURE
- ○ BULLETIN
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- ○ CONTRACT
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- ○ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ○ PROCEDURE
- ○ REGULATION
- ○ REWRT
- ☐ SCHEDULE
- ○ SPECIFICATION
- ○ STANDARD
- ○ VOUCHER

REFERENCE DOCUMENTS:

NPC - 200–4

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN DROER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Manufacturing	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-00

SPECIAL INSTRUCTIONS

Samples of workmanship are closely coordinated and compatible with the operator/ inspector training school for certification. Photographs or work samples must be jointly selected with the customer. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. The manual defines the categories of acceptance and rejection with samples of work or photographs defining, accept, minimum acceptable, and reject.
2. Defines the limitations on rework (e.g. number of splices).
3. Recommends approved inspection procedure (e.g. magnification power).
4. Establishes the most significant criteria of inspection.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-007

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67		QA-007

TITLE OF DOCUMENT:

MINUTES, MATERIAL REVIEW BOARD

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To report the status of hardware which is nonconforming.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

CM-016, List, Deviations and Waivers
QA-009, Plan, Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)
RA-007, *Minutes, Failure Analysis Review Board (FARB)
SE-057, Drawings (Category B) for Interface Control

FREQUENCY OF ISSUE:

- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- O EI-MONTHLY
- O MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☒ WEEKLY
- ☐ DAILY
- O OTHERWISE, AS SPECIFIED

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Weekly thru launch

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- O SECRET
- ☐ CONFIDENTIAL
- O SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP I
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- O MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:

- O ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
- O ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- O INDEX

- ☐ INSTRUCTION
- O LETTER
- O LIST
- O LOG
- O MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- O PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NASA Specifications

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-007

SPECIAL INSTRUCTIONS:

A DRD at the subcontractor/vendor level similar in content to this DRD is required.

Contents (see below) shall be coded for inclusion in data system facilitating computorizing data.

SPECIAL OISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Description of hardware by drawing number and nomenclature.
2. Identification of hardware by serial number and lot number.
3. Description of nonconformance and the assignable cause.
4. Corrective action assigned to specific individuals or functions.
5. Disposition of the hardware:
   a. Accept as is
   b. Return to vendor
   c. Repair
   d. Retest
   e. Scrap
   f. For Engineering use only "E" stamp
   g. Submit to failure analysis
6. Approvals
   a. Quality Assurance Engineering
   b. Design engineering
   c. Customer representative

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE **EXHIBIT** DRD **&A-008**

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY: | DATE: | DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: | CODE: QA | OFFICE RESPONSIBLE FOR DRD: | CODE: | DRD PREPARED BY: T. Smyth | DATE: 7/28/67 | CONTRACT NO.: | DRD NO.: QA-008

TITLE OF DOCUMENT:

PLAN, INSPECTION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance | TASK OR SUBTASK: | DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION: | DRL NO.: | LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION: | DDL NO.: | FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:

To document the parameters to be controlled during the manufacture cycle to assure the highest level-of quality consistent with drawing requirements.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE: | NO OF COPIES

ESTIMATED MANHOURS FOR SINGLE PREPARATION: | INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION: | DATE DATA DUE TO USER'

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-004, Manufacturing Standing Instructions (MSIs)
MG-012, *Request, Manufacturing Planning
QA-009, Plan, Quality Assurance Program
SE-059 Drawings (Category E) for Manufacture and Procurement of Prime Equipment

FREQUENCY OF ISSUE:
- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- O BI-MONTHLY
- O MONTHLY
- O SEMI-MONTHLY
- O 81-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): rhrough HDR

ESTIMATED EXPIRATION DATE

CLASSIFICATION:
- O SECRET
- O CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP 1
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- ☐ PROJECT DISCREET
- O NOFORN

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- O MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:
- O ABSTRACT
- ☐ BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- O MANUAL
- ☐ MEMORANDUM
- O MINUTES
- ☒ PLAN
- O PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

Applicable **NASA** Spec.

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	OATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-008

SPECIAL INSTRUCTIONS:

For critical processes special inspection planning is issued. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

None

OUTLINE OF CONTENTS:

Inspection Planning contains control parameters that specify attributes to be inspected and lists any special inspection tooling required to verify conformance to the Quality Assurance Plan during the manufacturing cycle.

1. Hardware drawing number
2. Hardware nomenclature
3. Project
4. NHA number
5. Applicable specifications (manufacturing standing instructions, military standard, etc.)
6. Operation number

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-009

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-009

TITLE OF DOCUMENT:

PLAN, QUALITY ASSURANCE PROGRAM

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:
The Quality Assurance Program Plan defines and incorporates all contractual requirements for the development of specific quality requirements and controls for all levels of hardware fabrication, test and acceptance by the customer.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION.

DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:
MG-009, Plan, Manufacturing
RA-015, Report, Failure Review
SC-002, Schedule, Project Level (PERT)
SC-004, Schedule, Task and Subtask Level (PERT)
SE-006, Plan, Cleanliness Control

FREQUENCY OF ISSUE.
- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- ☐ BI-MONTHLY
- O MONTHLY
- O SEMI-MONTHLY
- O 81-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): rhrough CDR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
- ☐ SECRET
- ☐ CONFIDENTIAL
- O SECRET RESTRICTED DATA
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- ☒ UNCLASSIFIED

- O GROUP I
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- O GROUP 4
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- ☐ PUBLIC DOMAIN

- O SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:
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- O BROCHURE
- O BULLETIN
- O CATALOG
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- O ENGINEERING CHANGE PROPOSAL
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- ☐ INDEX
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- O LIST
- O LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- O MINUTES
- ☒ PLAN
- O PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:
NPC - 200-2, 200-3 and 200-4

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Project Manager	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: QA-00

None

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Delineates the implementation of the controls proposed by the system contractor necessary to meet the requirements of NPC 200-2 and the customer work statement. Contents are as follows

1. Introduction
2. Approach/Problems
   a. Traceability
   b. Customer/Contractor Relationship
   c. Life-Sensitive Flight Hardware
   d. Cleanliness
3. Management
   a. GE
   b. Major Subcontractors
   c. Program Management
4. Program Controls
   a. Design and development control
   b. Control of procured material
   c. Control of contractor's fabricated articles
   d. Test controls
   e. Data reporting and corrective action
   f. QA audits
   g. Inspection, measuring and test equipment
5. Relationship with other management plans

GE EXHIBIT DRD **QA-010**

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE	CONTRACT NO.:	DRD NO.:
	QA			T. Smyth	7/28/67		QA-010

TITLE OF DOCUMENT:

PLAN, SAMPLING

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:
To document and control the established sample size necessary to maintain an acceptable quality level for incoming bulk material and/or other articles such as pyros, fuses, etc. The plan applies to lot sizes compatible with the quality requirements of the program.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO OF COPIES: 5

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-019, Record, Test (Materials, Parts, Subassemblies)

FREQUENCY OF ISSUE:
- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- O 81-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- O 81-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED

One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Through FACI

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
- ☐ SECRET
- ☐ CONFIDENTIAL
- O SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- E UNCLASSIFIED

- O GROUP 1
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- O NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:
- E PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:
- O ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ☐ INSTRUCTION
- O LETTER
- O LIST
- O LOG
- O MANUAL
- ☐ MEMORANDUM
- O MINUTES
- ☒ PLAN
- O PROCEDURE
- ☐ REGULATION
- O REWRT
- ☐ SCHEDULE
- O SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:
MIL-STD-105
NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO:	Manager, Quality Assurance	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-010

SPECIAL INSTRUCTIONS'

Incoming inspection planning with the Quality Assurance Engineer determines the acceptable quality levels for incoming inspection of bulk material or special articles and specifies the sampling plan for the lot size. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING, DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Hardware drawing number
2. Hardware nomenclature
3. Applicable specifications
4. Lot size
5. Sample size
6. Acceptance criteria
7. Operating characteristic curve
8. Space for recording data
9. Signature of originator
10. Revision number of planning
11. Date

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD &A-011

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT:	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67		QA-011

TITLE OF DOCUMENT:

PLAN, TEST AND OPERATING, FOR SPECIAL TEST EQUIPMENT, (STE), COMPONENT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ○ INFORMATION

USE OF DOCUMENT:

To document the detailed checkout procedure of the test equipment prior to utilizing with flight hardware.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES:
	5
ESTIMATED MANHOURS FOR SINGLE PREPARATION	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

TE-001, Plan, Integrated Test

FREQUENCY OF ISSUE:

- ○ ANNUALLY
- ○ SEMI-ANNUALLY
- ○ QUARTERLY
- ○ BI-MONTHLY
- ○ MONTHLY
- ○ SEMI-MONTHLY
- ○ 81-WEEKLY
- ○ WEEKLY
- ○ DAILY
- ☒ OTHERWISE, AS SPECIFIED

As required

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Through FACI

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- ○ SECRET
- ○ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ○ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ○ GROUP 1
- ○ GROUP 2
- ○ GROUP 3
- ○ GROUP 4
- ○ PROPRIETARY
- ○ PUBLIC DOMAIN

- ○ SPECIAL HANDLING
- ○ NASA DISCREET
- ○ JPL DISCREET
- ○ PROJECT DISCREET
- ○ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ○ CHART
- ○ DIAGRAM
- ○ DRAWING
- ○ FILM (STATIC OR MOTION)
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- ○ COMPUTER TAPE
- ○ MICROFILM (W/OR W/O CARD)
- ○ OTHER

KIND OF DATA:

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- ○ MANUAL
- ○ MEMORANDUM
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- ☒ PLAN
- ○ PROCEDURE
- ☐ REGULATION
- ○ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ○ STANDARD
- ○ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO. QA-01

SPECIAL INSTRUCTIONS'

Quality Assurance engineer witnesses the checkout and operation of the test equipment and verifies the adequacy of the performance to the test procedure.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Description of the test equipment.
2. Detail of the parameters to be tested for and checkout procedures for each parameter.
3. Facilities and peripheral equipment needed to supplement the test equipment.
4. Initial wiring checkout procedures.
5. Operational checkout with a simulated test procedure and a sample data sheet.
6. Special precautions to be taken by operator to assure confidence in the data and integrity of the test.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-012

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT.

CODE: QA

OFFICE RESPONSIBLE FOR DRD:

CODE

DRD PREPARED BY: T. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-012

TITLE OF DOCUMENT:

PROCEDURE, PROCESS CONTROL

ORGANIZATION RESWNSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.: FILE NO

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:

To identify the step-by-step operating instruction for process-oriented inspections such as radiography and ultrasonic test. These procedures will supplement those contained in Manufacturing Standing Instructions.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION.

DATE DATA DUE TO USER.

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-004, Manufacturing Standing Instructions (MSIs)
MG-009, Plan, Manufacturing
QA-009, Plan, Quality Assurance Program

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
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- ☐ 81-WEEKLY
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- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Through CDR

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- O SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP I
- O GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- O NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- O MODEL
- ☐ RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:

- O ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- O ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- O INDEX

- O INSTRUCTION
- O LETTER
- O LIST
- ☐ LOG
- O MANUAL
- O MEMORANDUM
- O MINUTES
- ☐ PLAN.
- ☒ PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- O SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2, 200-3, 200-4

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: QA-01

SPECIAL DISTRIBUTION. (IF OISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Procedure defines the process to be controlled.
2. Document the parameters to be controlled for the preparation of the material.
3. Delineate all controls for the fabrication process by specific conditions to be maintained during the processing.
4. Define the methods of verification and documentation of the process verification.
5. Describe method of verification and the maintenance of special environments to be maintained.
6. References the workmanship standards to be followed.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA- **013**

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT:	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. Smyth	7/28/67		QA-013

TITLE OF DOCUMENT:

PROCEDURE, TEST/INSPECTION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT ☒ CONTROL ☐ ACTION ☐ REFERENCE ○ INFORMATION

USE OF DOCUMENT

Provides the necessary specific test/inspection procedures to be performed on the system/subsystem.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES
	10

ESTIMATED MANHOURS FOR SINGLE PREPARATION	INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-004, Manufacturing Standing Instructions (MSIS)
QA-006, Manual, Workmanship Standards
QA-009, Plan, Quality Assurance Program
RA-002, List, Critical and Limited Life Items
RA-005, List, Parts Application Data

FREQUENCY OF ISSUE

- ☐ ANNUALLY
- ○ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED

One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): through CDR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ○ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ○ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN
- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFDRN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ○ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ○ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ○ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ○ OTHER

KIND OF DATA:

- ○ ABSTRACT
- ○ BROCHURE
- ☐ BULLETIN
- ○ CATALOG
- ☐ CONTRACT
- ○ DIRECTIVE
- ○ DISCLOSURE
- ○ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ○ ENGINEERING CHANGE PROPOSAL
- ○ HANDBOOK
- ○ INDEX
- ☐ INSTRUCTION
- ○ LETTER
- ○ LIST
- ○ LOG
- ○ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☒ PROCEDURE
- ☐ REGULATION
- ○ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ○ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-01

SPECIAL INSTRUCTIONS:

Specific detailed procedures are written for each inspection and test operation. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION (IF OISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Identifies the article to be inspected or tested by its specific drawing number, latest revision, serial and lot number.
2. Defines the objectives of test/inspection.
3. Specifies the equipment to be used including the range, accuracy required, and type.
4. Details the test operator's/inspector's operation to be performed, the exact method of measuring or testing.
5. Details the exact conditions to be maintained during test/inspection including environmental and precautions for the protection of article and instruments.
6. Establishes the criteria for acceptance or rejection of the article being tested or inspected including workmanship standards.
7. Identifies the test specifications and the test procedures to be followed (standing instructions).
8. Reports the test cycle and schedule to be followed.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE **EXHIBIT DRD QA-014**

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT.	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			J.R. Gottshall	7/28/67		QA-014

TITLE OF DOCUMENT:

PROCEDURE, REWORK

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:

To outline the steps and approvals required to process any rework.

FOR DOCUMENT STOWAGE:	NO OF COPIES: 50
ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION:	DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-009, Plan, Manufacturing
RA-009, Plan, Reliability
RA-014, Standard, Rework

FREQUENCY OF ISSUE:
- O ANNUALLY
- O SEMI-ANNUALLY
- ☐ QUARTERLY
- O BI-MONTHLY
- O MONTHLY
- O SEMI-MONTHLY
- O BI-WEEKLY
- O WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): As Required through CDR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
- ☐ SECRET
- O CONFIDENTIAL
- O SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP 1
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- O NASA DISCREET
- O JPL DISCREET
- O PROJECT DISCREET
- O NOFDRN

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- ☐ FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- O COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:
- ☐ ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- O INDEX
- ☐ INSTRUCTION
- O LETTER
- O LIST
- O LOG
- O MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☒ PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- O SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS'

DRD NO.: QA-01

The procedure will implement and conform to the rework policies specified by the Reliability Section.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Purpose
2. Scope
3. Definitions
4. Responsibilities
5. Procedures

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD **QA-015**

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: T. F. Smyth DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-015

TITLE OF DOCUMENT:

PROCEDURE, AREA CONTROL

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:

To control the requirements of the Voyager contract for the cleanliness of fabrication and test areas and *to* maintain the required quality level in these areas.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION'

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-009, Plan, Manufacturing
QA-009, Plan, Quality Assurance Program
SE-021, General Engineering Specification, Magnetic Cleanliness
SE-023, General Engineering Specification, Cleanliness

FREQUENCY OF ISSUE:

- O ANNUALLY
- ☐ SEMI-ANNUALLY
- O QUARTERLY
- ☐ BI-MONTHLY
- O MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- O WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Through CDR

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- O GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- ☐ PROJECT DISCREET
- O NOFORN

FORM OF DATA: , KINO OF DATA.

☒ PRINTED DOCUMENT	O ABSTRACT	☐ INSTRUCTION
O CHART	☐ BROCHURE	☐ LETTER
O DIAGRAM	☐ BULLETIN	O LIST
☐ DRAWING	☐ CATALOG	☐ LOG
☐ FILM (STATIC OR MOTION)	O CONTRACT	☐ MANUAL
☐ ILLUSTRATION	☐ DIRECTIVE	☐ MEMORANDUM
☐ MODEL	☐ DISCLOSURE	☐ MINUTES
☐ RECORDING (TAPE OR DISC)	☐ ENGINEERING CHANGE ORDER	☐ PLAN
☐ COMPUTER CARD		O PROCEDURE
O COMPUTER TAPE	☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL	☒ REGULATION
☐ MICROFILM (W/OR W/O CARD)		O REWRT
O OTHER	☐ ENGINEERING CHANGE PROPOSAL	☐ SCHEDULE
		☐ SPECIFICATION
	☐ HANDBOOK	O STANDARD
	☐ INDEX	O VOUCHER

REFERENCE DOCUMENTS.

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO'				
		BY		BY
SUBMIT FOR APPROVAL TO	Project Manager	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

ORD NO.: QA-01

SPECIAL INSTRUCTIONS:

The Quality Appraisal function will define the criteria of the environments for the facilities where hardware will be built, tested, packaged and stored. This criteria will establish limits for cleanliness and handling as required by the customer's contract. A plan of controlling, auditing, and reporting will be incorporated into the area requirement specifications. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Identify area of control.
2. Define the levels of control.
   a. Temperature
   b. Humidity
   c. Particle count
   d. Audit period
   e. Storage and handling
3. Define method of controlling contamination.
   a. Material, floors, furniture, and tools.
   b. Clothing, shoes
   c. Protective clothing
4. Maintenance schedules and methods to be used.
5. Frequency of measurement of area contamination level.
6. Maintain capability control charts in each area.
7. Training of personnel. Information manual.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-016

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE:	CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T.F. Smyth	7/28/67		QA-016

TITLE OF DOCUMENT:

RECORD, CALIBRATION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.: DRL NO..	LEVEL NO.: LEVEL NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

An established automatic computerized recall system for tools, gages and instruments to maintain the integrity and confidence in the inspection and test operations. A reference for establishing wear patterns and maintenance cycles.

ORGANIZATION RESPONSIBLE FOR WCUMENT STOWAGE	NO OF COPIES:
	5
ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION:	DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-018, Record, Tool and Gauge Usage
TE-129, Procedure, Equipment Calibration and Checkout

FREQUENCY OF ISSUE.

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- O QUARTERLY
- ☐ 81-MONTHLY
- O MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- O WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED

As required

PUBLICATION DATE.

PDR

UPDATE (FREQUENCY OR MILESTONE).

Every Calibration

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP I
- O GROUP 2
- O GROUP 3
- ☐ GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- ☐ NASA DISCREET
- O JPL DISCREET
- ☐ PROJECT DISCREET
- O NOFORN

FORM OF DATA:

- O PRINTED DOCUMENT
- O CHART
- ☐ DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- O MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☒ OTHER

Historical File

KIND OF DATA:

- O ABSTRACT
- O BROCHURE
- O BULLETIN
- ☐ CATALOG
- O CONTRACT
- ☐ DIRECTIVE
- O DISCLOSURE
- O ENGINEERING CHANGE ORDER
- ☐ REOUEST FOR ENGINEER-ING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- O INDEX

- ☐ INSTRUCTION
- O LETTER
- O LIST
- ☒ LOG
- O MANUAL
- O MEMORANDUM
- O MINUTES
- ☐ PLAN
- O PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-016

SPECIAL INSTRUCTIONS:

Automatic data processing techniques are utilized by the Instrument Control Section to assure periodic recall of measurement and test equipment for calibration purposes. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION, (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

The record contains:

1. Inventory control number
2. Equipment name
3. Manufacturer's name
4. GE drawing number/model no.
5. Serial number
6. Range
7. Responsible operation
8. Responsible custodian
9. Last inventory date
10. Condition code
11. Calibration cycle
12. Calibration date (due)
13. Present location
14. Part number
15. Purchase order of instrument
16. Listing of repairs made at calibration
17. Data points performed at each calibration
18. Name **of** personnel performing the calibration

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-017

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE	CONTRACT NO.	DRD NO.
	QA			T. F. Smyth	17/28/67		QA-017

TITLE OF DOCUMENT:

RECORD, SHELF LIFE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK.	DRL ITEM NO
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.	LEVEL NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT

To control the use of materials which are subject to age deterioration and dispose of material whose useful life is expended.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES
	10
ESTIMATED MANHOURS FOR SINGLE PREPARATION	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
RA-009, Plan, Reliability Program
SE-001, Plan, Engineering Development
SE-016, Specification, Material
SE-028, List, Approved Materials

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- O QUARTERLY
- O 81-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ BI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED: One time

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Maintain current thru launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- O CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- O GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- O SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- O NOFORN

FORM OF DATA:

- ☐ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- ☒ OTHER: Label

KIND OF DATA.

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REPUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- ☐ HANDBOOK
- ☐ INDEX
- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT		PREPUBLICATION PROOF	
		DATE		DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO. QA-01

SPECIAL INSTRUCTIONS'

The control of limited lifetime material is by means of shelf life labels permanently attached to the material. Determination of shelf life is made by reference to the suppliers instruction manual or special instructions supplied with the material or indication of shelf life limitations marked on the material by the Materials and Process Laboratory. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING, DOL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

The shelf lifetime label indicates the following information:

1. Material part no. and/or nomenclature.
2. Purchase order number.
3. Date not to be used after _____
4. Temperature storage requirements.
5. Disposition routine for time date expired material.
6. As each label is affixed to the container a permanent record is established for the material and contains this information:

   Date, Type of Material, Released to, Expiration Date of Material, Disposition of Material, etc.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT **DRD** QA-018

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE	DATA CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT	CODE	OFFICE RESPONSIBLE FOR DRD	CODE	DRD PREPARED BY	DATE	CONTRACT NO.	DRD NO.
	QA			T. Smyth	7/28/67		QA-018

TITLE OF DOCUMENT.

RECORD, TOOL AND GAGE USAGE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☒ CONTROL ☐ ACTION ☐ REFERENCE ☐ INFORMATION

USE OF DOCUMENT:

To assure, by documentation, that tools and gages which measure dimension, contours, or locations affecting quality characteristics are initially checked for accuracy prior to use and periodically thereafter to ensure continued accuracy.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 5

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER: HDR

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-001, Drawings, Interface Tools, Jigs and Fixtures
MG-002, *Drawings, Tools, Jigs and Fixtures
QA-004, Manual, Quality Assurance Operating
QA-009, Plan, Quality Assurance Program

FREQUENCY OF ISSUE:

- O ANNUALLY
- O SEMI-ANNUALLY
- ☐ QUARTERLY
- O BI-MONTHLY
- ☒ MONTHLY
- O SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☒ OTHERWISE, AS SPECIFIED

PUBLICATION DATE.

UPDATE (FREQUENCY OR MILESTONE): Maintain current thru launch

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- O SECRET
- O CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- ☐ GROUP 1
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN
- ☐ SPECIAL HANDLING
- O NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

IFORM OF DATA:

- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA.

- O ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- ☐ DISCLOSURE
- O ENGINEERING CHANGE ORDER
- ☐ REPUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- O HANDBOOK
- ☐ INDEX
- ☐ INSTRUCTION
- O LETTER
- ☐ LIST
- O LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☒ PLAN
- O PROCEDURE
- ☐ REGULATION
- O REPORT
- ☐ SCHEDULE
- O SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2N0 SHEET

SPECIAL INSTRUCTIONS'

DRD NO.: QA-018

The control, identification, and recall of tools and gages are the responsibility of the Quality Appraisal Instrument and Calibration Laboratory. A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

None

OUTLINE OF CONTENTS:

The control, identification and recall capability is by means of a computerized system. The computer cards within this system contain the pertinent information for control.

1. I and C lab control number.
2. Supplier's identification number and nomenclature.
3. Purchase order number and cost.
4. Present location.
5. Tolerances.
6. Date of last calibration.
7. Frequency of calibration.
8. Date of next calibration.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-019

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: J.R. Gottshall

DATE: 7/28/67

CONTRACT NO.:

DRD NO.:

TASK OR SUBTASK:

DRL ITEM NO.:

TITLE OF DOCUMENT:

RECORD, TEST
(MATERIALS, PARTS, SUB-ASSEMBLIES)

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To permanently record variable data of testing results of flight hardware.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance
QA-013, Procedure, Test/Inspection
TE-001, Plan, Integrated Test
TE-130, Plan, General Test

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED

As required

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Not applicable

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLDSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- ☐ HANDBOOK
- ☐ INDEX
- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS'

DRD NO.. QA-01

Computer cards will be used for parts data.

Preprinted data sheets will be used to record material and subassembly data.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Component name.
2. GE drawing number with most recent revision.
3. Vendor serial number.
4. Vendor's name (not trademark).
5. Vendor's test procedures number and revision.
6. The name, make, model number, vendor's identification number and calibration due date of the test equipment, gages or tools used.
7. Provisions for signatures of the vendor's and GE responsible representative(s).
8. A brief description of each test with a reference to the applicable paragraph in the vendor' test procedure (e.g., input power, continuity, frequency response, etc.).
9. Units of measure (e.g., ohms, ma, etc.).
10. Tolerances - Given in limits, not percent (e.g., 4750-5250 ohms) except where measurement is in percent (e.g., harmonic distortion).
11. Actual readings taken during tests. Do not record as pass or fail unless otherwise specified.
12. Date of tests.
13. Operating time matrix: includes hardware operating and nonoperating time in the testing environments.
14. Identification of environment associated with each set of test readings.
15. The number of any failure reporting documents associated with the test.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-020

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	RA			T.F. Smyth	7/28/67		QA-020

TITLE OF DOCUMENT:

*REPORT, FAILURE ANALYSIS

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		

ORGANIZATION RESPONSIBLE FOR DOCUMENT	DRL NO.:	LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: O CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT. To document the investigatory steps in the analysis of a nonconformance including what was the problem, what caused it, and what is being done to prevent recurrence.

Users: Quality Appraisal (FARB) - Reliability - Design Engineering

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO. OF COPIES:
	9

ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)
RA-007, *Minutes, Failure Analysis Review Board (FARB)
RA-009, Plan, Reliability Program
RA-015, Report, Failure Review

FREQUENCY OF ISSUE:
- O ANNUALLY
- O SEMI-ANNUALLY
- O QUARTERLY
- ☐ 81-MONTHLY
- ☒ MONTHLY
- O SEMI-MONTHLY
- O 81-WEEKLY
- a WEEKLY
- O DAILY
- 5 OTHERWISE, AS SPECIFIED

As required

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Not applicable

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
- O SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- O CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- O GROUP 1
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- ☐ PUBLIC DOMAIN
- O SPECIAL HANDLING
- O NASA DISCREET
- ☐ JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- O RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:
- O ABSTRACT
- O BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- ☐ DISCLOSURE
- O ENGINEERING CHANGE ORDER
- O REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- ☐ HANDBOOK
- ☐ INDEX
- O INSTRUCTION
- O LETTER
- O LIST
- ☐ LOG
- O MANUAL
- O MEMORANDUM
- O MINUTES
- ☐ PLAN
- O PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- O STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

VOYAGER DATA REOUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-02

SPECIAL INSTRUCTIONS.

In Section 3 of the contents, X-rays, pictures, sketches or other descriptive media should be used to completely describe the failure mechanism.

A DRD at the subcontractor/vendor level similar in content to this DRD is required.

The report will reference a number correlating it to a specific nonconforming material report.

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Description of Failure Symptons - Includes what test the unit failed, under what conditions, the data (or measurement) and when.
2. What Failed - What part, wire, module, bracket, etc. , was the actual failure.
3. Analysis Steps - Description of the total steps taken to identify the failure and the effects of the failure on associated equipment.
4. Corrective Action -,What has been done to prevent reoccurrence of the problem including reference to the documentation that accomplishes this.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-021

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE	DATA CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT:	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67		QA-021

TITLE OF DOCUMENT:

*REPORT, NONCONFORMING MATERIAL (NCMR)

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: O CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:
An established document to report nonconformance in the fabrication, assembly, inspection and test of hardware. It assigns responsibility for nonconformance, corrective action and disposition of the hardware to rework, MRB, failure analysis.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO. OF COPIES:
	10
ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:
QA-007, Minutes, Material Review Board (MRB)
QA-009, Plan, Quality Assurance Program
QA-020, "Report, Failure Analysis
SE-056, Drawings (Category A) for Design Evaluation
SE-058, Drawings (Category C) for Test

FREQUENCY OF ISSUE:
O ANNUALLY
O SEMI-ANNUALLY
O QUARTERLY
O 81-MONTHLY
O MONTHLY
☐ SEMI-MONTHLY
O 81-WEEKLY
O WEEKLY
☐ DAILY
☒ OTHERWISE, AS SPECIFIED
As required

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Not applicable

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
O SECRET
☐ CONFIDENTIAL
☐ SECRET RESTRICTED DATA
O CONFIDENTIAL RESTRICTED DATA
☒ UNCLASSIFIED
O GROUP 1
O GROUP 2
O GROUP 3
O GROUP 4
O PROPRIETARY
O PUBLIC DOMAIN
O SPECIAL HANDLING
O NASA DISCREET
O JPL DISCREET
O PROJECT DISCREET
O NOFORN

FORM OF DATA:
☒ PRINTED DOCUMENT
O CHART
☐ DIAGRAM
O DRAWING
☐ FILM (STATIC OR MOTION)
☐ ILLUSTRATION
O MODEL
O RECORDING (TAPE OR DISC)
☐ COMPUTER CARD
☐ COMRUTER TAPE
☐ MICROFILM (W/OR W/O CARD)
☐ OTHER

KIND OF DATA:
O ABSTRACT
O BROCHURE
O BULLETIN
☐ CATALOG
O CONTRACT
O DIRECTIVE
O DISCLDSURE
O ENGINEERING CHANGE ORDER
O REQUEST FOR ENGINEERING CHANGE PROPOSAL
☐ ENGINEERING CHANGE PROPOSAL
O HANDBOOK
O INDEX
☐ INSTRUCTION
O LETTER
O LIST
O LOG
O MANUAL
O MEMORANDUM
O MINUTES
☐ PLAN
O PROCEDURE
O REGULATION
☒ REPORT
☐ SCHEDULE
O SPECIFICATION
O STANDARD
O VOUCHER

REFERENCE DOCUMENTS.
Contract NASA Specifications

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS'

ORD NO.: QA-02

A DRD at the subcontractor/vendor level similar in content to this DRD is required. See sample format.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Serialized preprinted form.
2. Description of the hardware by drawing number and nomenclature.
3. Description of nonconformance and the assignable responsibility.
4. Assigning of corrective action to individual and/or function for implementation.
5. Disposition recommended:
   a. Failure analysis
   b. Return to vendor
   c. Rework
   d. Scrap
   e. MRB
   f. Accept as is
   g. Retest
6. Approvals required:
   Manufacturing engineering
   Design engineering
   Quality assurance engineering

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

1. NOMENCLATURE	NONCONFORMANCE REPORT ON VSSD				2. INITIATED BY DATE
3. DWG PT/GR REV AN CII#	4. FLIGHT HDW. O.S.E.	5. SOURCE INSP GE GOVT AF NONE	6. REF. REP. NO.	7. LOG ITEM	8. ENVIRONMENT END ITEM
9. SERIAL NO.	10. LOT DWO	11. T.P.-S.I. PAR. REV.	12. TYPE OF TEST OR INSP.	13. TEST TIME TO FAIL ____ HR. ____ MIN. ___ CYC.	

14. DISCREPANCY (IN-PROCESS) (FUNCTIONAL)

Failure Discovered During	Reason for Report	Repair or Disposition Action	Replacement
1. Bench Test	1. Failed Item	1. Repaired in Place	1. Identical Part
2. Inspection	2. T.O. Direct	2. Rep Reinstalled	2. Substitute Pt.
3. Storage	3. Time Expired	3. Adjusted	3. None Needed
4. Shipping	4. Other	4. Eliminated	4. Not Available
5. Checkout		5. Condemned	
6. Maintenance		6. Held for Rep.	
7. Mfr. Test		7. Depot Rep.	
8. Operation		8. Failure Analysis	
9. Qual			

15. INITIAL DISPOSITION

16. DISPOSITION

17. CORRECTIVE ACTION (TO AVOID RECURRENCE)

18. CL	19. RECD INSP. REJ	20. PC CODE	21. SHIP NOTICE	22. VEND. SHOP/LOCATION		
23. SHOP ORDER NO		24. PROD. CONT DATE		25. PURCHASING DATE	26. ...	27. CAUSE CO.
28. AS REOD. DATE		A. DISP. AUTHORITY DATE		D. DATE	29. MRB #	30. FA NO.
31. AS REQD. DATE		B. DATE		E. DATE	32. ARB DATE	
33. AS REOD. DATE		C. DATE		F. DATE	34. CONT. ON PG.	

Nonforming Material Report

GE EXHIBIT DRD **QA-022**

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT.	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67		QA-022

TITLE OF DOCUMENT:

*REPORT, PROCESS TRENDS

ORGANIZATION [illegible] FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To detect nonconformance trends at receiving/inspection, fabrication, final assembly and test to identify shifts in quality levels so that timely corrective action can be taken.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO OF COPIES: 15

ESTIMATED MANHOURS FOR SINGLE PREPARATION..

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION'

DATE DATA DUE TO USER'

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MG-004, Manufacturing Standing Instructions (MSI's)
QA-007, Minutes, Material Review Board (MRB)
QA-009, Plan, Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- O DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE). Through J FACT

ESTIMATED EXPIRATION DATE

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN
- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
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- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NPC **200-2**

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO'				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO. QA-02

SPECIAL INSTRUCTIONS:

The Process Control Engineer performs a daily review of all NCM reports and interfaces with Engineering, Manufacturing Planning and Supervision, Quality Assurance to determine assignables for defects and corrective action. Trend charts are maintained weekly from these determinations.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. The Nonconforming Material Reports are developed into trend charts for each area of manufacturing, inspection, test and assembly.
2. Each area is broken down into the major elements of activity, and trend charts are plotted with established control limits (upper and lower).
3. Responsibility for corrective action on nonconformance is assigned to Manufacturing, Engineering and Quality Assurance and each function is measured by the trend charts.
4. Trend charts and records are maintained on all operators and inspectors to measure performance and determine needs for additional training.
5. A summary of corrective action status is made each week to supplement the trend charts.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-023

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67	SUBTASK:	QA-023

TITLE OF DOCUMENT:

.*REPORT, QUALITY AUDIT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK	DRL ITEM NO.
Quality Assurance		

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO
Quality Assurance		

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.	LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT OISTRIBUTION.	DDL NO..	FILE NO

TYPE OF DOCUMENT: O CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To measure the level of compliance to the established Quality Assurance Operating Procedures and Manufacturing Standing Instructions and to implement corrective action as necessary.

ORGANIZATION RESPONSIBLE FOR WCUMENT STOWAGE.	NO OF COPIES'
	10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST($) FOR SINGLE PREPARATION'	DATE DATA DUE TO USER.

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)

FREQUENCY OF ISSUE.

- O ANNUALLY
- O SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- O SEMI-MONTHLY
- O BI-WEEKLY
- ☒ WEEKLY
- ☐ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATF: HDR

UPDATE (FREQUENCY OR MILESTONE): Through' J FACT

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- O CONFIDENTIAL
- O SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- O GROUP I
- O GROUP 2
- O GROUP 3
- O GROUP 4
- O PROPRIETARY
- O PUBLIC DOMAIN

- O SPECIAL HANDLING
- O NASA DISCREET
- ☐ JPL DISCREET
- O PROJECT DISCREET
- O NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- O CHART
- O DIAGRAM
- O DRAWING
- O FILM (STATIC OR MOTION)
- O ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- O COMPUTER CARD
- O COMPUTER TAPE
- O MICROFILM (W/OR W/O CARD)
- O OTHER

KIND OF DATA:

- O ABSTRACT
- ☐ BROCHURE
- O BULLETIN
- O CATALOG
- O CONTRACT
- O DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
- ☐ HANDBOOK
- ☐ INDEX

- O INSTRUCTION
- O LETTER
- O LIST
- O LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- O MINUTES
- ☐ PLAN
- O PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- O SPECIFICATION
- ☐ STANDARD
- O VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: QA-02

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Name of area or operation, date of audit, audited by_____
2. List the specific document for which the area was audited. (e.g. , QAOP).
3. Results of audit and recommendation for correction and/or improvement.
4. Assign responsibility for correction and/or improvement.
5. Establish completion dates for correction/improvement.
6. Reschedule audit period.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-024

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE.	DATA CATEGORY.

ORGANIZATION ORIGINATING REQUIREMENT.	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	QA			T. F. Smyth	7/28/67		QA-024

TITLE OF DOCUMENT:

*REPORT, QUALITY STATUS

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION.

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To compile and submit to the customer for information the system contractor performance for meeting"the quality requirements as supported by the various control documents.

ORGANIZATION RESPONSIBLE FOR WCUMENT STOWAGE:

NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

MA-019, Report, Quarterly Written
PC-002, Report, Contract Status
QA-004, Manual, Quality Assurance Operating Procedures
QA-009, Plan, Quality Assurance Program

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ EI-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ BI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Through launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP I
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NDFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ○ ILLUSTRATION
- ○ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ○ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ☐ DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
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- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS.

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRO NO.: QA-024

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. General narrative comment on the conformance of meeting the quality levels of the Voyager Program.
2. Summarized pictorial illustrations, graphs of the various measurements of the quality performance such as:
   a. MRB activity
   b. NCMR activity
   c. Corrective actions
   d. Tests
   e. Audits

   With supplemental narrations on the progress in each area of activity.
3. Conclusions on the overall quality performance.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-025

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE	DATA CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT	CODE	OFFICE RESPONSIBLE FOR DRD	CODE	DRD PREPARED BY	DATE	CONTRACT NO.	DRD NO.
	QA			T. F. Smyth	7/28/67		QA-025

TITLE OF DOCUMENT:

REPORT, SPECIAL MEASUREMENT AND TEST EQUIPMENT EVALUATION (COMPONENT)

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION	TASK OR SUBTASK	DRL ITEM NO.
Quality Assurance/Test		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION	DRL NO.	LEVEL NO.
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION	DDL NO.	FILE NO.

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

When analysis of the quality levels indicate a shift in performance or accuracy, a special measurement and test equipment evaluation capability study is performed to verify the integrity and confidence in the test results.

ORGANIZATION RESPONSIBLE FOR WCUMENT STOWAGE	NO OF COPIES
	10
ESTIMATED MANHOURS FDR SINGLE PREPARATION	INFORMATION CUTOFF DATE OR MILESTONE
ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-031, Specification, Special Test Equipment (STE) Component
TE-001, Plan, Integrated Test
TE-030, Procedure, Test Operating

FREQUENCY OF ISSUE:
☐ ANNUALLY
☐ SEMI-ANNUALLY
☐ QUARTERLY
☐ 81-MONTHLY
☐ MONTHLY
☐ SEMI-MONTHLY
O BI-WEEKLY
☐ WEEKLY
☐ DAILY
☒ OTHERWISE, AS SPECIFIED
One time

PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE):

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
☐ SECRET
☐ CONFIDENTIAL
☐ SECRET RESTRICTED DATA
☐ CONFIDENTIAL RESTRICTED DATA
☒ UNCLASSIFIED
☐ GROUP 1
☐ GROUP 2
☐ GROUP 3
☐ GROUP 4
☐ PROPRIETARY
☐ PUBLIC DOMAIN
☐ SPECIAL HANDLING
☐ NASA DISCREET
☐ JPL DISCREET
☐ PROJECT DISCREET
☐ NOFORN

FORM OF DATA:
☒ PRINTED DOCUMENT
☐ CHART
☐ DIAGRAM
☐ DRAWING
☐ FILM (STATIC OR MOTION)
☐ ILLUSTRATION
☐ MODEL
☐ RECORDING (TAPE OR DISC)
☐ COMPUTER CARD
☐ COMPUTER TAPE
☐ MICROFILM (W/OR W/O CARD)
☐ OTHER

KIND OF DATA:
☐ ABSTRACT
☐ BROCHURE
☐ BULLETIN
☐ CATALOG
☐ CONTRACT
☐ DIRECTIVE
☐ DISCLOSURE
☐ ENGINEERING CHANGE ORDER
☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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☐ MEMORANDUM
☐ MINUTES
☐ PLAN
☐ PROCEDURE
☐ REGULATION
☒ REPORT
☐ SCHEDULE
☐ SPECIFICATION
☐ STANDARD
☐ VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE		PREPUBLICATION PROOF	DATE	
SUBMIT FOR REVIEW TO:			BY			BY
SUBMIT FOR APPROVAL TO	Manager, Qudlity Assurance		BY			BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: QA-02!

Quality Assurance Engineer witnesses the special measurement and test equipment evaluation.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING ODL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Procedure for the verification that the equipment is compatible with desired resolution of measurement parameters.
2. Defines data requirements of the special test.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-026

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT	CODE: QA	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY: T. F. Smyth	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: QA-026

TITLE OF DOCUMENT:

REPORT, QUALITY ASSURANCE
AUDIT SUMMARY

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance	TASK OR SUBTASK:	DRL ITEM NO.:
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:
ORGANIZATION FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

To summarize status of compliance to the control documents as imposed on the systems contractor in areas of fabrication, inspection and testing of prime hardware.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES: 10
ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:
ESTIMATED COST ($) FOR SINGLE PREPARATION:	DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-009, Plan, Quality Assurance Program
QA-023, Report, Quality Audit
QA-027, Report, Quality Assurance Trend Summary

FREQUENCY OF ISSUE:
- ○ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☒ QUARTERLY
- ☐ EI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ EI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: HDR
UPDATE (FREQUENCY OR MILESTONE): Thru launch
ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

☐ SECRET	○ GROUP 1	☐ SPECIAL HANDLING
☐ CONFIDENTIAL	☐ GROUP 2	○ NASA DISCREET
☐ SECRET RESTRICTED DATA	○ GROUP 3	☐ JPL DISCREET
○ CONFIDENTIAL RESTRICTED DATA	☐ GROUP 4	○ PROJECT DISCREET
☒ UNCLASSIFIED	○ PROPRIETARY	☐ NOFORN
	○ PUBLIC DOMAIN	

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:

☐ ABSTRACT	☐ INSTRUCTION	
☐ BROCHURE	☐ LETTER	
☐ BULLETIN	☐ LIST	
☐ CATALOG	☐ LOG	
○ CONTRACT	○ MANUAL	
☐ DIRECTIVE	☐ MEMORANDUM	
☐ DISCLOSURE	☐ MINUTES	
☐ ENGINEERING CHANGE ORDER	☐ PLAN	
☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL	☐ PROCEDURE	
○ ENGINEERING CHANGE PROPOSAL	○ REGULATION	
☐ HANDBOOK	☐ REPORT	
○ INDEX	☐ SCHEDULE	
	○ SPECIFICATION	
	☐ STANDARD	
	☐ VOUCHER	

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 6

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: QA-026

SPECIAL INSTRUCTIONS:

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

Submitted quarterly to Spacecraft System Office.

OUTLINE OF CONTENTS:

1. Summary of biweekly audits listing.
2. Name of area and/or operation (date of audits).
3. Findings, corrective action, completion dates and open corrective actions with promise dates of completion.
4. Overall rating for area audited and an indication of trends.
5. Analysis, conclusions and recommendations.

The summary extends to all areas of fabrication, assembly, inspection and test.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD QA-027

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: QA

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: T.F. Smyth

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: QA-027

TITLE OF DOCUMENT:

REPORT, QUALITY ASSURANCE TREND SUMMARY

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR [illegible] REPRODUCTION:

DRL NO.:

ORGANIZATION RESPONSIBLE FOR [illegible]

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:

Summarize and analyze all trend reports to determine the status of the overall fabrication, assembly, inspection and test performance and to determine need for emphasis on corrective action.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 15

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

QA-007, Minutes, Material Review Board (MRB)
QA-009, Plan, Quality Assurance Program
QA-021, Report, Nonconforming Material (NCMR)
QA-022, *Report, Process Trends

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ○ SEMI-ANNUALLY
- ☒ QUARTERLY
- ☐ 81-MONTHLY
- ○ MONTHLY
- ☐ SEMI-MONTHLY
- ○ 81-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Thru launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ○ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ○ PUBLIC DOMAIN

- ○ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ○ PROJECT DISCREET
- ☐ NOFDRN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ○ CHART
- ○ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ○ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ○ MICROFILM (W/OR W/O CARD)
- ○ OTHER

KIND OF DATA:

- ☐ ABSTRACT
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- ☐ BULLETIN
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- ☐ CONTRACT
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- ☐ ENGINEERING CHANGE PROPOSAL
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- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ○ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NPC 200-2

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

JPL 2568 OCT 65

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO. QA-027

4

SPECIAL INSTRUCTIONS:

The weekly quality trends are plotted on control charts; process averages are calculate and control limits established. Each specific area of performance, electronic shops, machine shops, sheet metal shop, assembly and test areas is plotted to indicate trends to control quality of the outgoing hardware. A summary analysis for each area is submitted to assign responsibility for control.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIEUTION BELOW)

OUTLINE OF CONTENTS:

1. Report summarizes the process parameters within a given area that are measured for performance trends.
   a. Mechanical machine shop
   b. Mechanical sheet metal shop.

   Typical control parameters in these areas are, dimensional surface finish, welding concentricity, procedure. Defects are assigned responsibility by shop planning, engineering, inspection planning.
2. Electronic shops are controlled in the following areas:
   a. Module or printed circuits
   b. Black **box** assembly
   c. Test

   Typical control parameters in these areas are: accumulations, assembly and orientation, soldering, welding, procedural and handling and defects are assigned responsibility.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD &A-028

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE	DATA CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT	CODE	OFFICE RESPONSIBLE FOR DRD	CODE	DRD PREPARED BY	DATE	CONTRACT NO.	DRD NO.
	CM			T. F. Smyth	7/28/67		QA-028

TITLE OF DOCUMENT:

REPORT, BREAK OF INSPECTION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR SUBTASK:

DRL ITEM NO:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.:

LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.:

FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT

To report status of the hardware affected by the "Break of Inspection" event delaying assembly and test schedules of the overall program.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 15

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION:

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

CM-019, List, Break of Inspection per Contract End Item
CM-026, Plan, Configuration Management
QA-009, Plan, Quality Assurance Program
QA-028, Report, Break of Inspection

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ 81-MONTHLY
- ○ MONTHLY
- ○ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☒ WEEKLY
- ○ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Thru Launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ○ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ○ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

- ☐ GROUP 1
- ☐ GROUP 2
- ○ GROUP 3
- ☐ GROUP 4
- ○ PROPRIETARY
- ○ PUBLIC DOMAIN

- ○ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ○ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA / KIND OF DATA:

FORM OF DATA	KIND OF DATA		
☒ PRINTED DOCUMENT	☐ ABSTRACT	☐ INSTRUCTION	
☐ CHART	☐ BROCHURE	☐ LETTER	
○ DIAGRAM	☐ BULLETIN	☒ LIST	
☐ DRAWING	☐ CATALOG	☐ LOG	
☐ FILM (STATIC OR MOTION)	☐ CONTRACT	☐ MANUAL	
○ ILLUSTRATION	☐ DIRECTIVE	☐ MEMORANDUM	
☐ MODEL	☐ DISCLOSURE	☐ MINUTES	
☐ RECORDING (TAPE OR DISC)	☐ ENGINEERING CHANGE	☐ PLAN	
☐ COMPUTER CARD	ORDER	☐ PROCEDURE	
☐ COMPUTER TAPE	○ REQUEST FOR ENGINEER-	☐ REGULATION	
☐ MICROFILM (W/OR W/O CARD)	ING CHANGE PROPOSAL	☐ REPORT	
○ OTHER	☐ ENGINEERING CHANGE	☐ SCHEDULE	
	PROPOSAL	☐ SPECIFICATION	
	☐ HANDBOOK	☐ STANDARD	
	☐ INDEX	☐ VOUCHER	

REFERENCE DOCUMENTS:

Configuration Management Manual
CM 001BB001-1B

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS'

DRD NO. QA-028

In-Process Inspection makes out a Break of Inspection card with a copy to Quality Assurance Data Collection Center.

A DRD at the subcontractor/vendor level similar in content to this DRD is required.

SPECIAL OISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Summary of the Break of Inspection cards and their status.
2. Contains the action taken on specific hardware affected by the break of inspection.
3. Shows status of parts and substitutions by serial number of the affected parts.
4. Shows hardware status awaiting Break of Inspection action.
5. Lists hardware requiring Material Review Board action as direct result of the Break of Inspection event.
6. Identifies the reinspection required to progress hardware to next level of assembly or test.

See attached form.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GENERAL ELECTRIC
MISSILE AND SPACE DIVISION
VOYAGER SPACECRAFT SYSTEM DEPARTMENT

QUALITY ASSURANCE
BREAK OF INSPECTION REPORT

ITEM	PARTS REMOVED						NOMECLATURE			PARTS REINSTALLED						
	DWG NO.	SERIAL NO.	REV AN	RES	DATE	TIME		RETRO	MCMR	DWG NO.	REV AN	SERIAL NO.	DATE	TIME	STAMP	NEXT BOI

VOYAGER Quality Assurance Break of Inspection Report

GE EXHIBIT DRD &A-028

GE EXHIBIT DRD QA-029

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY | DATE: | CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT | CODE: QA | OFFICE RESPONSIBLE FOR DRD: | CODE | DRD PREPARED BY: T. F. Smyth | DATE: 7/28/67 | CONTRACT NO.: | DRD NO.: QA-029

TITLE OF DOCUMENT:

*REPORT, FAILURE CATEGORIZATION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance | TASK OR SUBTASK: | DRL ITEM NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION: | DRL NO.: | LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION: | DDL NO.: | FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ☒ INFORMATION

USE OF DOCUMENT:
Computerize and categorization of , and assigning responsibilities for failure with regard to: (1) class of equipment; (2) environmental test during which failure occurred; (3) test levels at instant of failure; (4) description of failure: (5) transducers (if any) records at time of failure.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE: | NO OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION | INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION | DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:
QA-009, Plan, Quality Assurance Program
QA-020 *Report, Failure Analysis
QA-021, Report, Nonconforming Material (NCMR)
RA-009, Plan, Reliability Program

FREQUENCY OF ISSUE:
☐ ANNUALLY
☐ SEMI-ANNUALLY
☐ QUARTERLY
☐ 81-MONTHLY
☒ MONTHLY
☐ SEMI-MONTHLY
☐ BI-WEEKLY
☐ WEEKLY
☐ DAILY
☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Thru launch

ESTIMATED EXPIRATION DATE

CLASSIFICATION:
☐ SECRET
☐ CONFIDENTIAL
☐ SECRET RESTRICTED DATA
☐ CONFIDENTIAL RESTRICTED DATA
☒ UNCLASSIFIED
☐ GROUP 1
☐ GROUP 2
☐ GROUP 3
☐ GROUP 4
☐ PROPRIETARY
☐ PUBLIC DOMAIN
☐ SPECIAL HANDLING
☐ NASA DISCREET
☐ JPL DISCREET
☐ PROJECT DISCREET
☐ NOFORN

FORM OF DATA:
☐ PRINTED DOCUMENT
☐ CHART
☐ DIAGRAM
☐ DRAWING
☐ FILM (STATIC OR MOTION)
☐ ILLUSTRATION
☐ MODEL
☐ RECORDING (TAPE OR DISC)
☒ COMPUTER CARD
☐ COMPUTER TAPE
☐ MICROFILM (W/OR W/O CARD)
☐ OTHER

KIND OF DATA:
☐ ABSTRACT
☐ BROCHURE
☐ BULLETIN
☐ CATALOG
☐ CONTRACT
☐ DIRECTIVE
☐ DISCLOSURE
☐ ENGINEERING CHANGE ORDER
☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
☐ ENGINEERING CHANGE PROPOSAL
☐ HANDBOOK
☐ INDEX
☐ INSTRUCTION
☐ LETTER
☐ LIST
☐ LOG
☐ MANUAL
☐ MEMORANDUM
☐ MINUTES
☐ PLAN
☐ PROCEDURE
☐ REGULATION
☒ REPORT
☐ SCHEDULE
☐ SPECIFICATION
☐ STANDARD
☐ VOUCHER

REFERENCE DOCUMENTS:

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

*Key Informal Data

JPL 2568 OCT 6

SPECIAL INSTRUCTIONS.

DRD NO.
QA-02

SPECIAL DISTRIBUTION. (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Computer cards bear information regarding:

1. Failure report number
2. Equipment identification/name
3. Equipment categories
   a. Subsystem
   b. Class of equipment
4. Environmental test during which failure occurred
5. Test level at the instant of failure
6. Category of failed element (electrical, mechanical, etc.)
7. Transducer records at instant of failure, etc.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT **DRD BA-030**

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY:	DATE:	DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT.	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE	DRD PREPARED BY:	DATE	CONTRACT NO.:	DRD NO.:
	QA			J. R. Gottshall	7/28/67		QA-030

TITLE OF DOCUMENT:

REPORT, QUALIFICATION STATUS

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Quality Assurance

TASK OR DRL ITEM

ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:

DRL NO.: LEVEL NO.:

ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:

DDL NO.: FILE NO.:

TYPE OF DOCUMENT: ☐ CONTROL ☐ ACTION ☐ REFERENCE ○ INFORMATION

USE OF DOCUMENT.

To report to the customer the status of the Type Approval Program.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE.

NO. OF COPIES: 10

ESTIMATED MANHOURS FOR SINGLE PREPARATION:

INFORMATION CUTOFF DATE OR MILESTONE:

ESTIMATED COST ($) FOR SINGLE PREPARATION.

DATE DATA DUE TO USER:

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:

PC-013, List, Bidder
QA-004, Manual, Quality Assurance Operating Procedures
QA-009, Plan, Quality Assurance Program
QA-024, *Report, Quality Status
TE-165, Report, Test

FREQUENCY OF ISSUE.

- ○ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☒ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☐ OTHERWISE, AS SPECIFIED

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE). Thru launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ○ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED

☐ GROUP I
- ○ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

- ☐ SPECIAL HANDLING
- ○ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

- ☒ PRINTED DOCUMENT
- ○ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE OR DISC)
- ○ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA.

- ○ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ○ CONTRACT
- ○ DIRECTIVE
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ○ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ○ ENGINEERING CHANGE PROPOSAL
- ○ HANDBOOK
- ☐ INDEX
- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ○ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ○ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

NPC-200-2

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO	Manager, Quality Assurance	BY		BY

JPL 2568 OCT 65

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO. QA-03

Submitted to the customer initially then monthly as part of Quality Status Report.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Matrix consisting of:
   a. End item list to be qualified
   b. Dates for
      (1) Hardware availability
      (2) Test facilities availability
      (3) Test procedure availability
      (4) Environmental tests
2. Narrative of :
   a. Completed tests
   b. Significant events
      (1) Milestones
      (2) Problems/solutions
   c. Expenditures act/planned

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD **QA-031**

VOYAGER DATA REQUIREMENT DESCRIPTION	DRD APPROVED BY	DATE	DATA CATEGORY

ORGANIZATION ORIGINATING REQUIREMENT	CODE	OFFICE RESPONSIBLE FOR DRD	CODE	DRD PREPARED BY	DATE	CONTRACT NO	DRD NO.
	QA			J. R. Gottshall	7/28/67		QA-031

TITLE OF DOCUMENT

SPECIFICATION, SPECIAL TEST EQUIPMENT (STE), COMPONENT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION	TASK OR SUBTASK	DRL ITEM NO
Quality Assurance		
ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION	DRL NO	LEVEL NO
ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION	DDL NO	FILE NO

TYPE OF DOCUMENT ☒ CONTROL ☐ ACTION ☐ REFERENCE ○ INFORMATION

USE OF DOCUMENT

To definitize the component special test equipment design and test and verification requirements.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES
	10
ESTIMATED MANHOURS FOR SINGLE PREPARATION	INFORMATION CUTOFF DATE OR MILESTONE
ESTIMATED COST ($) FOR SINGLE PREPARATION	DATE DATA DUE TO USER

INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS

QA-009, Plan, Quality Assurance Program
TE-001, Plan, Integrated Test
TE-123, Plan, Special Test Equipment (STE) Verification Tests
TE-130, Plan, General Test

FREQUENCY OF ISSUE

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ 81-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ 81-WEEKLY
- ☐ WEEKLY
- ☒ DAILY–
- ☐ OTHERWISE, AS SPECIFIED

As **required**

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): As required through **FACI**

ESTIMATED EXPIRATION DATE

CLASSIFICATION

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- ☐ GROUP 1
- ○ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN
- ☐ SPECIAL HANDLING
- ○ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA

- ☒ PRINTED DOCUMENT
- ☐ CHART
- ☐ DIAGRAM
- ☐ DRAWING
- ☐ FILM (STATIC OR MOTION)
- ☐ ILLUSTRATION
- ☐ MODEL
- ☐ RECORDING (TAPE DR DISC)
- ☐ COMPUTER CARD
- ○ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
- ☐ CONTRACT
- ○ DIRECTIVE
- ☐ DISCLOSURE
- ○ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ○ ENGINEERING CHANGE PROPOSAL
- ○ HANDBOOK
- ○ INDEX
- ☐ INSTRUCTION
- ☐ LETTER
- ☐ LIST
- ○ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ○ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☒ SPECIFICATION
- ☐ STANDARD
- ○ VOUCHER

REFERENCE DOCUMENTS

JPL Configuration Management Manual

APPLICABLE STANDARDS

REVIEWS AND/OR APPROVALS REQUIRED:
(LIST IN ORDER OF SUBMITTAL)

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO		BY		BY
	Manager, Quality Assurance			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: QA-03

Cognizant Quality Assurance engineers will prepare the requirements section of the STE Specification to initiate design.

SPECIAL DISTRIBUTION (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

1. Scope - outline of specification applicability.
2. Applicable documents - component specification, workmanship standards, etc.
3. Requirements - measurement tolerances, safety, operability, etc.
4. Test and verification - test requirements for the equipment prior to use with flight hardware, measurement studies, etc.
5. Preparation for delivery - special handling requirements.
6. Notes - as applicable.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

DOCUMENTATION RELATIONSHIP TREES

A documentation relationship tree has been prepared to show the relationships of data items within each functional category as well as their relationships across categories.

Relationships within each functional category are shown by constructing a tier pattern beginning with the top-level (or governing) data item and relating in descending order all data items within the category to this top-level data item. (The location of a data item at a given level on the diagram does not necessarily indicate the importance of that specific item but identifies and defines its relation to all other data items in that category.)

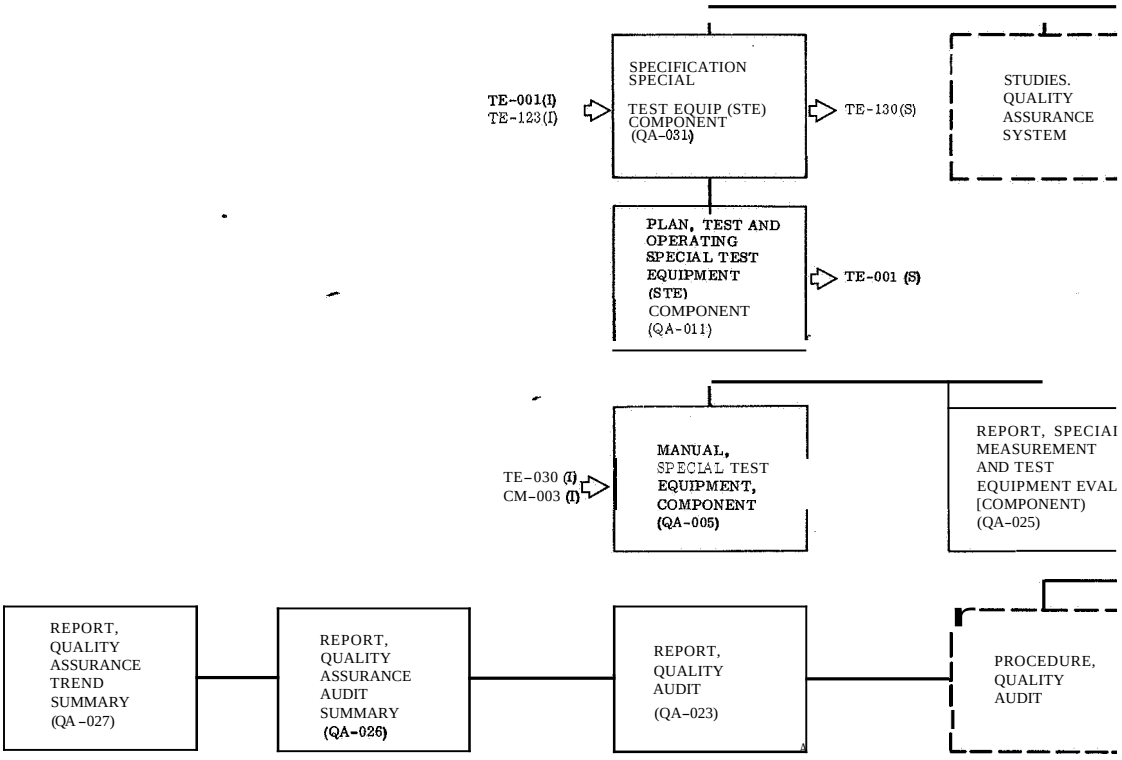
Relationships between data items in one category and data items in other functional categories are shown by (1) shaded arrows to indicate the direction of the relationship and (2) an alphabetic code to indicate the nature of the interrelationship as follows:

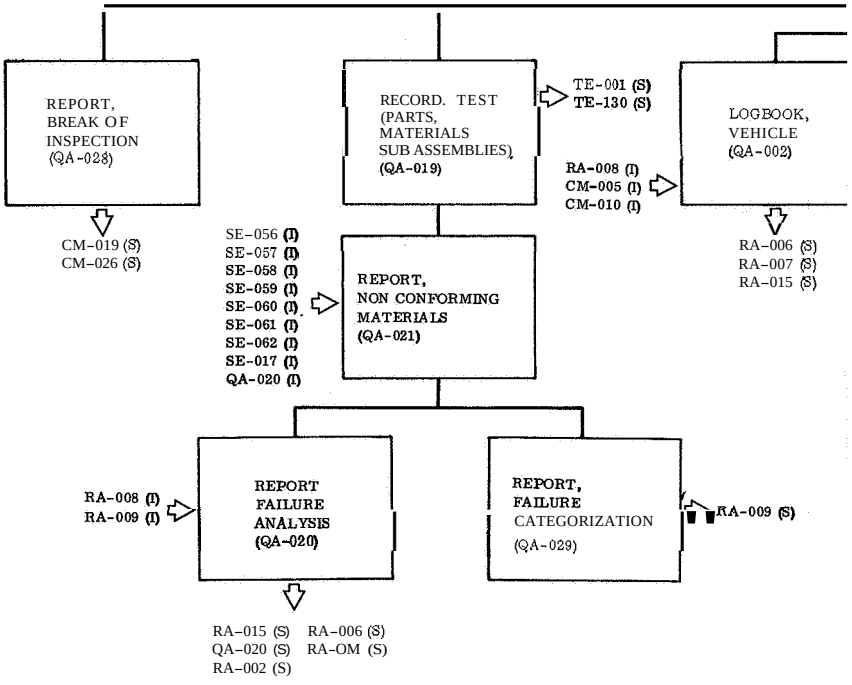
a, Data items needed for preparation and/or support of the referenced item. (I)

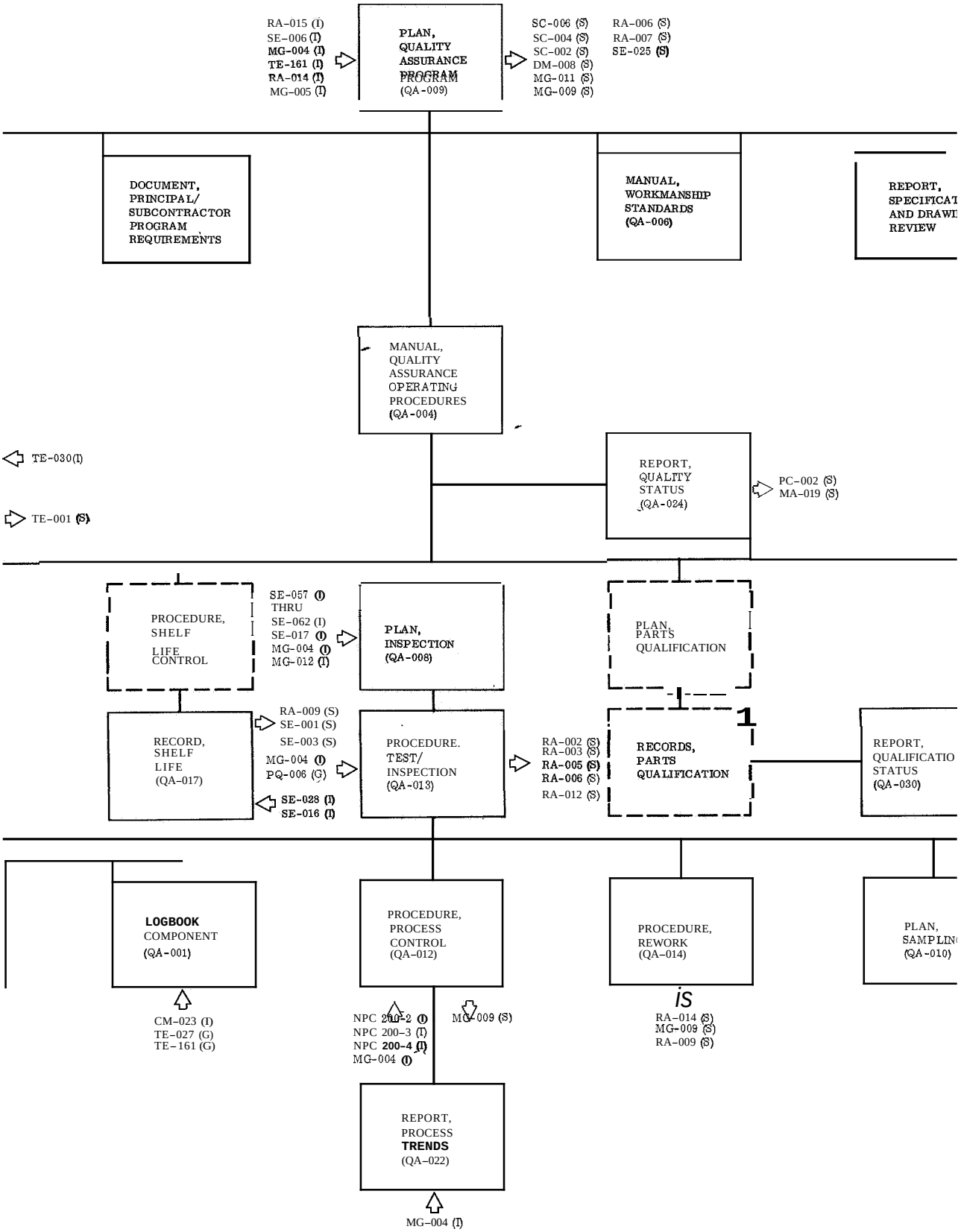
b. Data items that are supported or needed by this data item. (S)

c. Data items that relate "to" and provide information of a general nature but are not required in an input or support role. (G)

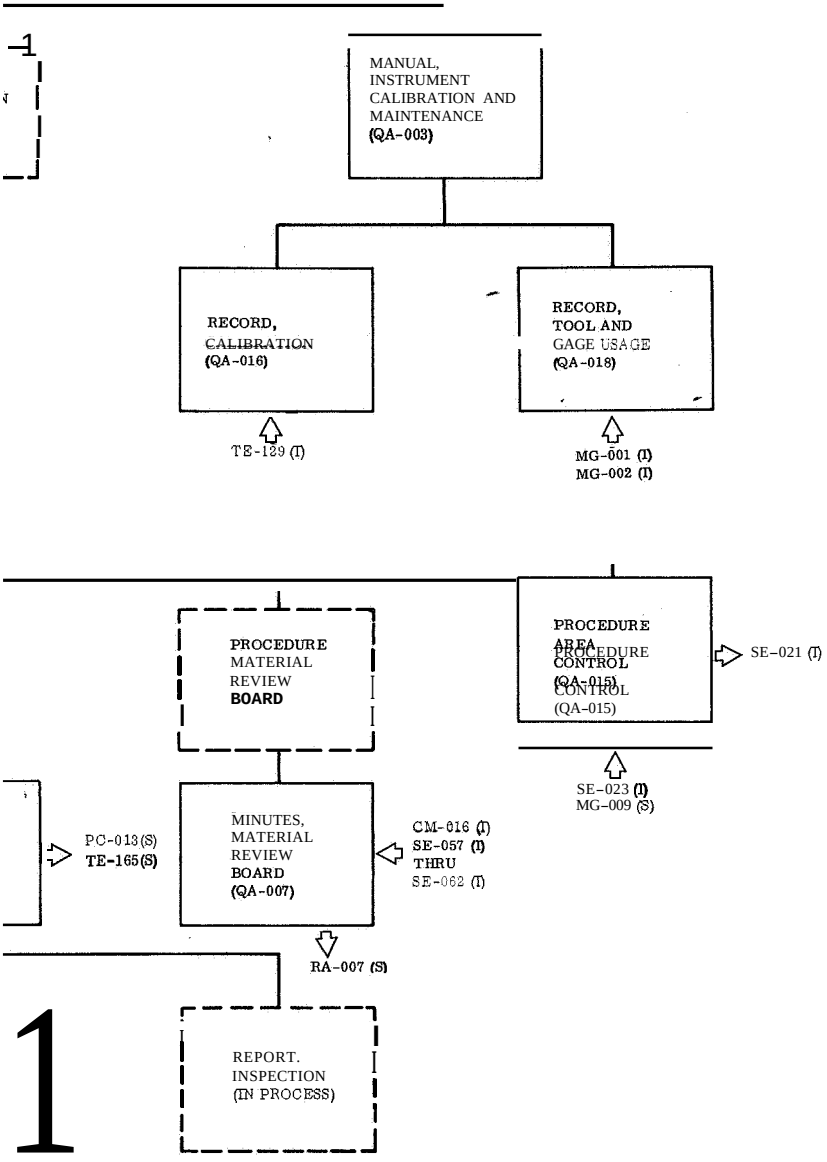
Each data item appearing on the Data Item List (DIL) was examined and evaluated with respect to its contribution to, or dependence upon, data items appearing in other categories and is included in the diagrams. Additionally, certain data elements indicated in the user flow diagrams (but currently not identified as individual data items) have been shown within a dashed rectangle to clarify relationships.


TE-001(I)
TE-123(I)
SPECIFICATION SPECIAL TEST EQUIP (STE) COMPONENT (QA-031)
TE-130(S)
STUDIES. QUALITY ASSURANCE SYSTEM
PLAN, TEST AND OPERATING SPECIAL TEST EQUIPMENT (STE) COMPONENT (QA-011)
TE-001 (S)
TE-030 (I)
CM-003 (I)
MANUAL, SPECIAL TEST EQUIPMENT, COMPONENT (QA-005)
REPORT, SPECIAI MEASUREMENT AND TEST EQUIPMENT EVAL [COMPONENT) (QA-025)
REPORT, QUALITY ASSURANCE TREND SUMMARY (QA-027)
REPORT, QUALITY ASSURANCE AUDIT SUMMARY (QA-026)
REPORT, QUALITY AUDIT (QA-023)
PROCEDURE, QUALITY AUDIT


REPORT, BREAK OF INSPECTION (QA-028)
CM-019 (S)
CM-026 (S)
RECORD. TEST (PARTS, MATERIALS SUB ASSEMBLIES) (QA-019)
TE-001 (S)
TE-130 (S)
LOGBOOK, VEHICLE (QA-002)
RA-008 (I)
CM-005 (I)
CM-010 (I)
RA-006 (S)
RA-007 (S)
RA-015 (S)
SE-056 (I)
SE-057 (I)
SE-058 (I)
SE-059 (I)
SE-060 (I)
SE-061 (I)
SE-062 (I)
SE-017 (I)
QA-020 (I)
REPORT, NON CONFORMING MATERIALS (QA-021)
RA-008 (I)
RA-009 (I)
REPORT FAILURE ANALYSIS (QA-020)
REPORT, FAILURE CATEGORIZATION (QA-029)
RA-009 (S)
RA-015 (S)
QA-020 (S)
RA-002 (S)
RA-006 (S)
RA-OM (S)


RA-015 (I)
SE-006 (I)
MG-004 (I)
TE-161 (I)
RA-014 (I)
MG-005 (I)
PLAN, QUALITY ASSURANCE PROGRAM (QA-009)
SC-006 (S)
SC-004 (S)
SC-002 (S)
DM-008 (S)
MG-011 (S)
MG-009 (S)
RA-006 (S)
RA-007 (S)
SE-025 (S)
DOCUMENT, PRINCIPAL/ SUBCONTRACTOR PROGRAM REQUIREMENTS
MANUAL, WORKMANSHIP STANDARDS (QA-006)
REPORT, SPECIFICAT AND DRAWI REVIEW
MANUAL, QUALITY ASSURANCE OPERATING PROCEDURES (QA-004)
TE-030(I)
TE-001 (S)
REPORT, QUALITY STATUS (QA-024)
PC-002 (S)
MA-019 (S)
PROCEDURE, SHELF LIFE CONTROL
SE-057 (I) THRU SE-062 (I)
SE-017 (I)
MG-004 (I)
MG-012 (I)
PLAN, INSPECTION (QA-008)
PLAN, PARTS QUALIFICATION
RECORD, SHELF LIFE (QA-017)
RA-009 (S)
SE-001 (S)
SE-003 (S)
MG-004 (I)
PQ-006 (G)
SE-028 (I)
SE-016 (I)
PROCEDURE. TEST/ INSPECTION (QA-013)
RA-002 (S)
RA-003 (S)
RA-005 (S)
RA-006 (S)
RA-012 (S)
RECORDS, PARTS QUALIFICATION
REPORT, QUALIFICATIO STATUS (QA-030)
LOGBOOK COMPONENT (QA-001)
CM-023 (I)
TE-027 (G)
TE-161 (G)
PROCEDURE, PROCESS CONTROL (QA-012)
NPC 200-2 (I)
NPC 200-3 (I)
NPC 200-4 (I)
MG-004 (I)
MG-009 (S)
PROCEDURE, REWORK (QA-014)
RA-014 (S)
MG-009 (S)
RA-009 (S)
PLAN, SAMPLIN (QA-010)
REPORT, PROCESS TRENDS (QA-022)
MG-004 (I)

5-4-1



LEGEND:

(I) INDICATES DATA JTEMS NEEDED **FOR** PREPARATION OR SUPPORT OF THE REFERENCED ITEM (INPUT).

(S) INDICATES DATA ITEMS THAT **ARE** SUPPORTED **OR** NEEDED **BY** THIS ITEM.

(G) DATA JTEMS THAT RELATE TO AND PROVIDE INFORMATION O F A GENERAL NATURE BUT ARE NOT REQUIRED IN AN INPUT **OR** SUPPORT ROLE

△ INDICATES PRINCIPAL RELATIONSHIP (I, **OR** G) BETWEEN DATA JTEMS IN OTHER FUNCTIONAL CATEGORIES.

Figure E–5. Quality Assurance Documentation Relationship Tree (QA)

DATA ITEM PHASING/FREQUENCY

Preparation requirements for Quality Assurance data items are shown in Quality Assurance Data Item Phasing and Frequency Matrix, Figure **E-6.** With the exception of control and administrative-type data items, Quality Assurance document needs have a direct relationship with the scope and complexity of the hardware program and range from piece part to system level.

The basis for compilation of these estimates are:

a. Comparisons with other spacecraft systems, the makeup of which can be accurately described in terms of the total number of piece parts used and the percentages of non-electronic piece parts used. In the case investigated (a total of **11,740** piece parts, excluding OSE), the percentages were approximately **89** percent electronic and **11** percent non-electronic.

b. Assume that each Voyager Spacecraft will contain approximately 100,000 piece parts.

c. For each Voyager Spacecraft, assume it will be composed of:

28 Prime Equipment CEI's		
36 Identification Item CEI's		
85 Engineering Critical Components CEI's (Configuration Management Plan, Phase IB)		**149**
Assume **11** Subassemblies for each Identification Item	**11** x **36**	**396**
Assume **34** Subassemblies for each Engineering Critical Component	**34 x 85**	**2,040**
Total Spacecraft Assemblies		**2,585**

d. Eight equivalent Spacecraft then would contain **8** x **2, 585** testable assemblies **20,680**

e. For OSE, AHSE and MDE. assume:

36 Prime Equipment CEI's	
135 Identification Items (CEI's)	
18 Engineering Critical Components (CEI's) (from Configuration Management Plan, Phase **IB)**	**189**

Assume:

11 Subassemblies for each Identification item (CEI's) 11 x 135	1,485

Assume:

24 Subassemblies for each Engineering Critical Components (CEI's) 24 x 18	432
Total OSE, AHSE and MDE Assemblies	2,106
Assume two sets OSE	4,212
Total Spacecraft Assemblies	20,680
S/C, OSE, AHSE, MDE total assemblies	24,892

Assume:

Average of four tests per assembly (acceptance testing, Eng. Dev. Testing, T/A Testing, PTM Testing, Flight Accept. Testing and retesting requirements	568 tests

f. From Para. E. 2. a the number of piece part test records can be calculated.

8 equivalent S/C x 89,000 + 20 percent excess	726,220
assume an average of two test records for each electronic piece part	1,452,440
8 equivalent S/C x 11,000 non-electronic piece parts. Assume an average of one test record for each part.	88,000
Total S/C Piece Part Test Records	1,540,440

g. Using as a basis the ratio of estimated drawings for the Spacecraft versus the OSE:

OSE will contain approximately 70,000 piece parts Assume two sets of OSE will be produced	140,000
Piece Part Test Record Total	1,680,440

The Quality Assurance Data Item Density Profile, Figure E-7, shows the distribution and density of data item preparation requirements. Requirements are shown by monthly

averages and reflect both formal and key informal data items. Of particular interest is the impact caused by data item QA-019, Test Records (Materials, Parts, Subassemblies).

QUALITY ASSURANCE
(QA)

SDR

PHASE C - SYSTEM DEFINITION

7 Mo

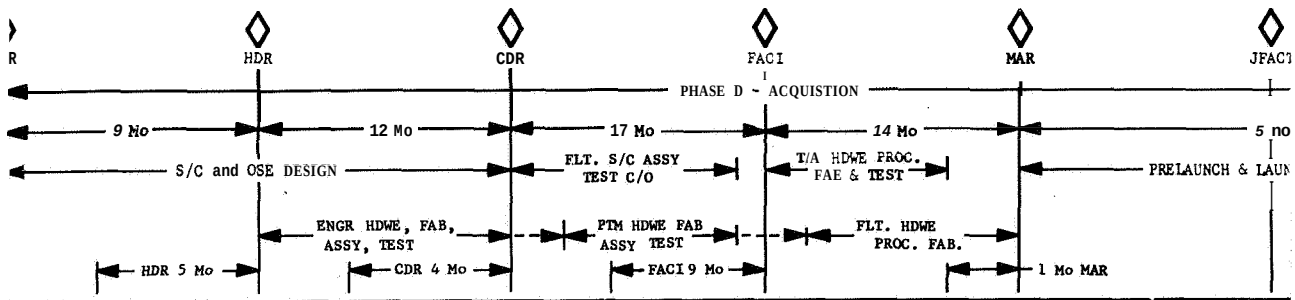
PDR 2 Mo -

DATA ITEM TITLE	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOT
MANUALS						
QA-003 Manual, Instrument Calibration & Maint.				1	Mo	
QA-004 Manual, Quality Assurance Operating Proced.	1	I	1	1	Mo	
QA-005 Manual, Special Test Equipment, Component						
QA-006 Manual, Workmanship Standards				1	Mo	
MINUTES						
QA-007 Minutes, Material Review Board				1	Wk	
PLANS						
QA-008 Plan, Inspection				25	O/T	
QA-009 Plan, Quality Assurance Program	1	I	1	1	U	
QA-010 Plan, Sampling				10	O/T	
QA-011 Plan, Test and Operating, for Special Test Equip. (STE) Component						
PROCEDURES						
QA-012 Procedure, Process Control				100	O/T	10(
QA-013 Procedure, Test/Inspection				100	O/T	10(
QA-014 Procedure, Rework						
QA-015 Procedure, Area Control						
RECORDS						
QA-016 Record, Calibration						
QA-017 Record, Shelf Line						
QA-018 Record, Tool and Gauge Usage						
QA-019 Record, Test (Materials, Parts, Sub-Assemb)						
QA-001 Logbook, Component						
QA-002 Logbook, Vehicle						

(continued on page 2)

*Key Informal Data

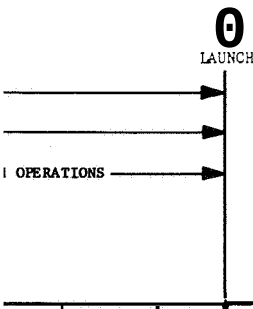
A	Annual	O/T	One Time	I	Initial
S/A	Semi-Annual	A/R	As Required	F	Final
WK	Weekly	U	update	N/R	New and 1
MO	Monthly	I/U	One Update	SDR	System D
B/W	Bi-Weekly	DA	Daily	PDR	Prelimin:
B/M	Si-Monthly	Q	Quarterly	HDR	Hard Des



QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	Q
1	Mo	9	1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
1	Mo	9	1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
1	Mo	9	1	Mo	12	1	Mo	17							
1	Mo	9	1	Mo	12	1	Mo	17							
1	Wk	40	1	Wk	52	1	Wk	74	1	Wk	61	1	Wk	10	
25	O/T	25													
1	U	1	1	F	1										
20	O/T	20	25	O/T	25	25	O/T	25							
			200	A/R	200	221	A/R	221							
150	O/T	150	150	O/T	150										
500	O/T	500	2,000	O/T	2,000										
10	O/T	10	10	O/T	10										
10	O/T	10	10	O/T	10										
10,000	A/R	10,000	5,200	A/R	5,200	16,280	A/R	16,280	13,420	A/R	13,420	1,500	A/R	1,500	
			412	Mo	5,000	589	Mo	10,000	715	Mo	10,000	1,667	Mo	5,000	
			200	Wk	10,400	400	Wk	29,600	400	Wk	24,000	300	Wk	3,000	
			20,000	Mo	270,000	45,000	Mo	741,250	45,000	Mo	606,250	22,500	Mo	56,250	
			3,500	O/T	3,500	7,000	O/T	7000	14,000	O/T	14,000				
			1	O/T	1	1	O/T	1	3	O /T	3				

rised
gn Review
Design Review
Review

CDR	Critical Design Review
FACI	First Article Configuration Inspection
MAR	Mission Acceptance Review
J FACT	Joint Flight Acceptance Composite Testing



NTITY	FREQUENCY	TOTAL	TOTALS	NOTES AND ASSUMPTIONS
1	Mo	2	60	Estimates are based on the assumption that each S/C will
1	Mo	2	61	contain approx. 100,000 piece parts, a total of eight equivalent
			38	S/C containing approx. 352 CEI's and an estimated 28,000
			41	components.
1	Wk	10	262	Failure analysis computed at a 10%rate with a procurement
				buy of 20%excess.
			50	
			4	
			80	OSE piece parts based on ratio of flight hardware to OSE
				drawings.
			421	
			400	
			2,600	
000	A/R	1,000	47,400	
500	Mo	1,000	31,000	
150	Wk	1,000	68, 500	
,500	MO	6,250	1,680,000	Est. 8 SIC 100,000 piece parts each 2 Sets OSE 140,000 piece parts each
			24,500	

Totals in matrix are included in those shown on next page

Figure E-6. Quality Assurance Data Item Phasing and Frequency Matrix (Sheet 1 of 2)

QUALITY ASSURANCE (QA) (Con't)

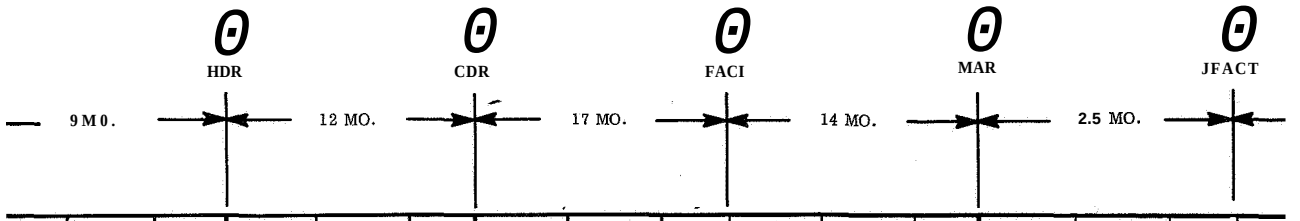
SDR PDI

3.5 MO. 3.5 MO.

DATA ITEM TITLE / REPORTS	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL
QA-020 *Report, Failure Analysis						
QA-021 *Report, Nonconforming Material (NCMR)						
QA-022 *Report, Process Trends						
QA-023 *Report, Quality Audit						
QA-024 *Report, Quality Status	1	Mo	3	1	Mo	4
QA-025 Report, Special Measurement & Test Equipment Evaluation (Component)	1	O/T	1			
QA-026 Report, Quality Assurance Audit Summary						
QA-027 Report, Quality Assurance Trend Summary						
QA-028 Report, Break of Inspection						
QA-029 *Report, Failure Categorization						
QA-030 Report, Qualification Status						
SPECIFICATIONS						
QA-031 Specification, Special Test Equipment (STE), Component						
TOTALS			6			264

*Key Informal Data

A	Annual	O/T	One Time	I	Initial
S/A	Semi-Annual	A/R	As Required	F	Final
WK	Weekly	U	update	N/R	New and Revise
MO	Monthly	I/U	One Update	SDR	System Design I
B/W	Bi-Weekly	DA	Daily	PDR	Preliminary De
B/M	Bi-Monthly	Q	Quarterly	HDR	Hard Design Re



UAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUA
400	A/R	1,400	3,000	A/R	3,000	4,500	A/R	4,500	850	A/R	850	6	A/R	6	
			16,800	A/R	16,800	28,000	A/R	28,000	4,200	A/R	4,200	380	A/R	380	
			1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
			5	Wk	260	10	Wk	740	10	Wk	610	2	Wk	20	
1	Mo	9	1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
			1	Q	4	1	Q	6	1	Q	5	1	Q	2	
			1	Q	4	1	Q	6	1	Q	5	1	Q	2	
			15	Wk	780	150	Wk	11,100	25	Wk	1,525	2	Wk	20	
			1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
1	Mo	9	1	Mo	12	1	Mo	17	1	Mo	14	1	Mo	3	
200	A/R	200	145	A/R	145	76	A/R	76							
		12,410'			317.63			849,015			675,013			66,208	

	CDR	Critical Design Review
	FACI	First Article Configuration Inspection
	MAR	Mission Acceptance Review
iew	J FACT	Joint Flight Acceptance
n Review		Composite Testing
w		

6-8-1

0
LAUNCH

2.5 MO. →

FREQ	TOTAL	TOTALS	
		9,756	Est. 25,000 assemblies, 4 Tests Per assy 10% failure rate
		49,380	
		46	
		1,630	
Mo	2	64	
		1	
Q	1	18	
Q	1	18	
Wk	10	13,435	
Mo	2	48	
Mo	2	57	
		421	
	9,782	1,930,336	

Figure **E-6.** Quality Assurance Data Item Phasing and Frequency Matrix **(Sheet** 2 of 2)

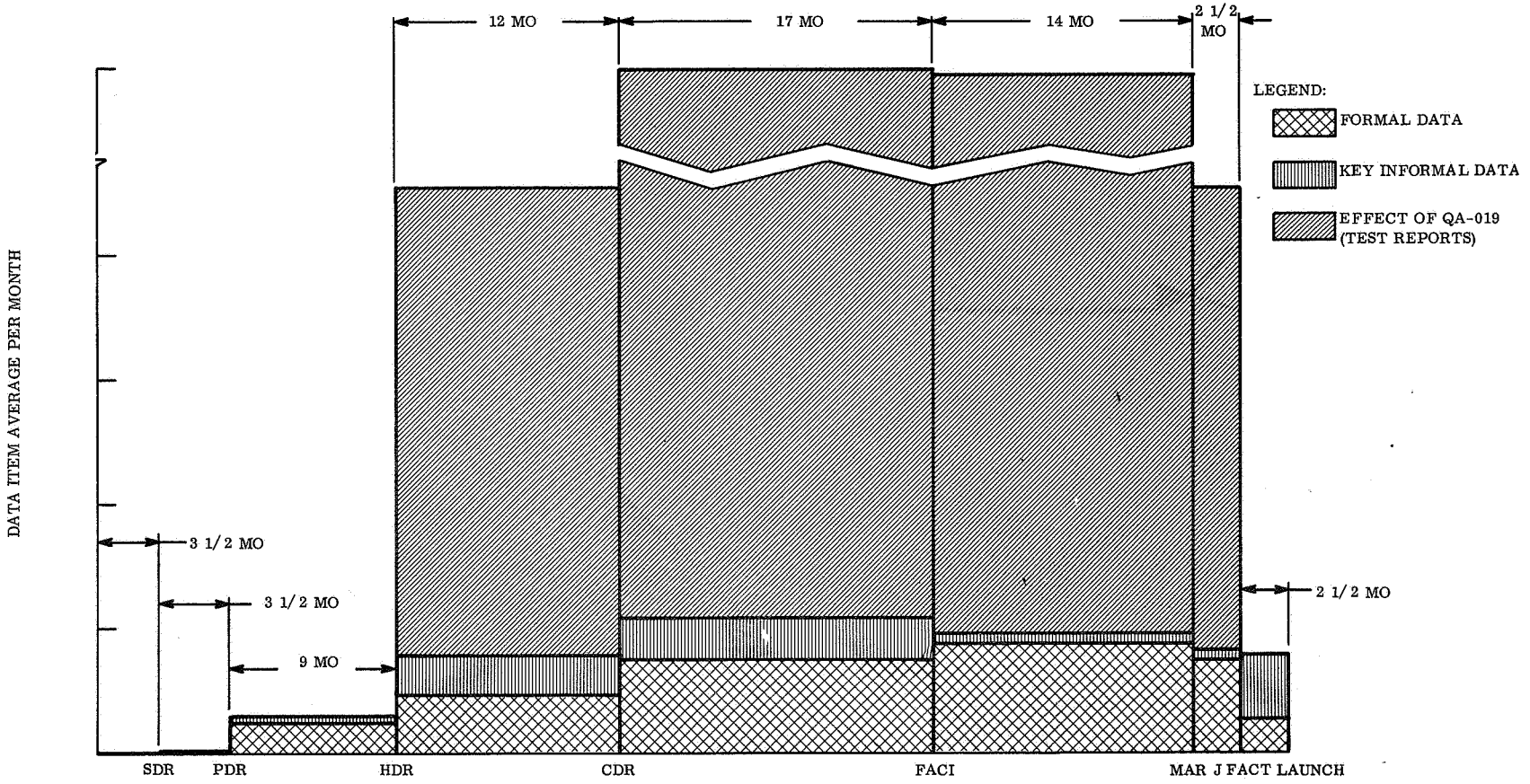


Figure E-7. Quality Assurance Data Item Density Profile