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MISSILE AND SPACE DIVISION

[redacted]

VOYAGER

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28 JULY 1967

VOLUME 5
DATA MANAGEMENT STUDY

APPENDIX F
CONTRACTOR DATA PACKAGE
TEST (TE) AND MISSION OPERATIONS (MP)

PREPARED BY

B.C. DANIELS
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TEST ENGINEERING MANAGEMENT
VOYAGER SPACECRAFT SYSTEM PROJECT

APPROVED BY

A Frank

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 Test (TE) and Mission Operations (MP).

Test data are those used to obtain, verify, and provide test information for the evaluation of development objectives. Data within this category include plans and procedures for design verification tests, qualification tests, reliability demonstration tests, and flight tests directed at design qualifications. The development of checkout procedures and checkout test activity fall in this category. Tests required for flight operations and reliability demonstrations of Voyager hardware are considered to be in this category.

Mission Operations data include the requirements, plans, procedures, and activities required for mission operations from vehicle launch through recovery and post-flight operations. They reflect such areas as long-range plans for the tracking network and mission support, as well as specific mission requirements such as profiles of launches, mission objectives, and personnel assignments. They exclude the performance analysis aspects of flight tests, which are included under the Test category.

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)

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	DESCR
	TEST	
	MANUALS	
TE-025	**Manual, Test Facilities Description and Capabilities**	**A reference document relative to the te the Project.**
	MINUTES	
TE-024	***Minutes, Integrated Test Board (ITB)**	**Minutes of the considerations and actio Board.**
	PLANS	
TE-001	Plan, Integrated Test	The overall test program plan and top d and control of the test program.
TE-130	Plan, General Test	An overall plan for a major test phase Functional approval (A), as appropriate
TE-131	Plan, Detailed Test	Specific test plans for implementing a p Functional approval (A), as appropriate
TE-112	Plan, Spacecraft Mission Operations Test	Plans for evaluating and demonstrating readiness of the vehicle with the missio
TE-013	Plan, Interface Test	Plans for evaluating the interface betwe
TE-018	Plan, Operational Support Equipment (OSE) Certification	Plan for demonstrating and qualifying th flight hardware.
TE-123	Plan, Special Test Equipment (STE) Verification Tests	Plan for validating special test equipme it.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

IPTION	APPLICABILITY TO FUNCTIONAL USER AT CONTRACTOR LEVEL													
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM
st facilities available to	U	U	U	-	A	R	-	-	U	U	-	-	-	-
ns of the Integrated Test	U	U	U	-	U	U	U	-	PM	U	-	-	U	-
ocument for the implementation	R	U	-	-	R	R	R	U	PM	U	U	U	U	-
or test model.	(R)	U	-	-	R	(A)	R	-	R	U	-	-	-	-
articular test.	(A)	-	-	-	R	(A)	R	-	U	U	U	-	-	-
the compatibility and operational n operations system MOS.	R	-	-	-	R	A	R	U	U	U	-	-	R	-
en project elements.	R	U	-	-	R	R	R	U	PM	U	-	-	U	-
ne OSE for use with	R	-	U	-	R	A	R	U	U	U	-	-	U	-
nt before utilizing	R	-	-	-	R	A	R	U	U	U	-	-	U	-

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

S						APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS						APPLICABILITY TO PROJECT BOARDS										
FA	SA	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	U	U	-	-	(S)	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
-	U	-	U	-	-	S	(S)	NA	NA	NA	NA	-	-	-	-	-	-	R	-	-	-	-
U	U	U	U	-	U	(C/S)	(C/S)	(C/S)	(C/S)	(C/S)	(C/S)	-	-	-	U	-	-	R	-	-	-	-
U	U	U	U	-	U	(S)	(S)	NA	NA	(S)	NA	-	-	-	U	-	-	R	-	-	-	-
-	U	U	U	-	U	S	S	S	NA	S	(S)	-	-	-	U	-	-	R	-	-	-	-
U	U	R	U	-	U	(C)	NA	NA	NA	NA	NA	-	-	-	U	-	-	R	-	-	-	-
U	U	R	U	-	U	S	S	S	NA	S	(S)	-	-	-	U	-	-	R	-	-	-	-
U	U	R	U	-	-	(C/S)	(C/S)	NA	NA	(S)	NA	-	-	-	U	-	-	R	-	-	-	-
-	U	U	U	-	-	S	S	S	NA	NA	NA	-	-	-	U	-	-	R	-	-	-	-

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

2-2-2

2-1/2

DATA ITEM NUMBER	DATA ITEM	DESCRIPT
	TEST	
	PLANS (Cont'd)	
TE-157	Plan, Facilities Certification	Plan for demonstrating the suitability of fa operations.
TE-158	Plan, Software Certification	Plans for verifying the suitability of softw operations.
	PROCEDURES	
TE-129	Procedure, Equipment Calibration and Checkout	Detailed procedures for the calibration an prior to use.
TE-030	Procedure, Test Operating	Detailed procedures for conducting variou operations.
TE-125	Procedure, Facilities Operating	Detailed procedures for operating the vari test operations.
TE-159	Procedure, Equipment (Spacecraft and Operational Support) Assembly and Handling	Procedures for the movement of the equip operations.
TE-160	Procedure, Operating, Integrated Test Board (ITB)	Detailed procedures related to the activiti operation of the Integrated Test Board.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

ION	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL														
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	FA
cilities to support	U	U	U	-	R	A	R	U	U	U	U	-	-	-	R
are used in test and	R	-	-	-	U	A	-	-	-	U	-	-	R	-	-
l checkout of equipment	R	-	-	-	R	A	-	-	-	-	-	-	-	-	-
s tests during test	R	-	-	-	R	A	R	-	-	-	-	-	-	-	-
ous facilities during	U	-	R	-	A	R	-	-	-	-	-	-	-	-	U
ment during test	A	-	R	-	U	R	-	-	-	-	-	-	-	-	-
es, responsibilities, and	U	-	-	-	U	U	-	-	PM	-	-	-	-	-	-

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

SA	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	U	U	–	–	S	S	S	NA	NA	NA	–	–	–	U	–	–	R	–	–	–	–
–	R	U	–	U	(S)	(S)	(S)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–
U	U	U	–	–	S	S	S	NA	(S)	NA	–	–	–	–	–	–	R	–	–	–	–
U	U	U	–	–	S	S	S	NA	(S)	NA	–	–	–	–	–	–	R	–	–	–	–
U	–	U	–	–	(S)	(S)	(S)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–
U	U	U	–	–	(S)	(S)	(S)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–
U	–	U	–	–	(C)	(C)	(C)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–

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

[redacted]

2-4-2

DATA ITEM NUMBER	DATA ITEM TEST	DESCRIP
	RECORDS	
TE-027	*Logbook, Test	A log of significant events, activities and test operations.
TE-161	*Logbook, Cumulative Test Time	A log of operating time accumulated on c of the hardware.
TE-028	Tape, Data Storage	Magnetic and paper tape records of data operations.
TE-162	Film, Test Operation	Still and motion pictures of test operatio
	REPORTS	
TE-054	Report, Quick-Look Test	The initial evaluation of a test relative to
TE-165	Report, Test	A report of the test results from a partic as appropriate.
TE-167	Report, Test Phase Summary	A report summarizing the results of a te assembly and check-out.
TE-046	Report, Cumulative Test Time	A report issued periodically which summ accumulated on various hardware sectio
TE-056	Report, Daily Operations	A brief management report describing as on a daily basis.
TE-163	Report, Integrated Test Board (ITB) Actions Summary	A periodic summary report of the action the Integrated Test Board.
TE-166	Report, Test Program Summary	Final test program summary report.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

TION	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL													
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM
l data compiled during	U	–	–	–	R	A	U	–	–	–	–	–	–	–
omponents and sections	U	–	–	–	R	A	U	–	–	–	–	–	–	–
recorded during test	–	–	–	–	R	A	–	–	–	–	–	–	–	–
ns.	U	–	–	–	R	A	–	–	–	–	–	–	–	–
) the objective.	U	–	–	–	U	A	U	–	U	U	–	–	–	–
ular test, functional approval (A),	(A)	U	–	–	U	(A)	U	–	–	–	–	–	–	–
st phase such as	U	U	–	–	U	A	U	U	U	U	–	–	–	–
arizes the test time ns.	U	U	–	–	R	A	U	U	U	U	U	–	–	–
sembly and test operations	U	–	–	U	A	U	U	U	U	U	–	–	–	–
s and conclusions of	U	–	–	–	U	U	U	–	A	–	–	–	–	–
	U	–	–	–	–	R	U	U	A	–	–	–	–	–

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

FA	SA	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	U	–	–	S	S	S	NA	(S)	NA	–	–	–	–	U	–	U	–	–	–	–
–	–	U	U	–	–	(S)	(S)	(S)	NA	(S)	NA	–	–	–	–	U	–	U	–	–	–	–
–	–	–	–	–	–	NA	NA	NA	NA	NA	NA	–	–	–	–	U	–	U	–	–	–	–
–	–	–	U	–	–	(S)	(S)	NA	NA	NA	NA	–	–	–	–	U	–	–	–	–	–	–
–	–	–	U	–	–	S	(S)	(S)	NA	(S)	NA	–	–	–	–	–	–	U	–	–	–	–
–	–	–	U	–	–	S	S	S	S	S	S	–	–	–	–	U	–	R	–	–	–	–
–	–	U	U	–	–	S	S	(S)	NA	(S)	NA	–	–	–	U	U	–	R	–	–	–	–
–	–	–	U	–	–	S	S	S	(S)	S	(S)	–	–	–	–	U	–	U	–	–	–	–
–	–	–	U	–	–	NA	NA	NA	NA	NA	NA	–	–	–	–	–	–	U	–	–	–	–
–	–	–	U	–	–	(C/S)	(C/S)	(C/S)	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–
–	–	U	U	–	U	NA	NA	NA	NA	NA	NA	–	–	–	–	–	–	R	–	–	–	–

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

[redacted]

2-6-2

DATA ITEM NUMBER	DATA ITEM	DESCRIP
	TEST	
	SPECIFICATIONS	
TE-164	Specification, Software Performance	Performance specification for compute
TE-031	Specification, Special Test Equipment (STE) (System and Subsystem)	Performance and design requirements

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

TION	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL														
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	
r programs.	R	-	-	-	-	A	-	-	-	-	-	-	R	-	-
for special test equipment.	R	-	-	-	R	A	R	-	-	-	-	-	-	-	

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

						APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS						APPLICABILITY TO PROJECT BOARDS										
A	SA	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	-	-	(C)	(C)	(C)	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
J	U	U	U	-	-	S	S	(S)	NA	NA	NA	-	-	-	-	-	-	R	-	-	-	-

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

2-8-2

DATA ITEM NUMBER	1 of 1 DATA ITEM	DESCRI
	MISSION OPERATIONS	
	HANDBOOKS	
MP-001	Handbook, System Performance Reference	
	PLANS	
MP-002	Plan, Mission Operations Support (Spacecraft)	
MP-005	Plan, Flight Operation Diagnostic Computation	
	REPORTS	
MP-004	Report, Operational Design Description	
	SPECIFICATIONS	
MP-003	Specification, Mission Dependent Equipment (MDE)	Specifies the types of mission dependent the software requirements.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

'TION	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL													
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM
	U	U	-	-	-	U	U	U	U	-	-	-	A	-
	U	U	-	-	-	U	U	U	PM	-	U	-	R	-
	R	-	-	-	-	U	U	-	U	-	-	-	A	-
	R	-	-	-	-	U	U	U	U	-	-	-	A	-
hardware and defines	R	-	-	U	R	U	R	R	U	-	U	-	A	-

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

FA	SA	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	U	-	U	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
U	U	U	U	-	U	(C)	(C)	(C)	NA	NA	NA	-	-	-	-	-	-	U	-	-	-	-
U	-	U	U	-	U	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
-	U	U	U	-	U	NA	NA	NA	NA	NA	NA	-	-	-	-	-	-	-	-	-	-	-
-	U	U	-	-	-	(C)	(C)	(C)	NA	(C)	NA	-	-	-	-	-	-	-	-	-	-	-

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

[redacted]

2-10-2

USER FLOW DIAGRAMS

Test (TE) data items have been included in the Engineering User Flow Diagrams. See Appendix A, Section 3.

Mission Operations (MP) user flow was not identified for study.

Test Data Requirement Descriptions

DRD Number	Title
TE-001	Plan, Integrated Test
TE-013	Plan, Interface Test
TE-018	Plan, Operational Support Equipment (OSE) Certification
TE-024	*Minutes, Integrated Test Board (ITB)
TE-025	Manual, Test Facilities Description and Capabilities
TE-027	*Logbook, Test
TE-028	Tape, Data Storage
TE-030	Procedure, Test Operating
TE-031	Specification, Special Test Equipment (STE) (System and Subsystem)
TE-046	Report, Cumulative Test Time
TE-054	Report, Quick-Look Test
TE-056	Report, Daily Operations
TE-112	Plan, Spacecraft Mission Operations Test
TE-123	Plan, Special Test Equipment (STE) Verification Tests
TE-125	Procedure, Facilities Operating
TE-129	Procedure, Equipment Calibration and Checkout
TE-130	Plan, General Test
TE-131	Plan, Detailed Test
TE-157	Plan, Facilities Certification
TE-158	Plan, Software Certification
TE-159	Procedure, Equipment (Spacecraft and Operational Support) Assembly and Handling
TE-160	Procedure, Operating, Integrated Test Board (ITB)
TE-161	*Logbook, Cumulative Test Time
TE-162	Film, Test Operation
TE-163	Report, Integrated Test Board (ITB) Actions Summary
TE-164	Specification, Special Test Equipment (STE) (System and Subsystem)
TE-165	Report, Test
TE-166	Report, Test Program Summary
TE-167	Report, Test Phase Summary

*Key Informal Data

GE EXHIBIT DRD TE-001

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.:
	TE			B. Daniels	7/28/67		TE-001

TITLE OF DOCUMENT:

PLAN, INTEGRATED TEST

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

An overall test program plan to inform all project elements of the total test program from piece parts up through combined system tests.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	100

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:

SC-002, Schedule, Project Level (PERT)
TE-030, Procedures, Test Operation
TE-130, Plan, General Test
TE-131, Plan, Detailed Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

One time

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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:

Mission 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:	Project Manager	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-001

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope

The scope of the integrated test plan (ITP) includes all testing from parts and materials qualification through top-level system and interface tests. It also covers non-hardware items such as computer programs, procedures, safety, test reporting provisions, etc.

2.0 Summary

- 2.1 Principal features of the program
- 2.2 Overall test program schedule
- 2.3 Test program summary

3.0 Requirements and approach

- 3.1 Custom requirements
- 3.2 Approach
  - a. Test program approach and philosophy
  - b. Test program policies and ground rules.

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

3.3 Requirements by generic test area such as:

a. EMI
b. Magnetics
c. Mass properties
d. Thermal
e. Dynamics
f. Separation
g. Life
h. Interface
i. Etc.

4.0 Development test phase

This section shall contain the following relative to each development test including:

a. Objectives and justification for the test
b. Test hardware
c. Test sequence and schedule
d. Major resources required

5.0 Type approval test phase

See 4.0 above.

6.0 Flight acceptance test phase

See 4.0 above.

7.0 Combined system test phase

See 4.0 above.

8.0 Test program summary

This section shall contain a summary of the test program in a tabular form for easy reference and other information such as Operational Support Equipment (OSE) and Special Test Equipment (STE) utilization, facilities loading, etc.

9.0 Documentation requirements and provisions

9.1 Documentation plan
9.2 Review and buy-off

10.0 Test program management and control

10.1 Integrated test board
10.2 Test program responsibilities

11.0 Glossary of terms

GE EXHIBIT DRD TE-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.:
	TE			B. Daniels	7/28/67		TE-013

TITLE OF DOCUMENT:

PLAN, INTERFACE TEST

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

To establish the plans for conducting interface tests with other elements of the total project.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	75

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:

LS-012, Plan, Logistic Support
SC-002, Schedule, Project Level (PERT)
TE-001, Plan, Integrated Test
TE-030, Procedures, Test Operating
TE-131, Plan, Detailed Test

FREQUENCY OF ISSUE:

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

One time

PUBLICATION DATE: CDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

ESTIMATED EXPIRATION DATE:

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- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
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- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:

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

KIND OF DATA:

- ☐ ABSTRACT
- ☐ BROCHURE
- ☐ BULLETIN
- ☐ CATALOG
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- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

Interface Agreements

APPLICABLE STANDARDS:

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

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
SUBMIT FOR REVIEW TO:		BY		BY
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VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-013

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

OUTLINE OF CONTENTS:

1.0 Introduction
2.0 Scope and summary
3.0 Test plans

The following shall be included for interface areas such as those listed below:

a. Objectives
b. Test hardware
c. Location of tests and facilities
d. Test equipment and special equipment
e. Test sequence and plan
f. Schedule

3.1 Spacecraft and capsule
3.2 Spacecraft, capsule or planetary vehicle and the launch vehicle
3.3 Tests with launch site facilities and equipments

a. Check-out facilities
b. Explosive safe facility
c. Vertical assembly building
d. Launch complex
e. Range support equipments

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

3.4 Tests with Deep Space Network (DSN) Stations and Mission Operations System (MOS)

a. Planetary vehicle tests

b. Mission Dependent Equipment (MDE)

c. Software Tests at Deep Space Instrumentation Facility (DSIF) or Space Flight Operations Facility (SFOF)

4.0 References

GE EXHIBIT DRD TE-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.:
	TE			B. Daniels	7/28/67		TE-018

TITLE OF DOCUMENT:

PLAN, OPERATIONAL SUPPORT EQUIPMENT (OSE) CERTIFICATION

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

To provide the planned sequence of tests to be used to certify that the OSE is suitable for use with the flight hardware.

ORGANIZATION RESPONSIBLE 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:

TE-001, Plan, Integrated Test
TE-030, Procedure, Test Operating
TE-131 Plan, Detailed Test
TE-165, Report, Test

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

One time

PUBLICATION DATE: CDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

ESTIMATED EXPIRATION DATE:

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- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
- ☐ OTHER

KIND OF DATA:
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- ☐ BROCHURE
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- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

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(LIST IN ORDER OF SUBMITTAL)

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VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-018

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope

2.0 Requirements and objectives
- a. Subsystem (OSE)
- b. System Test Complex (STC)
- c. Launch Complex Equipment (LCE)
- d. Mission Dependent Equipment (MDE)
- e. Assembly, Handling and Shipping Equipment (AHSE)

3.0 Test plan and sequence

A sequence of tests and checks shall be specified for each piece of equipment to indicate how it will be certified before use with flight hardware. This shall include:
- a. Breadboard tests (as applicable)
- b. Development tests
- c. Use of AHSE or other equipment with major test models
- d. Tests with TA and PTM hardware
- e. Interface tests
- f. Special tests
- g. Schedule
- h. Special equipment required

4.0 References

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

GE EXHIBIT DRD TE-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.:
	TE			M. Shoemaker	7/28/67		TE-024

TITLE OF DOCUMENT:

* MINUTES, INTEGRATED TEST BOARD (ITB)

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

Test Plans (various)
Test Procedures (various)
Test reports (various)

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	75

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
TE-030, Procedure, Test Operating
TE-130, Plan, General Test
TE-131, Plan, Detailed Test
TE-165, Report, Test

FREQUENCY OF ISSUE:
- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
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PUBLICATION DATE: SDR

UPDATE (FREQUENCY OR MILESTONE): Not applicable

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- ☐ COMPUTER TAPE
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- ☐ OTHER

KIND OF DATA:
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- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

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

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SUBMIT FOR REVIEW TO:		BY		BY
SUBMIT FOR APPROVAL TO:	Project Manager	BY		BY

* Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-024

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Title of board

2.0 Date

3.0 Names of personnel attending

4.0 Purpose of meeting (regular or special)

5.0 Items discussed

6.0 Findings or resolutions

7.0 Follow-up or subsequent actions necessary

8.0 Distribution

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

GE EXHIBIT DRD TE-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.:
	TE			B. Daniels	7/28/67		TE-025

TITLE OF DOCUMENT:

MANUAL, TEST FACILITIES DESCRIPTION AND CAPABILITIES

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

To distribute test facility information to all elements of the project which are concerned with testing.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	30

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-031, Specification, Special Test Equipment (STE), Component
TE-001, Plan, Integrated Test
TE-031, Specification, Special Test Equipment (STE)
TE-130, Plan, General Test

FREQUENCY OF ISSUE:

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

As required

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through FACI

ESTIMATED EXPIRATION DATE:

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- ☐ SECRET RESTRICTED DATA
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- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN
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- ☐ NASA DISCREET
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- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

REVIEWS AND/OR APPROVALS REQUIRED:
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	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.: TE-025

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

OUTLINE OF CONTENTS:

1.0 Introduction

2.0 Scope

This document is intended to provide general rather than specific information relative to each facility. For the facilities available, the following information should be provided:

a. Identification of the facility.
b. Location of the facility, building, room, etc.
   1) Size of access doors into the area.
   2) Adjacent assembly areas.
   3) Cleanliness conditions and potential.
c. Size of test facility.
d. Limits on size of test specimen.
e. Capability of facility.
f. Controls (as applicable).
g. Access and penetrations (if applicable).
h. Provisions for combined environmental tests.
i. Special fixtures and instrumentation available.
j. Safety considerations.
k. Constraints and special considerations

3.0 Environmental test facilities

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

3.1 For parts, components or assemblies
3.2 For systems.
4.0 Other test facilities

GE EXHIBIT DRD TE-027

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.:
	TE			B. Daniels	7/28/67		TE-027

TITLE OF DOCUMENT:

* LOGBOOK, TEST

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

A comprehensive listing of the various activities accomplished during a test and the test results in quantitative form.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	30

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-002, Logbook, Vehicle
TE-001, Plan, Integrated Test
TE-161, Logbooks, Cumulative Test Time
TE-165, Report, Test

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
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- ☐ WEEKLY
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PUBLICATION DATE: PDR

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ESTIMATED EXPIRATION DATE:

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- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

Mission Guidelines

APPLICABLE STANDARDS:

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SUBMIT FOR APPROVAL TO:	Manager, Test	BY		BY

* Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-027

Preprinted form may be used for the accumulation of information to be contained in this logbook. The information to be included are shown below, but the design of the form (or forms) is left to the contractor.

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

OUTLINE OF CONTENTS:

1. Hardware identification
   a. Title or name
   b. Identifying numbers and model
2. Date
3. Name of test and location
4. Page number
5. Test conditions (ambient temp., humidity, pressure, etc.)
6. Individuals participating
7. Space for recording significant events and data such as:
   a. Installation or removal of hardware
   b. Modifications
   c. Inspections
   d. Start and stop of tests and significant events within the test such as commands, etc.
   e. Test equipment operation
   f. Test facility conditions and changes
   g. Failures and anomalies detected and resulting action.
   h. Significant data items
8. Procedures used
9. Approval

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

GE EXHIBIT DRD TE-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.:
	TE			M. Shoemaker	7/28/67		TE-028

TITLE OF DOCUMENT:

TAPE, DATA STORAGE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 a record of test results for subsequent evaluation.

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 REQUIREMENTS:

TE-027, *Logbook, Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: CDR

UPDATE (FREQUENCY OR MILESTONE): As required through 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:

None

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, Test	BY		BY

* Key Informal Data

JPL 2568 OCT 65

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-028

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

OUTLINE OF CONTENTS:

1.0 Information on tape
- 1.1 Data
- 1.2 Time base
- 1.3 Written
  - a. Specific vehicle
  - b. Time and date of test
  - c. Test identification
  - d. Test conductor
- 1.4 Reference frequency (cycle lock)

2.0 Identifying file cards
- 2.1 Vehicle No.
- 2.2 Reel No.
- 2.3 Test procedure
- 2.4 Date
- 2.5 Recorder No.
- 2.6 Start and stop times
  - a. Specific paragraphs or item No. in test procedure
  - b. Remarks

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

GE EXHIBIT DRD TE-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.:
	TE			B. Daniels	7/28/67		TE-030

TITLE OF DOCUMENT:

PROCEDURE, TEST OPERATING

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

TYPE OF DOCUMENT: [X] CONTROL [ ] ACTION [ ] REFERENCE [ ] INFORMATION

USE OF DOCUMENT:

To give the specific step-by-step procedure for conducting (various) tests of the hardware.

ORGANIZATION RESPONSIBLE 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:

QA-005, Manual, Special Test Equipment, Component; RA-018, Report, Reliability Assessment; SA-001, Plan, System Safety Engineering; SE-011, Contract End Item (CEI) Detail Specification (Prime Equipment) Part II SE-058, Drawings, (Category E) for Test; TE-131, Plan, Detailed Test

FREQUENCY OF ISSUE:

- [ ] ANNUALLY
- [ ] SEMI-ANNUALLY
- [ ] QUARTERLY
- [ ] BI-MONTHLY
- [ ] MONTHLY
- [ ] SEMI-MONTHLY
- [ ] BI-WEEKLY
- [ ] WEEKLY
- [ ] DAILY
- [X] OTHERWISE, AS SPECIFIED

As required

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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

FORM OF DATA:

- [X] 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
- [X] 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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-030

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Objectives and scope
2.0 Requirements
    a. Personnel
    b. Configuration
    c. Equipment
    d. Instrumentation
    e. Applicable documents
    f. Sequence
3.0 Special instructions
    a. Safety and operational constraints
    b. Sign-off
    c. Other
4.0 Preparation
    a. Preliminary and final preparations
    b. Special tests
5.0 Procedures
6.0 Post-test operations
7.0 Data sheets

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

GE EXHIBIT DRD TE-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.:
	TE			B. Daniels	7/28/67		TE-031

TITLE OF DOCUMENT:

SPECIFICATION, SPECIAL TEST EQUIPMENT (STE) (SYSTEM AND SUBSYSTEM)

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

TYPE OF DOCUMENT: [X] CONTROL [ ] ACTION [ ] REFERENCE [ ] INFORMATION

USE OF DOCUMENT:

To define the performance and verifications tests requirements for special test equipment. Use in the design and procurement of the equipment.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	30
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-001, Engineering Change Proposal (ECP)
CM-002, Specification Change Notice (SCN)
TE-001, Plan, Integrated Test
TE-030, Procedure, Test, Operating
TE-123, Plan, Special Test Equipment (STE) Verification Tests

FREQUENCY OF ISSUE:

- [ ] ANNUALLY
- [ ] SEMI-ANNUALLY
- [ ] QUARTERLY
- [ ] BI-MONTHLY
- [ ] MONTHLY
- [ ] SEMI-MONTHLY
- [ ] BI-WEEKLY
- [ ] WEEKLY
- [ ] DAILY
- [X] OTHERWISE, AS SPECIFIED: As required

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through FACI

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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

FORM OF DATA:

- [X] 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
- [X] SPECIFICATION
- [ ] STANDARD
- [ ] VOUCHER

REFERENCE DOCUMENTS:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-031

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

OUTLINE OF CONTENTS:

1.0 Scope
2.0 Applicable documents
3.0 Requirements
    3.1 Functional characteristics
    3.2 Interfaces
    3.3 Special considerations (as applicable)
        a. Mass and dynamics
        b. Thermal
        c. EMI control
        d. Material restrictions for such things as:
            1) Magnetic considerations
            2) Cleanliness considerations
            3) Lubricants
4.0 Test and verification
    4.1 Inspection and test
    4.2 Verification requirements
5.0 Preparation for delivery
6.0 Notes

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

GE EXHIBIT DRD TE-046

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.:
	TE			B. Daniels	7/28/67		TE-046

TITLE OF DOCUMENT:

REPORT, CUMULATIVE TEST TIME

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 show the amount of time accumulated upon specific sections or components of the hardware.

ORGANIZATION RESPONSIBLE 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:

LS-012, Plan, Logistics Support
QA-002, Logbook, Vehicle
RA-009, Plan, Reliability Assurance
TE-001, Plan, Integrated Test
TE-161, Logbook, Cumulative Test Time
TE-167, Report, Test Phase Summary

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☐ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ BI-WEEKLY
- ☐ WEEKLY
- ☐ DAILY
- ☒ OTHERWISE, AS SPECIFIED: As Required

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through 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:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-046

This report may be prepared in either a tabular or graphical format.

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope
2.0 Applicable documents and references
3.0 Information
    3.1 Hardware identification
        a. Component or assembly and identifying number
        b. Subsystem
        c. System
    3.2 Operating time (in hours)
        a. During component test
        b. During subsystem test
        c. During system test
        d. Total time
        e. Time from last failure
    3.3 Failure summary

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

GE EXHIBIT DRD TE-054

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.:
	TE			B. Daniels	7/28/67		TE-054

TITLE OF DOCUMENT:

REPORT, QUICK-LOOK TEST

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 give to management and the customer the initial evaluation of a test relative to the objectives.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 30

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
TE-027, Logbook, Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

As required thru launch

PUBLICATION DATE: PDR

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
- ☐ 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:

None

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
	Manger, Test			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-054

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

OUTLINE OF CONTENTS:

1. Introduction and summary
   A brief statement of:
   a. What was tested.
   b. When the test occured
   c. Where the tests were conducted
   d. Major events, number of tests, length of test, etc.
2. Objectives and apparent degree of satisfaction.
3. Preliminary evaluation
   a. Of the test
   b. Of the data produced.
4. Conclusions

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

GE EXHIBIT DRD TE-056

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.:
	TE			B. Daniels	7/28/67		TE-056

TITLE OF DOCUMENT:

REPORT, DAILY OPERATIONS

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

Daily disclosure of actual versus planned operations in the System Test area for management and customer information and action.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	75

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-008, Plan, Project Control
MA-016, Report, Project Progress, Monthly
MA-019, Report, Quarterly, Written
TE-131, Plan, Detailed Test

FREQUENCY OF ISSUE:

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

Through launch

PUBLICATION DATE: PDR

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
- ☐ 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:

None

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, Test			

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-056

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Identification of test and test hardware
2.0 Summary
Progress and schedule status versus planned
3.0 Details
a. Activities and status of hardware
b. OSE Status
c. Supporting facilities status (as applicable).
4.0 Recommendations

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

GE EXHIBIT DRD TE-112

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.:
	TE			B. Daniels	7/28/67		TE-112

TITLE OF DOCUMENT:

PLAN, SPACECRAFT MISSION OPERATIONS TEST

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

To provide the plans for test with the MOS, DSIF, SFOF, etc to demonstrate operational readiness and capability.

ORGANIZATION RESPONSIBLE 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:

LS-012, Plan, Logistic Support
MP-002, Plan, Mission Operations Support (Spacecraft)
PQ-005, Planetary Quarantine, Planetary Vehicle Test
TE-001, Plan, Integrated Test
TE-131, Plan, Detailed Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

One time

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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

REFERENCE DOCUMENTS:

Mission Operations Plan
Mission Operations System (MOS) & Deep Space Information Facility (DSIF) 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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-112

SPECIAL INSTRUCTIONS:

Detailed test plans shall be prepared for specific tests such RF compatibility tests between spacecraft and DSIF or MOS readiness demonstration tests.

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope
2.0 Scope and summary
3.0 Test requirements
The following shall be included for each of the tests listed below:
a. Objectives
b. Test hardware
c. Location of tests and facilities
d. Test equipment and special equipment
e. Test sequence and plan
f. Schedule
3.1 Spacecraft and/or capsule with the DSIF
3.2 Planetary vehicle and MOS
3.3 MDE hardware and the DSIF and MOS
3.4 Software and the DSIF/SFOF/MOS
4.0 References

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

GE EXHIBIT DRD TE-123

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.:
	TE			B. Daniels	7/28/67		TE-123

TITLE OF DOCUMENT:

PLAN, SPECIAL TEST EQUIPMENT (STE) VERIFICATION TESTS

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

To provide the tests to be used to verify that a particular piece of STE is suitable for use.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	30

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
TE-030, Procedure, Test Operating
TE-165, Report, Test

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

One time

PUBLICATION DATE: CDR

UPDATE (FREQUENCY OR MILESTONE): Revise 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 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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-123

Verification plans shall be prepared for each major piece of special test equipment (such as a support fixture for the spacecraft system) to demonstrate its suitability for use with the hardware.

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope
2.0 Requirements and objectives
    a. Applicable STE specification
    b. Requirements
3.0 Test equipment and special fixture
4.0 Test sequence and plan
    a. Check-out
    b. Operation
    c. Performance
5.0 Schedule
6.0 Special considerations such as safety, etc.

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

GE EXHIBIT DRD TE-125

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.:
	TE			B. Daniels	7/28/67		TE-125

TITLE OF DOCUMENT:

PROCEDURE, FACILITIES OPERATING

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

To provide the specific instructions for operating facility equipment such as a Thermal/Vacuum chamber or vibration equipment.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO OF COPIES
	30
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-030, Procedure, Test Operating
TE-129, Procedure, Equipment Calibration and Checkout

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

One time

PUBLICATION DATE: FACI

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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:

None

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.: TE-125

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

OUTLINE OF CONTENTS:

1.0 Introduction
2.0 Objectives
3.0 Requirements for such items as:
    a. Personnel
    b. Instrumentation
    c. Equipment
    d. Applicable documents
    e. Utilities
4.0 Special instructions
    a. Safety and operational constraints
    b. Sign-off
5.0 Preparations
    a. Preliminary and final
    b. Special tests
6.0 Detailed procedure
7.0 Post-test activities
8.0 Facility data sheets

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

GE EXHIBIT DRD TE-129

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.:
	TE			B. Daniels	7/28/67		TE-129

TITLE OF DOCUMENT:

PROCEDURE, EQUIPMENT CALIBRATION AND CHECK-OUT

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 establish the step-by-step procedure for the validation of equipment and the criteria for acceptability.

ORGANIZATION RESPONSIBLE 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:

TE-001, Plan, Integrated Test
TE-027, *Logbook, Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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

REFERENCE DOCUMENTS:

None

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, Test	BY		BY

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-129

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope
2.0 Requirements
    a. Personnel
    b. Applicable documents
    c. Configurations
    d. Equipment
    e. Instrumentation
    f. Sequence (as necessary)
3.0 Special instructions
    a. Safety of operational constraints
    b. Sign-off
    c. Other
4.0 Procedure
    a. Preparations
    b. Warm-up
    c. Tests
    d. Calibration runs
    e. Post-test operations
5.0 Data sheets

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

GE EXHIBIT DRD TE-130

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.:
	TE			B. Daniels	7/28/67		TE-130

TITLE OF DOCUMENT:

PLAN, GENERAL TEST

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

To provide the overall plan for each major test item or test phase and is used as the basis for detailed plans including facilities, test fixtures, etc.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	75
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:

LS-010, Manual, System Test Complex (STC) Description, Operation and Maintenance
SE-058, Drawings, (Category C) for Test
TE-001, Plan, Integrated Test
TE-030, Procedure, Test Operating
TE-031, Specification, Special Test Equipment (STE)
TE-131, Plan, Detailed Test

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): As required through MAR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
- ☐ CONFIDENTIAL RESTRICTED DATA
- ☒ UNCLASSIFIED
- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
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- ☐ 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
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- ☐ ENGINEERING CHANGE PROPOSAL
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- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☒ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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 Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-130

SPECIAL INSTRUCTIONS: General test plans shall be prepared for all major test models (or test phases). They shall include but not be restricted to tests such as the following:

1. Thermal test model
2. Structural test model
3. Engineering development model spacecraft
4. Separation model
5. Attitude control test model
6. Antenna test model
7. Proof test model
8. Assembly and check-out
9. Combined system tests
10. OSE system tests
11. Etc.

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

OUTLINE OF CONTENTS:

1.0 Introduction
- a. Requirements
- b. Purpose
- c. Objectives of test

2.0 Test hardware description
3.0 Instrumentation planned
4.0 Facilities usage
- a. Set-up
- b. Test time
- c. Tear-down
- d. Special requirements

5.0 Test equipment and special fixtures
6.0 Test sequence and plan
7.0 Schedule
8.0 Analysis and evaluation plan
9.0 Special considerations such as safety, etc.

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

GE EXHIBIT DRD TE-131

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.:
	TE			B. Daniels	7/28/67		TE-131

TITLE OF DOCUMENT:

PLAN, DETAILED TEST

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

To provide specific test plans for conducting a test(s). Used by the test organization to implement the test(s).

ORGANIZATION RESPONSIBLE 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:

RA-018, Report, Reliability Assessment
SE-027, Specification, Special Test Models
TE-001, Plan, Integrated Test
TE-027, *Logbook, Test
TE-030, Procedure, Test Operating
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): As required through MAR

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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- ☐ INDEX
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- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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:	Cognizant Engineer	BY		BY

*Key Informal Data

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-131

SPECIAL INSTRUCTIONS: Detailed test plans supplement the integrated test plan and general test plans by providing specific information relative to a particular test or tests on a particular component or assembly. Detailed test plans shall be prepared for items such as the following but may include other similar items:

1. Breadboard tests
2. Tests of engineering development models
3. Tests of development subsystems
4. Major tests in the cycle of the spacecraft models and systems such as:
   a. Vibration Tests on the spacecraft test model (STM)
   b. Thermal/Vacuum tests on the proof test model (PTM)
   c. TLM calibration on the EDM, PTM, or flight spacecraft.
5. TA tests on each component or assembly.
6. FA tests on each component or assembly.

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

OUTLINE OF CONTENTS:

1.0 Specific requirements with appropriate references
2.0 Purpose and objectives
3.0 Test hardware description
   a. Physical (including instrumentation)
   b. Functional
4.0 Data requirements
5.0 Facilities and test equipment provisions.
6.0 Test plan
   a. Sequence, flow plan and schedule
   b. Test conditions
   c. Expected results with quantitative predictions
   d. Procedures (by reference if required).
   e. Data reductions and presentations
7.0 Analysis and evaluation
   a. Data processing required
   b. Analysis plans
8.0 Special considerations
   a. Special handling and set-up requirements
   b. Protection against test equipment failures or mal-usage
   c. Safety

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

GE EXHIBIT DRD TE-157

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.
	TE			M. Shoemaker	7/28/67		TE-157

TITLE OF DOCUMENT:

PLAN, FACILITIES CERTIFICATION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION	TASK OR SUBTASK	DRL ITEM NO.
T&O		

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 the plan and sequence of tests required to certify a facility as suitable for use.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE	NO. OF COPIES
	30

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-025, Manual, Test Facilities Description and Capabilities
TE-125, Procedure, Facilities Operating
TE-129, Procedure, Equipment Calibration and Checkout

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

One time

PUBLICATION DATE: FACI

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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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- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-157

SPECIAL INSTRUCTIONS:

New facilities as well as existing facilities shall be certified as being capable of supporting Voyager with adequate safety margins.

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

OUTLINE OF CONTENTS:

1.0 Scope
2.0 Applicable documents
3.0 Requirements
- 3.1 Definition of facilities to be certified
- 3.2 Certification of facilities to include, but not be limited to:
  - a. Primary power margins and stability
  - b. RFI and EMI margins
  - c. Thermal control margins
  - d. Humidity control margins
  - e. Contamination control margins
  - f. Magnetic characteristics
  - g. Personnel and equipment safety feature operation
  - h. Dimensions of facility to include, but not be limited to:
    1) Inside dimensions and clearances
    2) Dimensions of doors
    3) Floor load capacity

4.0 Test equipment and special fixtures
5.0 Test sequence
6.0 Schedule

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

JPL 2568-1 OCT 65

GE EXHIBIT DRD TE-158

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.:
	TE			B. Daniels	7/28/67		TE-158

TITLE OF DOCUMENT:

PLAN, SOFTWARE CERTIFICATION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: T&O

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 establish the tests required to certify the computer software used during tests and operations.

ORGANIZATION RESPONSIBLE 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:

TE-001, Plan, Integrated Test
TE-018, Plan, Operational Support Equipment (OSE) Certification
TE-130, Plan, General Test
TE-142, Specification, Software Performance

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: FACI

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

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:

None

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, Test	BY		BY

JPL 2568 OCT 65

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-158

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Introduction and scope
2.0 Requirements and objectives
3.0 Test plan and sequence
    3.1 Program verification plan
        a. Subroutine verification
        b. Interface checks
        c. Programs verification
    3.2 Test sequence and procedures
        a. Logic and option checks
        b. Use of test cases
4.0 Schedules

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

GE EXHIBIT DRD TE-159

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.
	TE			B. Daniels	7/28/67		TE-159

TITLE OF DOCUMENT:

PROCEDURE EQUIPMENT (SPACECRAFT AND OPERATIONAL SUPPORT) ASSEMBLY AND HANDLING

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 specific instructions for disassembly, assembly, and/or handling of equipment.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO OF COPIES: 30

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:

LS-017, Plan, Transportation and Handling
TE-030, Procedure, Test Operating
TE-129, Procedure, Equipment Calibration and Checkout

FREQUENCY OF ISSUE:

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

PUBLICATION DATE:

UPDATE (FREQUENCY OR MILESTONE): Revise as required

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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- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
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- ☒ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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, System Engineering	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-159

SPECIAL INSTRUCTIONS:

These procedures shall apply for disassembly and movement of the spacecraft or OSE equipments within the general test area as opposed to the handling procedures required for transporting the equipments to the launch site.

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

OUTLINE OF CONTENTS:

1.0 Introduction and Scope
2.0 Requirements
    a. Personnel
    b. Equipment
    c. Applicable documents
3.0 Special instructions
    a. Safety and other constraints
    b. Sign-off
    c. Other
4.0 Procedure
    a. Preparations
    b. Disassembly (as required)
    c. Loading and moving
    d. Assembly
    e. Checkout

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

GE EXHIBIT DRD TE-160

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.:
	TE			B. Daniels	7/28/67		TE-160

TITLE OF DOCUMENT:

PROCEDURE, OPERATING, INTEGRATED TEST BOARD (ITB)

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

To provide the guidelines and procedures for the operation of the Integrated Test Board.

ORGANIZATION RESPONSIBLE 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:

MA-008, Plan, Project Control

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

One time

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through MAR

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:
- ☐ SECRET
- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
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- ☐ PUBLIC DOMAIN
- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:
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KIND OF DATA:
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- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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.: TE-160

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

OUTLINE OF CONTENTS:

1.0 Introduction
2.0 Scope
3.0 Operations
- 3.1 Integration
  - a. Authority and function
  - b. Membership
  - c. Chairman
  - d. Interfaces
- 3.2 Meetings
  - a. Stated
    - Time
    - Place
    - Attendance requirements
  - b. Special
    - Method of constituting
    - Attendance requirements

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

3.3 Actions and decisions
- a. Operating procedures
- b. Method of making decisions
- c. Appeals

3.4 Records and minutes
- a. Review and approval
- b. Publication
- c. Distribution

4.0 Notes

GE EXHIBIT DRD TE-161

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.:
	TE			M. Shoemaker		7/28/67	TE-161

TITLE OF DOCUMENT:

LOGBOOK, CUMULATIVE TEST TIME

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

A listing of the test time accumulated on the various sections of the hardware.

ORGANIZATION RESPONSIBLE 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:

QA-002, Logbook, Vehicle
QA-009, Plan, Quality Assurance Program
RA-009, Plan, Reliability Program
TE-030, Procedure, Test Operating
TE-165, Report, Test

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

As required

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through 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:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-161

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

OUTLINE OF CONTENTS:

The logbook shall contain the following information:

1. Hardware identification
   a. Name and identifying number(s)
   b. Manufacturer's name
   c. Maximum operating time limit (if applicable)
2. Installation History
3. Test Time History
   a. Daily operating time
   b. Cumulative time
   c. Mode of operation
   d. Type of test
4. Failure and maintenance history
   a. Failures and fixes
   b. Modifications
   c. Breaks of inspection
5. Notes of significant events or remarks.

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

GE EXHIBIT DRD TE-162

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.:
	TE			M. Shoemaker	7/28/67		TE-162

TITLE OF DOCUMENT:

FILM, TEST OPERATION

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

To provide a pictorial record of test operations and is used to evaluate procedures and/or results.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	8

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-030, Procedure, Test Operating
TE-131, Plan, Detailed Test

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

One time

PUBLICATION DATE: CDR

UPDATE (FREQUENCY OR MILESTONE): As required through 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:

None

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, Test	BY		BY

JPL 3565 OCT 65

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-162

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

OUTLINE OF CONTENTS:

1. Negative and prints
   - 1.1 Security classification
   - 1.2 Title of subject
   - 1.3 Negative number
     - a. Place
     - b. Date
     - c. Sequential number
     - d. Real time (If applicable)
   - 1.4 Requestor and his operation
   - 1.5 Special information
2. Log book or identifying file cards include information shown in paragraphs 1.1 through 1.5 above.

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

GE EXHIBIT DRD TE-163

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.:
	TE			B. Daniels	7/28/67		TE-163

TITLE OF DOCUMENT:

REPORT, INTEGRATED TEST BOARD (ITB)
ACTIONS SUMMARY

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

To provide a summary of the action of the Integrated Test Board relative to the review and approval of test plans, procedures, result, type approval, etc.

ORGANIZATION RESPONSIBLE 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:

TE-001, Plan, Integrated Test
TE-030, Procedure, Test Operating
TE-130, Plan, General Test
TE-165, Report, Test

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

PUBLICATION DATE: PDR

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
- ☐ DISCLOSURE
- ☐ ENGINEERING CHANGE ORDER
- ☐ REQUEST FOR ENGINEERING CHANGE PROPOSAL
- ☐ ENGINEERING CHANGE PROPOSAL
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- ☐ INSTRUCTION
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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:	Project, Manager	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-163

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1. Introduction
   a. Scope and period of time covered
2. Documentation status
   2.1 Plans
      a. Approved
      b. Pending
      c. Action items
   2.2 Procedures
      a. Approved
      b. Pending
      c. Action items
   2.3 Reports
      a. Approved
      b Pending
      c. Action items
3. Hardware status
   a. Type approval granted
   b. Type approval withheld
   c. Action items

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

GE EXHIBIT DRD TE-164

VOYAGER DATA REQUIREMENT DESCRIPTION

DRD APPROVED BY:

DATE:

DATA CATEGORY:

ORGANIZATION ORIGINATING REQUIREMENT: CODE: TE

OFFICE RESPONSIBLE FOR DRD: CODE:

DRD PREPARED BY: B. Daniels

DATE: 7/28/67

CONTRACT NO.:

DRD NO.: TE-164

TITLE OF DOCUMENT:

SPECIFICATION, SOFTWARE PERFORMANCE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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:

Used by the data systems and programming function to design the computer programs which support test operations.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 30

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
TE-030, Procedure, Test Operating
TE-130, Plan, General Test
TE-165, Report, Test

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise 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 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:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-164

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

OUTLINE OF CONTENTS:

1.0 Scope
2.0 Applicable documents
3.0 Requirements
- 3.1 Description of program
  - a. Function(s) to be performed
  - b. Features such as logic, options, decisions, timing, etc.
  - c. Inputs and outputs, volume of data, etc.
  - d. Form (i.e., tape, cards, assembly listings, etc.)
- 3.2 Interfaces
- 3.3 Equipment utilization
- 3.4 Program restrictions and constraints
  - a. Accuracy
  - b. Tolerances
  - c. Timing and speed of operation
- 3.5 Special considerations
  - a. Provisions for computer recovery
  - b. Alternate requirements for input/output handling

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

4.0 Test and verification
   a. Procedures for evaluating and functional routines
   b. Performance standards for evaluation
   c. Requirements for test cases
5.0 Preparation for delivery
6.0 Notes
   a. Mathematical concepts or formulas
   b. Definition of special terms

GE EXHIBIT DRD TE-165

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.:
	TE			B. Daniels	7/28/67		TE-165

TITLE OF DOCUMENT:

REPORT, TEST

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Test

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 the results of a test including evaluation of accomplishments relative to the objectives.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 75

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:

RA-018, Report, R eliability Assessment
RA-019, Report, Reliability Program Status
TE-001, Plan, Integrated Test
TE-167, Report, Test Phase Summary

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through 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
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- ☐ LETTER
- ☐ LIST
- ☐ LOG
- ☐ MANUAL
- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.: TE-165

SPECIAL INSTRUCTIONS:

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

OUTLINE OF CONTENTS:

1.0 Introduction and summary
   a. Brief statement of the test.
   b. Objectives and relative degree of satisfaction.
   c. Summary of results (with schedule as appropriate).
   d. Recommendations
2.0 References
3.0 Test
   a. Hardware tested and instrumentation.
   b. Facilities and special equipment used.
   c. Test sequence
      1) Planned
      2) Actual
      3) Detailed schedules
4.0 Results
   Actual data as appropriate or references.
5.0 Evaluation and analysis
   a. Expected
   b. Actual
   c. Meaning
   d. Recommendation

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

GE EXHIBIT DRD TE-166

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.:
	TE			B. Daniels	7/28/67		TE-166

TITLE OF DOCUMENT:

REPORT, TEST PROGRAM SUMMARY

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

To provide a summary of the total test program including planned vs. actual tests and an evaluation of the test objectives for the program.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	75

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:

LS-023, Report, Logistics Summary
MA-013, Report, Final Project
PC-002, Report, Contract Status

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): As required through launch

ESTIMATED EXPIRATION DATE:

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

- ☐ GROUP 1
- ☐ GROUP 2
- ☐ GROUP 3
- ☐ GROUP 4
- ☐ PROPRIETARY
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- ☐ 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
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- ☐ MEMORANDUM
- ☐ MINUTES
- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

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

JPL 2568 OCT 65

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-166

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

OUTLINE OF CONTENTS:

1. Introduction and scope
   Since this is the report which complements the integrated test plan, the scope of contents shall be comparable.
2. Summary
   a. Test approach
   b. Major events
   c. Overall conclusions
3. Applicable documents
   a. Specifications
   b. Plans
   c. Other
4. Development program
   a. Parts and materials
   b. Components
   c. Major models
   d. OSE
   e. Etc.

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

5. Type approval program
   a. Parts and materials
   b. PTM
6. Certification program
   a. OSE
   b. Softwares
   c. Facilities
7. Flight acceptance program
   a. Components and assemblies
   b. Systems
8. Combined system tests
   a. Spacecraft - capsule
   b. Planetary vehicle - launch system
   c. Planetary vehicle - MOS
9. References
   a. Test procedures
   b. Test reports
10. Appendixes (as desired)

GE EXHIBIT DRD TE-167

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.:
	TE			B. Daniels	7/28/67		TE-167

TITLE OF DOCUMENT:

REPORT, TEST PHASE SUMMARY

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

To summarize the test activities and accomplishments of a phase of testing such as assembly and check-out or environmental testing.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:

NO. OF COPIES: 75

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-013, Report, Final Project
PC-002, Report, Contract Status
TE-165, Report, Test
TE-166, Test Program Summary Report

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: PDR

UPDATE (FREQUENCY OR MILESTONE): Revise through launch

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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- ☐ CONFIDENTIAL
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FORM OF DATA:

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- ☐ OTHER

KIND OF DATA:

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- ☐ BROCHURE
- ☐ BULLETIN
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- ☐ MEMORANDUM
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- ☐ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☒ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS: None

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, Test	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: TE-167

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

OUTLINE OF CONTENTS:

1. Introduction
2. Abstract
   a. Scope of report
   b. Hardware tested and when
   c. Objectives and summary of results
   d. Recommendations
3. Tests
   a. Hardware tested
   b. Facilities and special equipment
   c. Test sequences and schedules
4. Results (including failures and actions)
5. Recommendations
6. References

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

Mission Operations Data Requirement Descriptions

DRD Number	Title
MP-001	Handbook, System Performance Reference
MP-002	Plan, Mission Operations Support (Spacecraft)
MP-003	Specification, Mission Dependent Equipment (MDE)
MP-004	Report, Operational Design Description
MP-005	Plan, Flight Operation Diagnostic Computation

GE EXHIBIT DRD MP-001

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.:
	MP			J. Kotzar	7/28/67		MP-001

TITLE OF DOCUMENT:

HANDBOOK, SYSTEM PERFORMANCE REFERENCE

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
System Engineering		
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:

Support in training contractor and customer personnel for mission operations. Support contractor and customer personnel during operations. Support the spacecraft performance analysis team and flight path analysis team.

ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES:
	55
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:

SE-032 Report, Spacecraft System Description
SE-033 Report, System Analysis, General
SE-037 Report, Trade Studies
SE-047 Report, Subsystem Design
SE-054 List, Command

FREQUENCY OF ISSUE:

- ☐ ANNUALLY
- ☒ SEMI-ANNUALLY
- ☐ QUARTERLY
- ☐ BI-MONTHLY
- ☐ MONTHLY
- ☐ SEMI-MONTHLY
- ☐ BI-WEEKLY
- ☐ WEEKLY
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PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): Semiannual

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

- ☐ SECRET
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- ☐ SPECIAL HANDLING
- ☐ NASA DISCREET
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- ☐ MODEL
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- ☐ COMPUTER TAPE
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- ☐ OTHER

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- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

None

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, System Engineering	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: MP-001

None

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

OUTLINE OF CONTENTS:

1. Introduction and scope
2. Data/information sources
   a. Flight path and orbit data
      Description
      Formats
   b. Telemetry information
      (1) Total list
         Operational listing
         Diagnostic listing
         Link, frame, and subframe assignments
         Current calibration information
      (2) Operational TLM listing by operational mode
      (3) Information flow and TLM exposition diagrams
         (a) Functional schematics with:
            1) Sensor stimulation sources
            2) Signal characteristics
            3) Performance requirements
         (b) Related commands
         (c) Interfaces

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

3. Event sequences
   - Separation
   - Engine firings
   - Orbit insertion
   - Capsule entry
4. Command listing
   - Description
   - Operational sequences and constraints
5. Software
   - Description and input instructions for operational computer programs
   - Description of output listings
6. Failure mode operations
   - Description of possible modes
   - Related TLM functions and characteristics
   - Correlatable functions
   - Recommended actions
7. Analytical aids
   - Predicted expendable usage rates
   - Operability standards from ground test
   - Nomographs
   - Decision trees, etc.

GE EXHIBIT DRD MP-002

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.:
	MP			J. Kotzar	7/28/67		MP-002

TITLE OF DOCUMENT:

PLAN, MISSION OPERATIONS SUPPORT (SPACECRAFT)

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: System Engineering

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 basis for contractor mission operations effort and to define interface with customer mission operations.

ORGANIZATION RESPONSIBLE 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:

PQ-014 Specification, General Engineering, Planetary Quarantine Design
SC-004 Schedule, Task and Subtask Level (PERT)
SE-001 Plan, System Development
SE-008 Specifications, System Performance/Design
TE-112 Plan, Spacecraft Mission Operations Test

FREQUENCY OF ISSUE:

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

One time

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): As required

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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

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- ☐ GROUP 3
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- ☐ PROPRIETARY
- ☐ PUBLIC DOMAIN

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

FORM OF DATA:

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- ☐ 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
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- ☒ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

None

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

DRD NO.: MP-002

SPECIAL INSTRUCTIONS:

This document will be prepared by the NASA center or customer system office in conjunction with system contractors.

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

OUTLINE OF CONTENTS:

1. Scope
2. Mission operations schedule
   a. Design requirements (operational)
   b. Training for operations
      (1) GE personnel
      (2) Customer personnel
   c. Interface tests
   d. Compatibility tests
   e. Personnel for the mission support team
3. Staffing of the mission support team
   a. Number and type of people for the flight path analysis team (FPAT) and for the spacecraft performance analysis team (SPAT)
   b. Duties and duty cycle at customer's system office
   c. Duties at GE on system analysis
   d. Assistance from subsystem people
   e. Support command generation
4. Operational design requirements
   a. GE operational inputs to the telemetry instrumentation report
   b. Operational sequence of events

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

5. Deep space net (DSN) compatibility test
   a. Procedure, analysis, report
   b. Facilities and equipment
   c. Software
6. Interface tests
   a. Procedure, analysis, report
   b. Facilities and equipment
   c. Software
7. Training
   a. Improvement of human reliability
   b. Lectures
   c. Demonstrations
   d. Rehearsals
   e. Operational readiness tests
8. Notes

GE EXHIBIT DRD MP-003

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.:
	MP			J. Kotzar	7/28/67		MP 003

TITLE OF DOCUMENT:

SPECIFICATION, MISSION DEPENDENT EQUIPMENT (MDE)

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
System Engineering		

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 define required hardware and software documentation for use by the deep space network (DSN) and the space flight operation facility (SFOF).

ORGANIZATION RESPONSIBLE 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:

MP-001 Handbook, System Performance Reference
SE-008 Specification, System Performance/Design Requirements
SE-032 Report, Spacecraft System Description
SE-054 List, Command
SE-055 Report, Instrumentation and Telemetry

FREQUENCY OF ISSUE:

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

One time

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): As required through FACI

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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- ☐ REGULATION
- ☐ REPORT
- ☒ SCHEDULE
- ☒ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

None

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, System Engineering	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: MP-003

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

OUTLINE OF CONTENTS:

1. Scope
2. Applicable documents
3. Requirements
   - a. Hardware
     - (1) Command
     - (2) Telemetry
   - b. Software
     - (1) Event generator
       - (a) Tracking and orbit determination
       - (b) Control of midcourse, orbit insertion, and orbit from maneuvers
       - (c) DSN contact schedule
       - (d) Control of payload operation
     - (2) Telemetry processing software
       - (a) Deep space instrumentation facility (DSIF) format and display
       - (b) Telemetry processing station subroutine
       - (c) 7044 Voyager input routine
       - (d) 7094 Editor Voyager subroutine
     - (3) Command processing software
       - (a) Command generation
       - (b) Command and message preparation and transmission

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

(c) SFOF/DSIF Transmission verification
(d) DSIF uplink transmission and verification
(4) Vehicle command storage
(5) Spacecraft status
(6) Miscellaneous routines

4. Test and verification
5. Preparation for delivery (not applicable)
6. Notes
7. Appendixes

GE EXHIBIT DRD MP-004

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.:
	MP			J. Kotzar	7/28/67		MP-004

TITLE OF DOCUMENT:

REPORT, OPERATIONAL DESIGN DESCRIPTION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
System Engineering		
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 Mission Support Team basis for spacecraft performance analysis and for making command recommendations

ORGANIZATION RESPONSIBLE 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:

MP-001 Handbook, System Performance Reference
SE-032 Report, Spacecraft System Description
SE-037 Report, Trade Studies
SE-047 Report, Subsystem Design
SE-054 List, Command
SE-055 Report, Instrumentation and Telemetry

FREQUENCY OF ISSUE:

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

PUBLICATION DATE: HDR

UPDATE (FREQUENCY OR MILESTONE): As required through FACI

ESTIMATED EXPIRATION DATE:

CLASSIFICATION:

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- ☐ CONFIDENTIAL
- ☐ SECRET RESTRICTED DATA
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- ☐ 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:

None

APPLICABLE STANDARDS:

None

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

	DRAFT	DATE	PREPUBLICATION PROOF	DATE
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		BY		BY
SUBMIT FOR APPROVAL TO:	Manager, System Engineering	BY		BY

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.: MP-004

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

OUTLINE OF CONTENTS:

1. Scope
2. Applicable documents
3. Description
   a. System operations analysis
      (1) Performance modes
         (a) Perfect performance
         (b) Nominal performance
         (c) Degraded modes
         (d) Mission failure - termination
         (e) Loss of vehicle
      (2) Mission operations data and system performance analysis
         (a) System definition
         (b) Ground system definition
         (c) Flight system - ground system interfaces
         (d) Analysis of tests results - interface and compatibility tests
         (e) Flight analysis
4. Notes
5. Appendixes

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

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SPECIAL INSTRUCTIONS:

DRD NO.: MP-005

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OUTLINE OF CONTENTS:

1. Introduction
2. Objectives
   Spacecraft operation simulation for performance analysis - near real time
3. Math model development
   a. Rules and constraints
   b. Level of functions and interfaces
   c. Digital processing diagnostic model requirements
      (1) Priorities and sensitivities
      (2) Inputs and outputs
      (3) Logic design requirements
4. Processing system description
5. Diagnostic computation requirements
   a. System transfer functions, nominal
   b. Failure modes
   c. Failure effects
   d. Mission sequence, nominal
   e. Alternate sequences

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

GE EXHIBIT DRD MP-005

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.:
	MP			L. Bergere	7/28/67		MP-005

TITLE OF DOCUMENT:

PLAN, FLIGHT OPERATION DIAGNOSTIC COMPUTATION

ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:	TASK OR SUBTASK:	DRL ITEM NO.:
System Engineering		

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 define the procedures, responsibility, and operations involved in developing and using computer programs for diagnosis of in-flight anomalies.

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

MP-001 Handbook, System Performance Reference
MP-004 Report, Operational Design Description
SE-001 Plan, System Development
SE-032 Report, Spacecraft System Description
SE-054 List, Command

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

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- ☐ NASA DISCREET
- ☐ JPL DISCREET
- ☐ PROJECT DISCREET
- ☐ NOFORN

FORM OF DATA:
- ☒ PRINTED DOCUMENT
- ☐ CHART
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- ☐ ILLUSTRATION
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- ☐ COMPUTER CARD
- ☐ COMPUTER TAPE
- ☐ MICROFILM (W/OR W/O CARD)
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KIND OF DATA:
- ☐ ABSTRACT
- ☐ BROCHURE
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- ☐ ENGINEERING CHANGE ORDER
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- ☐ MINUTES
- ☒ PLAN
- ☐ PROCEDURE
- ☐ REGULATION
- ☐ REPORT
- ☐ SCHEDULE
- ☐ SPECIFICATION
- ☐ STANDARD
- ☐ VOUCHER

REFERENCE DOCUMENTS:

None

APPLICABLE STANDARDS:

None

REVIEWS AND/OR APPROVALS REQUIRED:
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SUBMIT FOR REVIEW TO:				
		BY		BY
SUBMIT FOR APPROVAL TO:	Manager, System Engineering	BY		BY

JPL 2568 OCT 65

6. Development Plan
   a. Milestone definitions
   b. Schedule
   c. Development sequences
7. Organization responsibilities
   a. Model development
   b. Programming
   c. Operation
8. Simulation interface
9. Documentation
   a. Drawings and specifications
   b. Programming
      (1) Program maintenance
10. Appendixes (Lists, drawings, specifications, etc.)

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.)

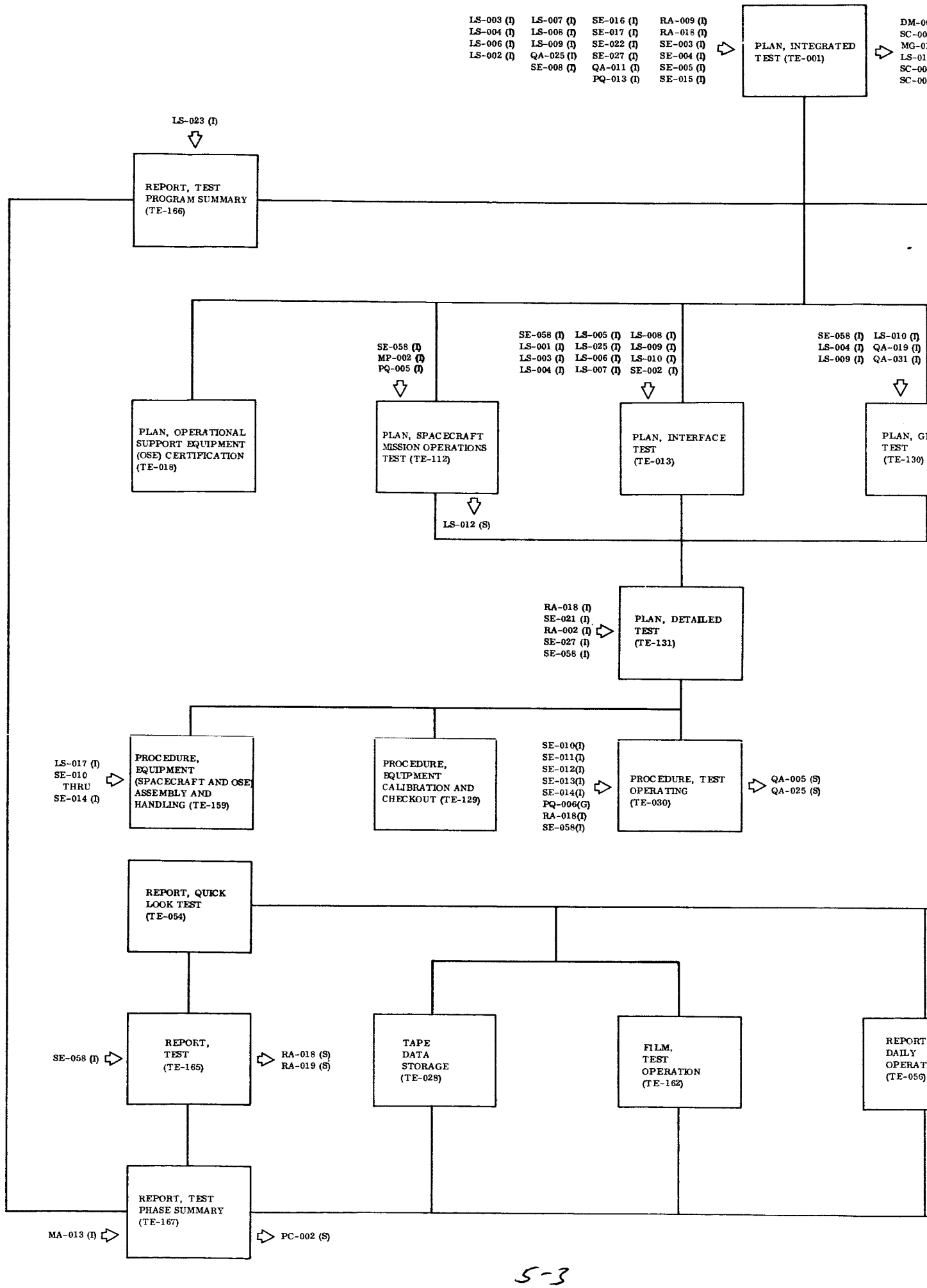
Relationships between data items in one category and data items in other functional categories are shown by (1) shaded arrows to indicate the direction of the relationship and (2) an alphabetic code to indicate the nature of the interrelationship as follows:

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.


LS-003 (I)
LS-004 (I)
LS-006 (I)
LS-002 (I)
LS-007 (I)
LS-008 (I)
LS-009 (I)
QA-025 (I)
SE-008 (I)
SE-016 (I)
SE-017 (I)
SE-022 (I)
SE-027 (I)
QA-011 (I)
PQ-013 (I)
RA-009 (I)
RA-018 (I)
SE-003 (I)
SE-004 (I)
SE-005 (I)
SE-015 (I)
PLAN, INTEGRATED TEST (TE-001)
LS-023 (I)
REPORT, TEST PROGRAM SUMMARY (TE-166)
SE-058 (I)
MP-002 (I)
PQ-005 (I)
SE-058 (I)
LS-001 (I)
LS-003 (I)
LS-004 (I)
LS-005 (I)
LS-025 (I)
LS-006 (I)
LS-007 (I)
LS-008 (I)
LS-009 (I)
LS-010 (I)
SE-002 (I)
SE-058 (I)
LS-004 (I)
LS-009 (I)
LS-010 (I)
QA-019 (I)
QA-031 (I)
PLAN, OPERATIONAL SUPPORT EQUIPMENT (OSE) CERTIFICATION (TE-018)
PLAN, SPACECRAFT MISSION OPERATIONS TEST (TE-112)
LS-012 (S)
PLAN, INTERFACE TEST (TE-013)
PLAN, GI TEST (TE-130)
RA-018 (I)
SE-021 (I)
RA-002 (I)
SE-027 (I)
SE-058 (I)
PLAN, DETAILED TEST (TE-131)
LS-017 (I)
SE-010 THRU SE-014 (I)
PROCEDURE, EQUIPMENT (SPACECRAFT AND OSE) ASSEMBLY AND HANDLING (TE-159)
PROCEDURE, EQUIPMENT CALIBRATION AND CHECKOUT (TE-129)
SE-010(I)
SE-011(I)
SE-012(I)
SE-013(I)
SE-014(I)
PQ-006(G)
RA-018(I)
SE-058(I)
PROCEDURE, TEST OPERATING (TE-030)
QA-005 (S)
QA-025 (S)
REPORT, QUICK LOOK TEST (TE-054)
SE-058 (I)
REPORT, TEST (TE-165)
RA-018 (S)
RA-019 (S)
TAPE DATA STORAGE (TE-028)
FILM, TEST OPERATION (TE-162)
REPORT DAILY OPERAT (TE-056)
MA-013 (I)
REPORT, TEST PHASE SUMMARY (TE-167)
PC-002 (S)

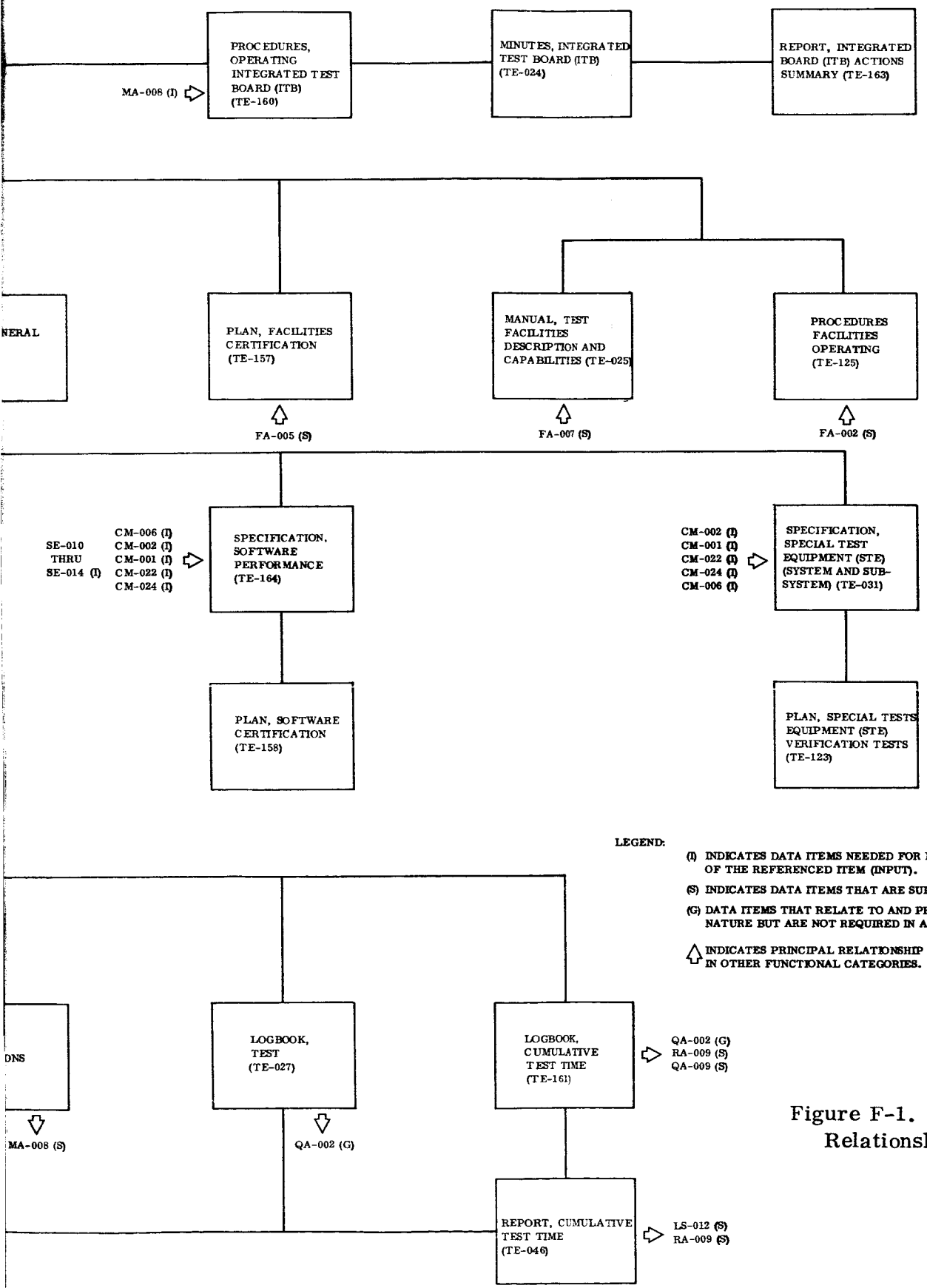


Figure F-1. Test Documentation Relationship Tree (TE)

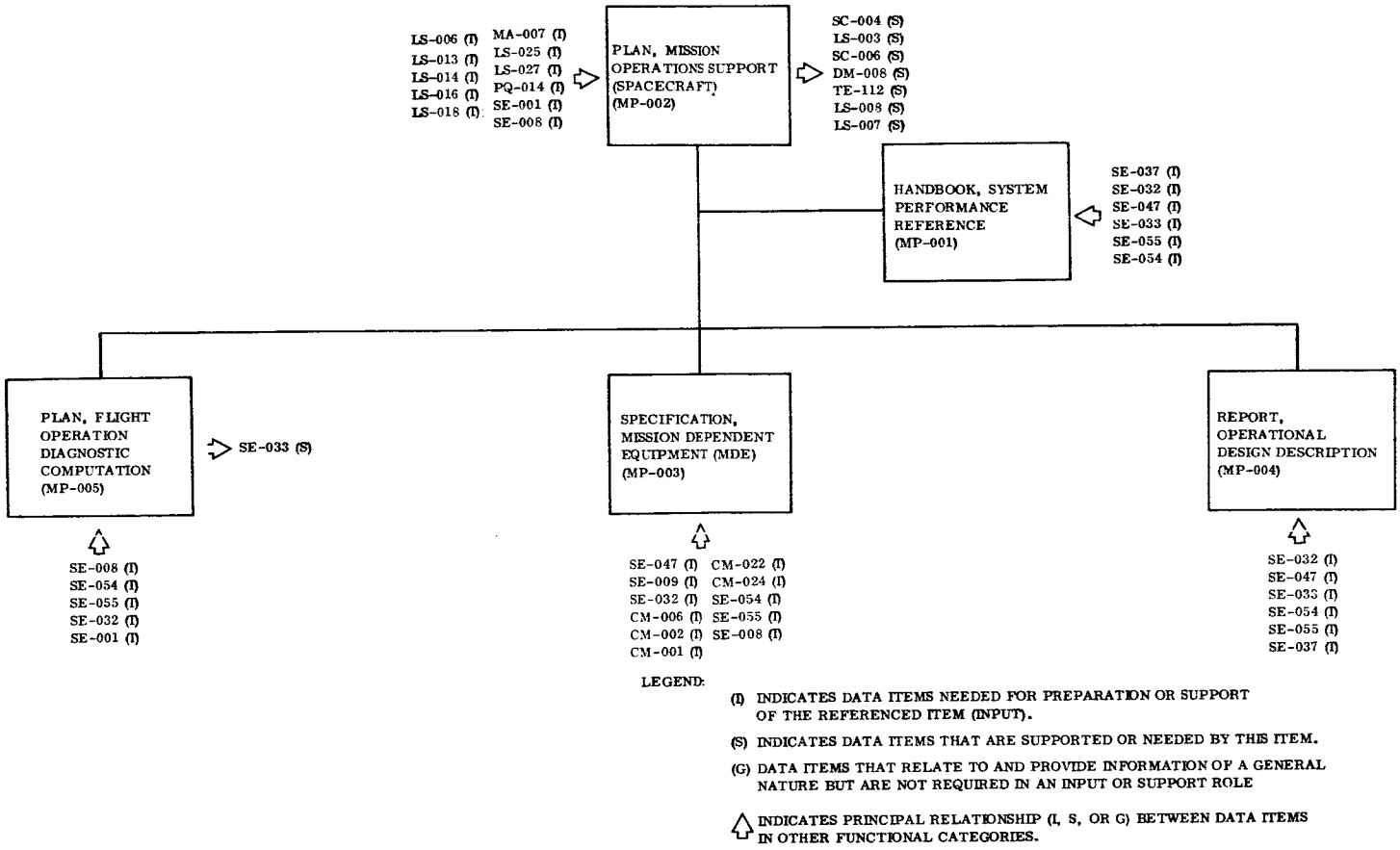


Figure F-2. Mission Operations Documentation Relationship Tree (MP)

DATA ITEM PHASING/FREQUENCY

The Test Data Item Phasing and Frequency Matrix, Figure F-3, reflects the estimated data item requirements resulting from spacecraft test and operations and shows major project review periods.

These estimates encompass all phases of the testing function and include those plans, reports, and procedures, etc., associated with site activation, test and checkout, as well as those data items directly associated with spacecraft testing. Data items to be prepared by associate contractors have been included. Revised data items have been considered as new issues.

The estimates are a composite of Company experience from similar space programs of lesser size and complexity and from results of studies and analyses of the Voyager Spacecraft as currently envisioned.

Basic assumptions are:

a. A total of eight equivalent spacecraft will be constructed (breadboards, engineering development model, thermal test model, structural test model, proof test model and two flight vehicles).

b. Two sets of OSE will be produced.

c. Requirements will exist for:

   1. System test and checkout

   2. Subsystems test and checkout. (Number of subsystems estimated at 14.)

   3. Interface testing. (Major interfaces estimated at 12.)

   4. Flight acceptance testing

   5. Facilities test, checkout and certification

Distribution and average density of data item occurrence by months during the contract period is graphically presented in Test Data Item Density Profile, Figure F-4. Relationships between formal and Key Informal Data Items are also shown.

Figure F-5, Mission Operations Data Item Phasing and Frequency Matrix, shows the phasing by major project review period and frequency of preparation of data items within the Mission Operations functional category.

Figure F-6, Mission Operations Data Item Density Profile, shows the requirements for data item preparation per major project review period. As requirements for data items in this category are small, the totals by project periods are shown.

SDR

PHASE C - SYSTEM DEFINITION

7 Mo

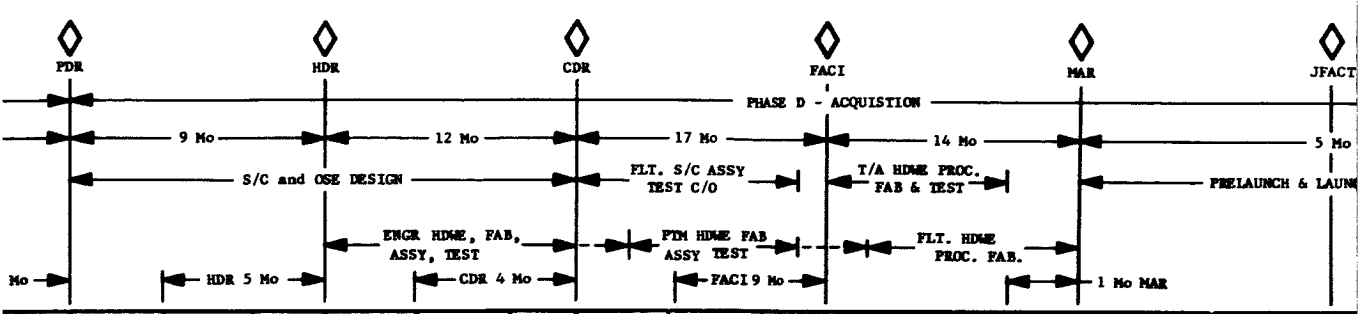
PDR

TEST
(TE)

DATA ITEM TITLE	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY
MANUALS					
TE-025 Manual, Test Facilities Desc. & Capabil				1	I
MINUTES					
TE-024 *Minutes, Integrated Test Board(ITB)				1	Wk
PLANS					
TE-001 Plan, Integrated Test				1	3/U
TE-130 Plan, General Test				10	3/U
TE-131 Plan, Detailed Test				20	new
TE-112 Plan, Spacecraft Mission Operation Test					
TE-013 Plan, Interface Test					
TE-018 Plan, Operational Support Equipment (OSE) Certification					
TE-123 Plan, Special Test Equipment (STE) Verification Tests					
TE-157 Plan, Facilities Certification					
TE-158 Plan, Software Certification					
PROCEDURES					
TE-129 Procedure, Equip.Calibration& Checkout					
TE-030 Procedure, Test Operating					
TE-125 Procedure, Facilities Operating					
TE-159 Procedure, Equipment (Spacecraft & Operational Support) Assembly & Handling					
TE-160 Procedure, Operating, Integrated Test Board				1	O/T
RECORDS					
TE-027 *Logbook, Test				20	A/R
TE-161 *Logbook, Cumulative Test Time				20	A/R
TE-028 Tape, Data Storage					
TE-162 Film, Test Operation					
(continued on page 2)					

*Key Informal Data

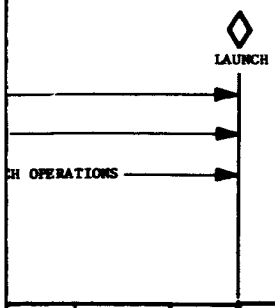
A	Annual	O/T	One Time	I	Initi
S/A	Semi-Annual	A/R	As Required	F	Fina
WK	Weekly	U	Update	N/R	New
MO	Monthly	I/U	One Update	SDR	Syst
B/W	Bi-Weekly	DA	Daily	PDR	Prel
B/M	Bi-Monthly	Q	Quarterly	HDR	Har



TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	Q
1	3	U	3	3	U	3	4	U	4							
14	1	Wk	40	1	Wk	52	1	Wk	74	1	Wk	61	1	Wk	11	
4	-	6/U	6	-	6/U	6	-	6/U	6	-	2/U	2				
40	10	3/U	30	10	2/U	20	10	2/U	20	10	U	10				
20	140	new	140	10	new	10	10	New	10	5	New	5				
				1	I	1	1	3/U	3	1	3/U	3				
				12	I	12	-	12/U	12	-	12/U	12				
							1	I	1	1	1/U	1				
				1	I	1	-	2/U	2							
							1	I	1	-	1/U	2				
							1	I	1	-	2/U	2				
	50	A/R	50	45	A/R	45	15	A/R	15	10	A/R	10				
	60	A/R	60	40	A/R	40	34	A/R	34	30	A/R	30				
							5	A/R	5	5	U	5				
							20	A/R	20	20	U	20				
1	-	U	1													
20	140	A/R	140	10	A/R	10	10	A/R	10	15	A/R	15	10	A/R	10	
20	140	A/R	140	10	A/R	10	10	A/R	10	15	A/R	15	10	A/R	10	
				20	A/R	20	20	A/R	20	30	A/R	30	20	A/R	20	
				20	A/R	20	20	A/R	20	30	A/R	30	20	A/R	20	

ıl
ı
and Revised
ım Design Review
iminary Design Review
Design Review

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



ANTITY	FREQUENCY	TOTAL	TOTALS	NOTES AND ASSUMPTIONS
			11	
1	Wk	11	263	
			24	
			12 0	
			185	
			7	
			36	
			2	
			3	
			2	
			3	
			120	
			164	
			10	
			40	
			2	
			205	
			205	
20	A/R	20	110	
20	A/R	20	110	
				Totals in matrix are included in those shown on next page

Figure F-3. Test Data Item Phasing and Frequency Matrix (Sheet 1 of 2)

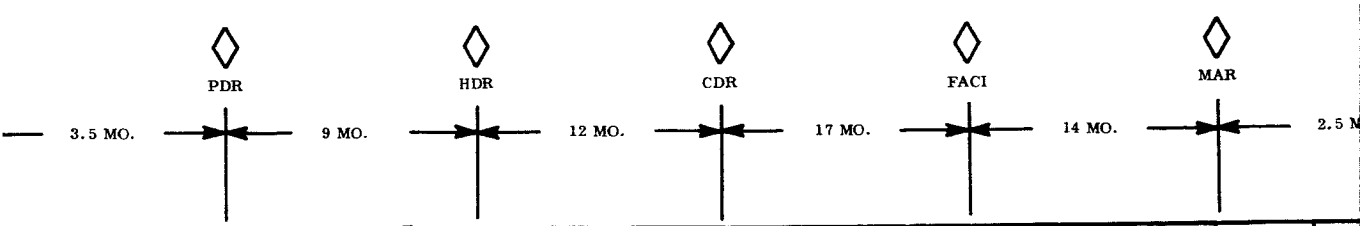
SDR

3.5 MO.

DATA ITEM TITLE	QUAN	FREQ	TOTAL
REPORTS			
TE-054 Report, Quick-Look Test			
TE-165 Report, Test			
TE-167 Report, Test Phase Summary			
TE-046 Report, Cumulative Test Time			
TE-056 Report, Daily Operations			
TE-163 Report, Integrated Test Board (ITB) Actions Summary			
TE-166 Report, Test Program Summary			
SPECIFICATIONS			
TE-164 Specification, Software Performance			
TE-031 Specification, Special Test Equipment (STE) (System and Subsystem)			
TOTALS			

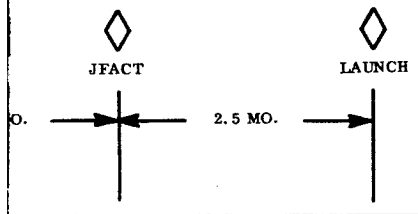
*Key Informal Data

A	Annual	O/T	One Time
S/A	Semi-Annual	A/R	As Required
WK	Weekly	U	Update
MO	Monthly	I/U	One Update
B/W	Bi-Weekly	DA	Daily
B/M	Bi-Monthly	Q	Quarterly



QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FREQ	TOTAL	QUAN	FR
20	A/R	20	140	A/R	140	30	A/R	30	10	A/R	10	15	A/R	15	20	A/
20	A/R	20	140	A/R	140	30	A/R	30	10	A/R	10	15	A/R	15	20	A/
3	A/R	3	10	A/R	10	10	A/R	10	5	A/R	5	5	A/R	5	6	A/
20	A/R	20	140	A/R	140	10	A/R	10	10	A/R	10	15	A/R	15	8	A/
30	Da	30	200	Da	200	260	Da	260	370	Da	370	305	Da	305	50	Da
1	Mo	5	1	Mo	9	1	Mo	12	1	Mo	12	1	Mo	14	1	Mo
												1	O/T	1	1	O/
10	A/R	10	10	A/R	10	10	A/R	10	10	A/R	10					
5	A/R	5	10	A/R	10	15	A/R	15	15	A/R	15					
		233			1269			627			715			622		

I	Initial
F	Final
N/R	New and Revised
SDR	System Design Review
PDR	Preliminary Design Review
HDR	Hard Design Review
CDR	Critical Design Review
FACI	First Article Configuration Inspection
MAR	Mission Acceptance Review
J FACT	Joint Flight Acceptance Composite Testing



ÉQ	TOTAL	QUAN	FREQ	TOTAL	TOTALS
R	20	20	A/R	20	255
R	20	20	A/R	20	255
R	6	6	A/R	6	45
R	8	6	A/R	6	209
	50	50	DA	50	1265
	3	1	Mo	3	63
T	1	1	O/T	3	3
					40
					45
	179			157	3802

Figure F-3. Test Data Item Phasing and Frequency Matrix (Sheet 2 of 2)

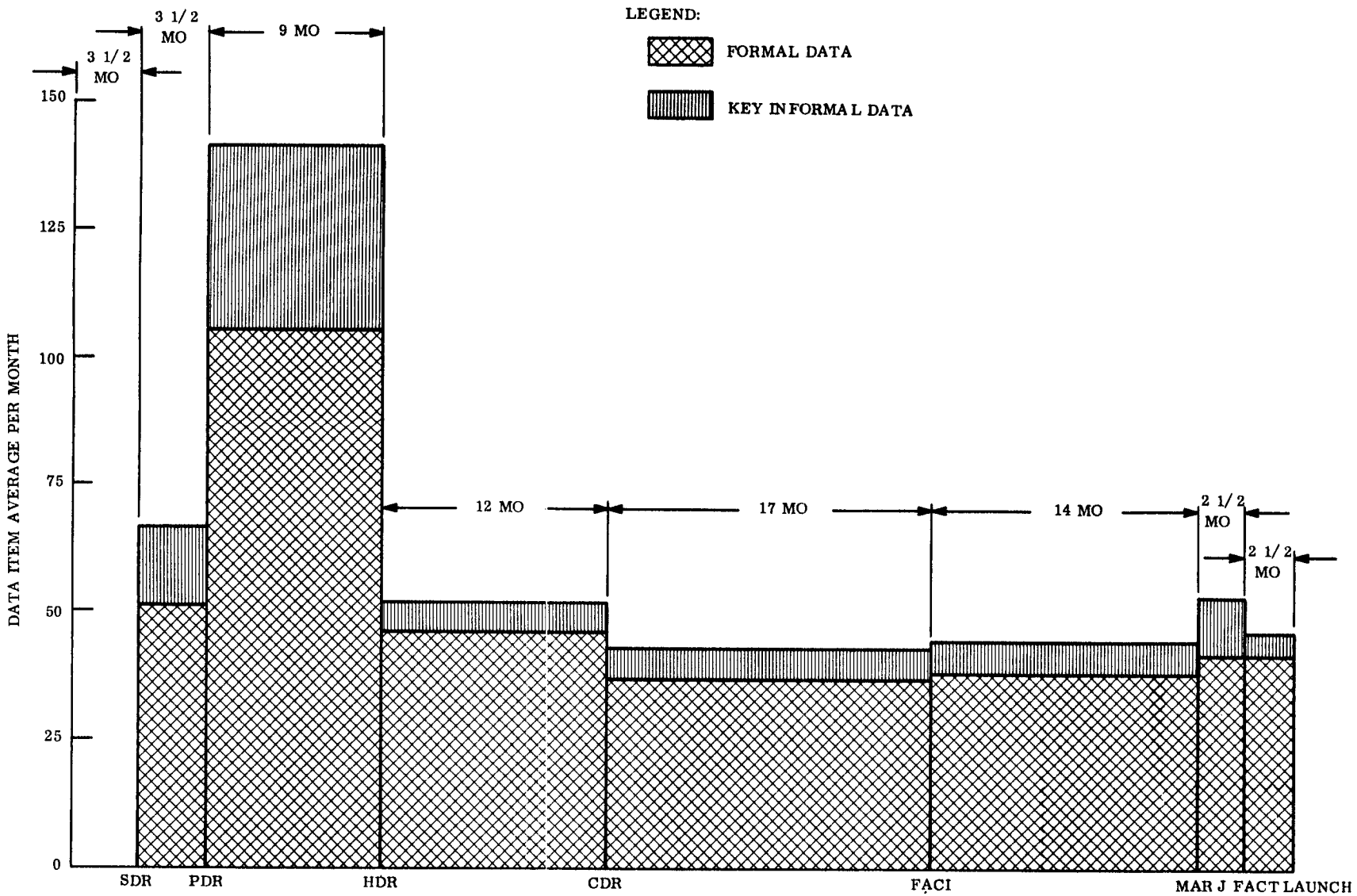


Figure F-4. Test Data Item Density Profile

MISSION OPERATIONS
(MP)

SDR

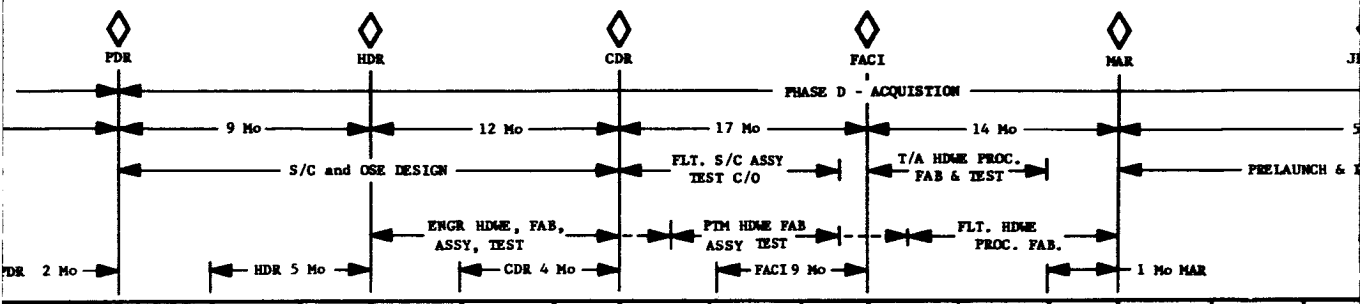
PHASE C - SYSTEM DEFINITION

7 Mo

DATA ITEM TITLE	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQ
HANDBOOKS					
MP-001 Handbook, System Performance Reference					
PLANS					
MP-002 Plan, Mission Operations Support (S/C)					
MP-005 Plan, Flight Operation Diag. Computation					
REPORTS					
MP-004 Report, Operational Design Description					
SPECIFICATIONS					
MP 003 Specification, Mission Dep. Equip. (MDE)					
TOTALS					

*Key Informal Data

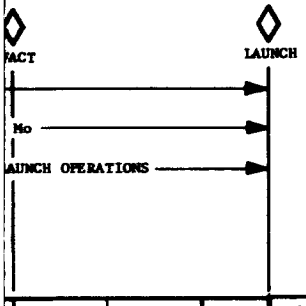
A	Annual	O/T	One Time	I
S/A	Semi-Annual	A/R	As Required	F
WK	Weekly	U	Update	N/R
MO	Monthly	I/U	One Update	SDR
B/W	Bi-Weekly	DA	Daily	PDR
B/M	Bi-Monthly	Q	Quarterly	HDR



UENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL	QUANTITY	FREQUENCY	TOTAL
					1	S/A	2	1	S/A	3	1	S/A	2			
					1	I	1	1	U	1						
					1	I	1	1	U	1						
					1	I	1	1	U	1						
					1	I	1	1	U	1						
							6			7			2			

Initial
Final
New and Revised
System Design Review
Preliminary Design Review
Hard Design Review

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



QUANTITY	FREQUENCY	TOTAL	TOTALS	NOTES AND ASSUMPTIONS
			7	
			2	
			2	
			2	
			2	
			15	

Figure F-5. Mission Operations Data Item Phasing and Frequency Matrix

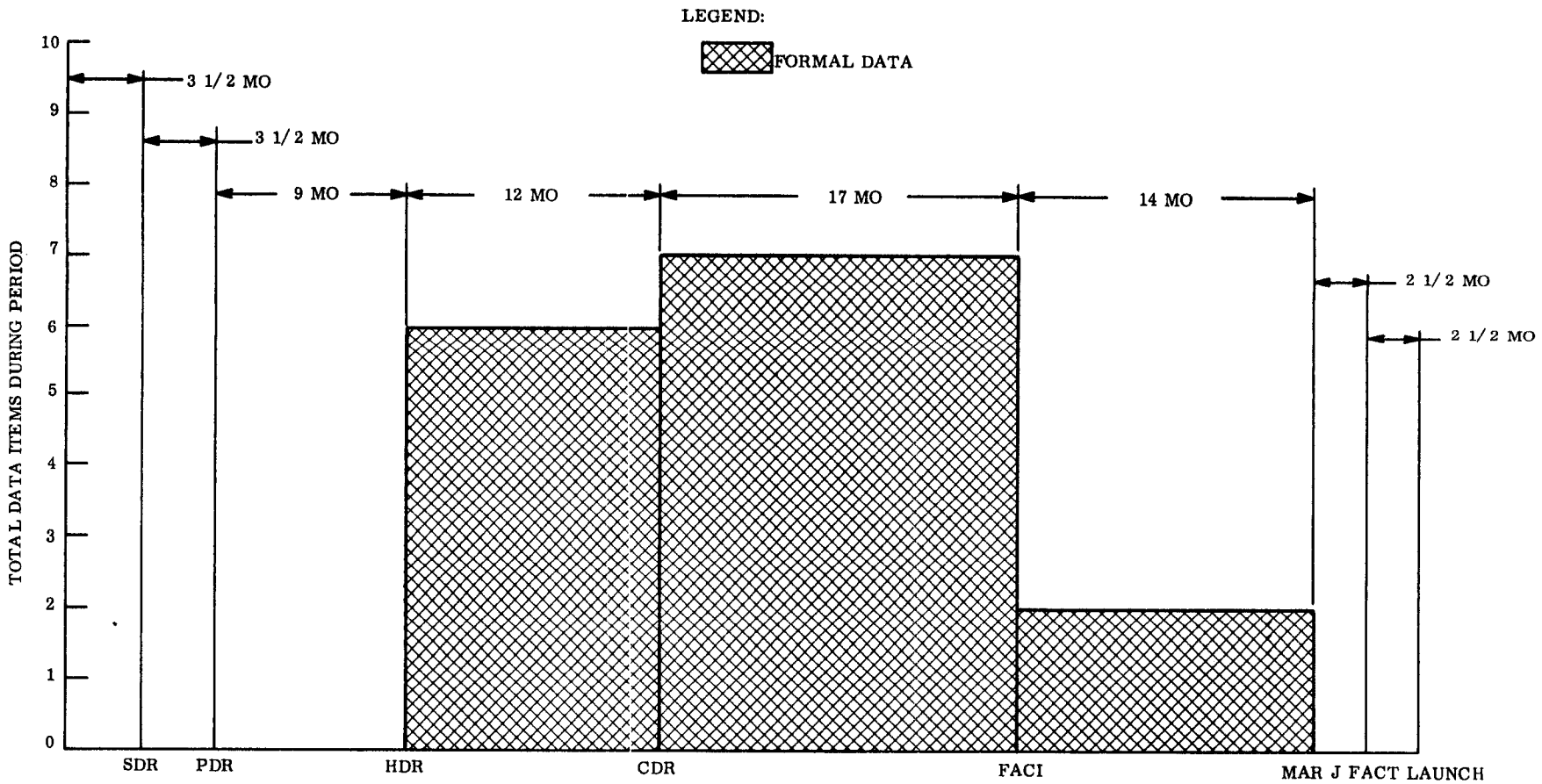


Figure F-6. Mission Operations Data Item Density Profile