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CHAMBER TEST PROCEDURES
SKYLAB MEDICAL EXPERIMENTS ALTITUDE TEST (SMEAT)
CSD-S-026

CONTENTS

TITLE	PAGE
1.0 APPLICABLE DOCUMENTS -----	1
2.0 SYMBOLS AND ABBREVIATIONS -----	2
3.0 TEST DESCRIPTION -----	
3.1 TEST OBJECTIVE	5
3.2 TEST DESCRIPTION	5
3.3 TEST SCHEDULE	6
3.4 BASIC TEST CONDITIONS	9
	10
4.0 TEST EXPERIMENTS AND TEST DATA -----	
4.1 EXPERIMENTS TO BE TESTED	11
4.2 STATEMENT OF ACCURACY	11
4.3 INSTRUMENTATION AND DATA HANDLING	12
4.4 INSTRUMENTATION EQUIPMENT REQUIREMENTS	12
4.5 DATA SYSTEM SCHEMATIC	14
	25
5.0 TEST BUILDUP AND PERSONNEL -----	
5.1 SYSTEMS INSTALLATION AND CHECKOUTS	26
5.2 TEST TEAM ORGANIZATION AND POSITION DESCRIPTION	26
5.2.1 TEST TEAM ORGANIZATION DIAGRAM	27
5.2.2 TEST TEAM POSITION DESCRIPTION	27
5.3 TEST PERSONNEL STATIONS	28
5.4 TEST BUILDUP SCHEMATICS	32
5.4.1 20-FT CHAMBER COMPLEX	34
5.4.2 INTERNAL CHAMBER LAYOUT	34
5.4.3 ECS SCHEMATIC	35
	36
6.0 TEST SAFETY -----	
	37
7.0 TRAINING -----	
7.1 CREW TRAINING	39
7.2 TEST TEAM TRAINING	39
	39
8.0 MISSION RULES -----	
	40

CONTENTS

	TITLE	PAGE
9.0	EMERGENCY DRILLS -----	
9.1	EMERGENCY DRILL PROCEDURES	44
9.2	EMERGENCY DRILL COMPLETION CHECKLIST	44
		46
10.0	SYSTEMS AND SUBSYSTEMS TEST READINESS VERIFICATION -----	
11.0	TEST SEQUENCES -----	47
		48
12.0	TEST DEVIATION SHEET -----	
		112

1.0

APPLICABLE DOCUMENTS

THE FOLLOWING DOCUMENTS ARE AVAILABLE IN SUPPORT
OF THIS TEST...

- A. SKYLAB MEDICAL EXPERIMENTS ALTITUDE TEST
(SMEAT) PROGRAM PLAN
- B. MSC-M-5322 R AND QA CLEANING SPECIFICATION
- C. SKYLAB FLIGHT PLAN SL-2, SL-3 AND SL-4 MSC03625
- D. SYSTEMS TEST BRANCH STANDARD OPERATING PROC-
EDURES MANUAL.
- E. OPERATION AND MAINTENANCE MANUAL FOR BECKMAN
210 SYSTEM.
- F. MIL-O-27210 'OXYGEN AVIATORS BREATHING, LIQUID
AND GAS, SPECIFICATION FOR.'
- G. MSC MANUAL 5312, 'MSC RELIABILITY AND QUALITY
ASSURANCE MANUAL.'
- H. MSC MANUAL 1700, 'MSC SAFETY MANUAL.'
- I. MSC-01218, 'MSC STANDARD PROCEDURES FOR LIQUID
AND GAS SAMPLING.'

2.0 SYMBOLS AND ABBREVIATIONS

ACFM	ACTUAL CUBIC FEET PER MINUTE
ATD	ASSISTANT TEST DIRECTOR
BRN	BROWN AND ROOT-NORTHROP
BT	BIOINSTRUMENTATION TECHNICIAN
CC	CAPSULE COMMUNICATOR
CDR	COMMANDER
CM	CREWMAN
CO	CHAMBER OPERATOR
COMM	COMMUNICATIONS
CSD	CREW SYSTEMS DIVISION
DARS	DATA ACQUISITION AND RECORDING SYSTEM
DEG F	DEGREES FAHRENHEIT
DELTA P	DIFFERENTIAL PRESSURE
DELTA T	DIFFERENTIAL TEMPERATURE
DP	DEWPOINT
DR/MRR	DISCREPANCY REPORT/MATERIAL REVIEW RECORD
ECG (EKG)	ELECTROCARDIOGRAM
ECS	ENVIRONMENTAL CONTROL SYSTEM
ER	EMERGENCY REPRESSURIZATION
ESS	EXPERIMENTS SUPPORT SYSTEM
FD	FLIGHT DATA FILE

SYMBOLS AND ABBREVIATIONS - CONTINUED

FSO	FLIGHT SAFETY OFFICE
FT	FOOT, FEET
GA	GAS ANALYZER
GAO	GAS ANALYZER OPERATOR
GMT	GREENWICH MEAN TIME
GN2	GASEOUS NITROGEN
GOX	GASEOUS OXYGEN
HEX	HEAT EXCHANGER
HZ	HERTZ
IDR	INTERIM DISCREPANCY REPORT
IE	INSTRUMENTATION ENGINEER
IMSS	INFLIGHT MEDICAL SUPPORT SYSTEM
IT	INSTRUMENTATION TECHNICIAN
LBNPD	LOWER BODY NEGATIVE PRESSURE DEVICE
LiOH	LITHIUM HYDROXIDE
LN2	LIQUID NITROGEN
LO	LOCK OPERATOR
LOB	LOCK OBSERVER
LOX	LIQUID OXYGEN
MO	MEDICAL OFFICER
MROD	MEDICAL RESEARCH AND OPERATIONS DIRECTORATE
MSC	MANNED SPACECRAFT CENTER
NA	NOT APPLICABLE

CSD-S-026 SMEAT TEST PROCEDURE

4

SYMBOLS AND ABBREVIATIONS - CONCLUDED

NASA	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NBS	NATIONAL BUREAU OF STANDARDS
O OB	OUTSIDE OBSERVER
OWS	ORBITAL WORKSHOP
PPO2	PARTIAL PRESSURE OF OXYGEN
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
PSIG	POUNDS PER SQUARE INCH GAGE
RQA	RELIABILITY AND QUALITY ASSURANCE
SCCM	STANDARD CUBIC CENTIMETERS PER MINUTE, MEASURED AT 14.7 PSIA AND 70 DEG F
SCFM	STANDARD CUBIC FEET PER MINUTE, MEASURED AT 14.7 PSIA AND 70 DEG F
SMEAT	SKYLAB MEDICAL EXPERIMENTS ALTITUDE TEST
SOPM	STANDARD OPERATING PROCEDURES MANUAL
STB	SYSTEMS TEST BRANCH
TD	TEST DIRECTOR
TECH	TECHNICIAN
TPS	TEST PREPARATION SHEET
TSO	TEST SAFETY OFFICE
VT	VIDEO TECHNICIAN
XDR	TRANSDUCER
+/-	PLUS OR MINUS

3.0 TEST DESCRIPTION

3.1 TEST OBJECTIVE

THE CREW SYSTEMS DIVISION WILL CONDUCT A 56 DAY TEST TO ACCOMODATE THE FOLLOWING PRIMARY AND SECONDARY OBJECTIVES.

THE TEST OBJECTIVES FOR THE SMEAT ARE BROKEN INTO PRIMARY AND SECONDARY CATEGORIES. GENERALLY, THE PRIMARY OBJECTIVES ARE THOSE WHICH DEAL WITH THE MAN'S BASIC MEDICAL DATA AS RELATED TO THE SKYLAB PROGRAM, AND THE SECONDARY OBJECTIVES ARE THOSE WHICH DEAL WITH EVALUATION OF SKYLAB FLIGHT HARDWARE, PROCEDURES, AND GROUND SUPPORT OPERATIONS AND EQUIPMENT. SPECIFICALLY, THE OBJECTIVES ARE AS FOLLOWS...

PRIMARY OBJECTIVES

- A. TO OBTAIN AND EVALUATE BASELINE MEDICAL DATA FOR UP TO 56 DAYS FOR THOSE MEDICAL EXPERIMENTS WHICH REFLECT THE EFFECTS OF THE SKYLAB ENVIRONMENT.

SECONDARY OBJECTIVES

- A. EVALUATE SELECTED EXPERIMENTS HARDWARE, SYSTEMS, AND ANCILLARY EQUIPMENT.
- B. EVALUATE DATA REDUCTION AND DATA HANDLING PROCEDURES IN A MISSION TIME FRAME.
- C. EVALUTATE PREFLIGHT AND POSTFLIGHT MEDICAL SUPPORT OPERATIONS, PROCEDURES, AND EQUIPMENT.
- D. EVALUATE MEDICAL INFLIGHT EXPERIMENT OPERATING PROCEDURES.
- E. TRAIN SKYLAB MEDICAL OPERATIONS TEAM FOR PARTICIPATION DURING THE FLIGHT.

3.2

TEST DESCRIPTION

THE TEST WILL BE CONDUCTED MANNED WITH A THREE MAN ASTRONAUT CREW IN THE CSD 20 FOOT DIAMETER CHAMBER AND WILL SIMULATE PORTIONS OF AN ORBITING SKYLAB OWS. THE LAYOUT IN THE 20-FT CHAMBER WILL BE SIMILAR TO THE FIRST LEVEL OF THE ORBITING WORK STATION AND WILL INCLUDE A HEAD, GALLEY, SLEEPING QUARTERS, MEDICAL EXPERIMENTS AREA, STORAGE LOCKERS, AND A WORK STATION. THE CHAMBER MODIFICATIONS DIRECTLY AFFECTING THE HUMAN MEDICAL DATA TO BE TAKEN WILL INCLUDE THE MEDICAL EXPERIMENT EQUIPMENT AND WILL BE AS CLOSE TO SKYLAB FIDELITY AS PRACTICAL. THE CREW ACTIVITIES IN THE CHAMBER WILL BE CONDUCTED ACCORDING TO A MISSION LIKE FLIGHT DATA FILE THAT THE CREWMEN WILL HAVE IN THE CHAMBER. THE TEST PROCEDURE, THEREFORE, WILL BE USED ONLY FOR CHAMBER ASCENT AND DESCENT, FOR EMERGENCY CONDITIONS AS SPECIFIED IN THE MISSION RULES, AND FOR SYSTEMS OPERATIONS EXTERNAL TO THE CHAMBER. THE FLIGHT DATA FILE WILL INCLUDE A TIMELINE BOOK, MEDICAL EXPERIMENTS CHECKLISTS AND MALFUNCTION PROCEDURES, A SYSTEMS DATA BOOK, A STOWAGE BOOK, CREW DISCRETION ACTIVITIES, EMERGENCY PROCEDURES, AND CHAMBER TEST PROCEDURE EXTRACTS. CHANGES TO THE FLIGHT DATA FILE DURING THE TEST WILL BE HANDLED AS IN A MISSION. TEST DATA MANAGEMENT PRACTICES WILL BE SIMILAR TO SKYLAB AND WILL INCLUDE DAILY DATA REPORTS AND CREW BRIEFINGS. THE CHAMBER TEST WILL BE CONDUCTED FOR AS LONG AS NECESSARY TO GENERATE THE BASELINE MEDICAL DATA, BUT WILL NOT EXCEED 56 DAYS. THE CREWMEN WILL REMAIN IN THE CHAMBER UNTIL THE TEST IS COMPLETED, AND NORMAL ACCESS INTO THE CHAMBER WILL BE LIMITED TO THE 18 INCH DIAMETER TRANSFER LOCK.

THE GENERAL MEDICAL EXPERIMENT TEST REQUIREMENTS ARE TO EXPOSE THE CREW AND SELECTED EXPERIMENTS TO SKYLAB ATMOSPHERIC CONDITIONS, WITH THE EXCEPTION OF WEIGHTLESSNESS, AS IN A SKYLAB TIMELINE. THE SELECTED MEDICAL EXPERIMENTS ARE DETAILED IN SECTION 4.1.

IN ADDITION TO THE EXPERIMENTS, CHARACTERIZATION OF THE MICROBIOLOGICAL FLORA ON THE CREWMEMBERS AND OF THE CHAMBER WILL BE MADE AND DIAGNOSTIC MICROBIOLOGY STUDIES WILL BE CONDUCTED. ALSO, A MICROBIOLOGICAL SAFETY PROTOCOL WILL BE ESTABLISHED FOR CREW PROTECTION.

THE 20-FT-CHAMBER WILL BE CONFIGURED TO SUPPORT THE TEST AS SHOWN IN FIGURE 1. THERE WILL BE TWO LEVELS IN THE CHAMBER, AS IN THE SKYLAB OWS, HOWEVER, THE SECOND LEVEL WILL ONLY BE A SMALL WORK STATION FOR PERFORMING CREW DISCRETION ACTIVITIES. THE TWO DOORS IN THE INNER LOCK NOT INVOLVED IN THE PRESSURE SEAL HAVE BEEN REMOVED TO PROVIDE A SLEEP COMPARTMENT.

THE SKYLAB CONFIGURED SLEEP COMPARTMENT WILL BE MODIFIED FOR ONE-GRAVITY USING BUNKS PLACED IN A HORIZONTAL POSITION. EACH CREWMAN WILL HAVE A PRIVACY AREA AS PART OF HIS BUNK. TWO BUNKS WILL BE LOCATED IN THE INNER LOCK AND ONE IN THE MAIN CHAMBER. EACH BUNK AREA WILL BE EQUIPPED WITH COMMUNICATIONS, A FIVE COMPARTMENT LOCKER AND A PRIVACY CURTAIN. A 56 DAY SUPPLY OF FLIGHT SLEEP RESTRAINTS, SHEETS, AND BLANKETS WILL ALSO BE PROVIDED. THE ECS WILL INCLUDE THE CHAMBER AIR BLOWERS WITH COOLING AND HEATING HEAT EXCHANGERS, AN AIR DISTRIBUTION SYSTEM, A CO₂ REMOVAL/INJECTION SYSTEM, A TWO GAS CONTROL SYSTEM, AND A PRESSURE HOLDING SYSTEM.

THE PORTABLE WATER SYSTEM WILL CONSIST OF AN EXTERNAL PORTABLE FILL TANK, A STOWAGE TANK, HOT AND COLD CONTINUOUSLY CIRCULATING WATER SYSTEMS, FLIGHT TYPE WATER DRINKING AND FOOD RE-CONSTITUTION GUNS, A WASH BASIN AND A SHOWER. THE WATER WILL BE TREATED WITH SKYLAB CONCENTRATIONS OF POTASSIUM IODIDE.

THE WASTE MANAGEMENT SYSTEM INCLUDES A SKYLAB SHAPED FECAL COLLECTOR WITH A URINAL ATTACHMENT ON THE FRONT, A CHILLED STORAGE COMPARTMENT FOR URINE AND FECES, ACTIVATED CHARCOAL FILTERING SYSTEMS, AND THE USE OF SKYLAB FLIGHT FECAL BAGS. A FLIGHT TYPE URINE SYSTEM WILL BE EVALUATED BY ONE CREWMAN DURING THE TEST. URINE AND FECES WILL BE TRANSFERRED OUTSIDE THE CHAMBER DAILY.

THE GALLEY COMPARTMENT WILL HAVE FLIGHT LIKE FOOD TRAYS, FOOD STORAGE LOCKERS, CHAIRS, AND A FROZEN FOOD COMPARTMENT.

INTERIOR CHAMBER LIGHTING WILL SIMULATE THE PREDICTED SKYLAB INTENSITIES AND COLOR SPECTRUM AS CLOSELY AS PRACTICAL.

THE STOWAGE LOCKERS WILL BE SKYLAB CONFIGURED AND WILL BE LOCATED IN APPROXIMATELY THE SAME POSITIONS AS IN THE SKYLAB OWS.

COMMUNICATIONS TO THE CREW WILL BE VIA SKYLAB SIMULATED SPEAKER BOXES, AND FLIGHT TYPE HEADSETS. EACH COMMUNICATIONS BOX WILL HAVE A FIXED MIKE AND SPEAKER, WARNING TONES FOR TOLERANCE LIMITS ON SELECTED PARAMETERS, AND WILL HAVE A COMMERCIAL TELEPHONE LINK.

ENTERTAINMENT ELECTRONICS FOR THE CREW WILL INCLUDE PORTABLE TAPE RECORDERS, COMMERCIAL AND PRIVATE LINE TELEVISION MONITORS, AND AM/FM RADIO. TELEVISION MONITORS WILL BE AVAILABLE TO OUTSIDE PERSONNEL DURING SELECTED ACTIVITIES, DURING ALL MEDICAL EXPERIMENTS AND WILL BE AVAILABLE DURING ALL EMERGENCIES.

3.3

TEST SCHEDULE

2 YEAR		MANNED SPACE FLIGHT SCHEDULE												ORIGINAL SCHEDULE APPROVAL											
SCHEDULE RESPONSIBILITY J. TROMBLEY/A. MANDELL		OVERALL SMEAT SCHEDULE												LAST SCHEDULE CHANGE 1-14-72 (DATE) (NO.) (INITIALS)											
STATUS RESPONSIBILITY R. H. HODGE		PROJECT SCHD. NO.												STATUS AS OF JAN. 14, 1972 (DATE) (INITIALS)											
MILESTONES		CY 1971												CY 1972											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	PRELIMINARY TEST PROCEDURE																								
2	DETAIL TEST OBJECTIVES (DTO'S)																								
3	ALL CHAMBER DESIGN																								
4	FINAL TEST PROCEDURE																								
5	FAC EQUIP INSTALL & ACCEPT TEST																								
6	ORI																								
7	DATA PROCESSING SYSTEMS																								
8	CHAMBER FUNCTIONAL TESTING																								
9	FLIGHT DATA FILE																								
10	MED EXP INSTALLATION																								
11	TEST READINESS REVIEW BOARD																								
12	DRY RUN																								
13	SHAKEDOWN TEST																								
14	CHAMBER CREW TRNG																								
15	CREW PRE-ALTITUDE TESTING																								
16	ALTITUDE TESTING																								
17	CREW DIET & WASTE CONTROL																								
18	POST ALTITUDE TESTING																								
19	PRELIMINARY REPORT																								
20	FINAL REPORT																								

NOTES: SKYLAB MEDICAL EXPERIMENTS ALTITUDE TEST (SMEAT) PROGRAM PLAN APPROVED 2-15-71.
 [1] SLIP DUE TO ADDITIONAL REQUIREMENT OF 3 DTO'S.

MMC P&A R. H. HODGE

3.4

BASIC TEST CONDITIONS

A. THREE CREWMEN, 'SHIRTSLEEVE' CONDITIONS

B. CHAMBER ATMOSPHERIC COMPOSITION

TOTAL PRESSURE... 5 +/- .15 PSIA

70 PCT OXYGEN... 3.5 +/- .10 PSIA

CARBON DIOXIDE... 5.0 + .5/- 1 MM HG
(2 PER CENT)

WATER VAPOR... 8 - 12 MM HG H₂O
(45-57 DEG F DEW PT TEMP)

NITROGEN... AS REQUIRED TO MAINTAIN TOTAL
PRESSURE

C. TEMPERATURE... 67 - 78 DEG F

D. NOISE... THE INNER CHAMBER NOISE SPECTRUM SHALL BE AS SIMILIAR TO THE SKYLAB SPECTRUM AS IS PRACTICAL. THE SKYLAB FREQUENCY RANGE IS 38-9600 HERTZ AND THE SPEECH INTERFERENCE LEVEL IS 55 DECIBELS. INCHAMBER NOISE WILL BE MEASURED AT REGULAR INTERVALS DURING THE TEST.

E. AIR FLOW SPEEDS... THE AIR DISTRIBUTION SYSTEM WILL PROVIDE SKYLAB AIR FLOW SPEEDS OF 15-30 FPM, AND THE SKYLAB PORTABLE FAN WILL PROVIDE FOR LOCAL CONTROL UP TO 100 FPM.

F. LIGHTING... THE ILLUMINATION WITHIN THE CHAMBER WILL PROVIDE A LEVEL OF 20 FT-CANDLES. DIMMING CONTROL WILL EXIST TO SIMULATE THE SKYLAB OWS LIGHTING OF 7 TO 14 FT-CANDLES. THE SKYLAB LIGHTING COLOR SPECTRUM WILL ALSO BE SIMULATED INSIDE THE CHAMBER.

4.0 TEST EXPERIMENTS AND TEST DATA

4.1 EXPERIMENTS TO BE TESTED

THE FOLLOWING EXPERIMENTS WILL BE INCLUDED IN THE SMEAT AND THE PROCEDURES AND TIMELINES FOR CONDUCTING THEM WILL BE AS CLOSE AS PRACTICAL TO THE SKYLAB MISSION.

CHAMBER TESTING (EXPERIMENTS TO BE INCLUDED IN PRECHAMBER AND POSTCHAMBER TESTING ALSO.

M071 MINERAL BALANCE

M073 BIO-ASSAY OF BODY FLUIDS

M074 SMALL MASS MEASUREMENT DEVICE

M092 LOWER BODY NEGATIVE PRESSURE DEVICE

M093 VECTORCARDIOGRAM

M133 SLEEP STUDY

M151 TIME AND MOTION STUDY

M171 METABOLIC ACTIVITY

M487 HABITABILITY/CREW QUARTERS

OTHER HARDWARE TO BE EVALUATED IN THE TEST WILL BE SKYLAB FLIGHT, LIKE-FLIGHT, OR EQUIPMENT UNDER CONSIDERATION FOR FLIGHT. THIS HARDWARE WILL SATISFY SECONDARY OBJECTIVES ONLY. THIS HARDWARE INCLUDES THE FOLLOWING...

INFLIGHT MEDICAL SUPPORT SYSTEM (FLIGHT)

OPERATIONAL BIOINSTRUMENTATION SYSTEM (FLIGHT)

FOOD AND FOOD TRAYS (FLIGHT)

NOISE MONITORING

PORTABLE DEWPOINT MONITOR (FLIGHT)

ARKON CARBON MONOXIDE MONITOR (UNDER CONSIDERATION FOR FLIGHT)

T003 INFLIGHT NEPHELOMETER (FLIGHT)

SLEEP RESTRAINTS, SHEETS, AND BLANKETS

ENTERTAINMENT KIT (LIKE-FLIGHT)

SKYLAB CLOTHING (FLIGHT)

TISSUES AND WIPES (FLIGHT)

M172 1G BODY WEIGHT SCALES

4.2 STATEMENT OF ACCURACY

FOR INSTRUMENTATION SUPPLIED BY THE SYSTEMS TEST BRANCH, PROCEDURES SHALL BE USED TO SHOW TRACEABILITY OF CALIBRATIONS TO THE NBS AND ASSURE AN ACCURACY OF ± 3 DEG F FOR ALL TEMPERATURES AND ± 3 PERCENT FULL SCALE FOR ALL OTHER PARAMETERS UNLESS OTHERWISE STATED.

4.3 INSTRUMENTATION AND DATA HANDLING

THE SMEAT WILL SIMULATE THE SKYLAB INFLIGHT DATA HANDLING AND USE ACTUAL SKYLAB OFF-LINE SOFTWARE. REAL TIME DATA EVALUATION WILL ALSO BE ACCOMPLISHED IN BLDG 36 MEDICAL SUPPORT ROOM.

INSTRUMENTATION AND DATA IS DIVIDED INTO TWO GENERAL CATEGORIES. THE INSTRUMENTATION NECESSARY TO MONITOR THE CREW BAY ENVIRONMENT, PARTIAL GAS PRESSURES, DEWPOINTS, TEMPERATURES ETC., ARE DEFINED AS TEST FACILITY INSTRUMENTATION AND DATA WHICH IS CONCERNED WITH OR RESULTS FROM THE CREW EXPERIMENTS IS CLASSED AS TEST INSTRUMENTATION. DATA FROM THE TEST FACILITY, CREW ENVIRONMENT, IS ROUTED THROUGH PATCHBOARDS, AMPLIFIED IF NECESSARY, AND TERMINATED IN THE 20-FT CHAMBER CONTROL ROOM AND THE MEDICAL OFFICER'S CONSOLE FOR DISPLAY, MONITORING AND RECORDING. TEST INSTRUMENTATION DATA FROM THE CREW EXPERIMENTS IS ROUTED THROUGH AN ANALOG-DIGITAL RECORDING PROCESSOR UNIT TO BLDG. 36, VIA CO-AX CABLE, FOR DISPLAY, MONITORING AND RECORDING AT THAT LOCATION. TEST

INSTRUMENTATION DATA IS ALSO AVAILABLE AT THE OUTPUTS OF ISOLATION AMPLIFIERS IN THE PROCESSOR UNIT FOR ROUTING THROUGH THE PATCHBOARD TO THE 20-FT CHAMBER CONTROL ROOM AND THE MEDICAL OFFICER'S CONSOLE FOR DISPLAY, MONITORING AND RECORDING. ONE CREW EXPERIMENT, AUDIO NOISE AND HEARING, DATA WILL BE DISPLAYED FOR MONITORING AND RECORDING WITHOUT ENTERING THE PATCHBOARDS. ALL ANALOG RECORDING WILL BE ON FIVE INCH STRIP CHARTS, TWO PENS PER CHART, AND ALL TEMPERATURES RECORDED ON TWELVE INCH CHARTS, 24 POINTS TO A RECORDER. BOTH ANALOG AND TEMPERATURE WILL HAVE LIMIT INDICATOR LIGHTS MOUNTED DIRECTLY BELOW THE RECORDERS. FACILITY STORES TYPE INFORMATION WILL BE MONITORED BY PRESSURE SWITCHES AND THE STATUS DISPLAYED BY INDICATOR LIGHTS. FACILITY POWER WILL BE DISPLAYED ON ANALOG METERS AND LIGHTS TO INDICATE THEIR STATUS.

4.4

INSTRUMENTATION EQUIPMENT REQUIREMENTS

I	R	PARAMETER - RANGE - ACCURACY	MODEL	CAL.	DATE	TSI
T	E		NUMBER	DUE	CKD	
E	Q			DATE		
M	D	NOMENCLATURE - MANUFACTURER				
		DISPLAY	SERIAL			Q/A
			NUMBER			
		CREW BAY PRESSURE				
		0-20 +/- .5 PSIA				
		PRESS. X-DUCER - PACE				
		METER AND STRIPCHART				
		OUTER LOCK PRESSURE				
		0-20 +/- .5 PSIA				
		PRESS. X-DUCER - PACE				
		METER				
		LBNPD SEAL DELTA PRESS				
		0-1 +/- .03 PSID				
		PRESS. X-DUCER - PACE				
		STRIPCHART				
		EXPERIMENT VACUUM PRESSURE				
		0-30 +/- .9 MM HG				
		PRESS. SWITCH				
		LIGHT				
		VACUUM HOLDING PRESSURE				
		0-15 +/- .5 MM HG				
		PRESS SWITCH				
		LIGHT				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE DATE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER	SERIAL NUMBER			Q/A
		DISPLAY				
		LESS INTERNAL TEMP 1-5 0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		LESS EXTERNAL TEMP 1-5 0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		CREW BAY TEMP 1-6 0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		LBNPD WAIST SEAL FLOW				
		STRIPCHART				
		LBNPD DEWPOINT TEMP 0-100 DEG F				
		ANALYSER - CAMBRIDGE				
		STRIPCHART				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE DATE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER				
		DISPLAY	SERIAL NUMBER			Q/A
		CREW BAY PPO2 0-100 PER CENT				
		ANALYZER - BECKMAN F3				
		METER AND STRIPCHART				
		CREW BAY PPCO2 0-10 PER CENT				
		ANALYZER - BECKMAN IR-15A				
		METER AND STRIPCHART				
		CREW BAY PPN2 0-50 PER CENT				
		ANALYZER - MED. SCIENCE				
		METER AND STRIPCHART				
		CREW BAY DEWPOINT TEMP 20-80 DEG F				
		ANALYZER - CAMBRIDGE				
		METER AND STRIPCHART				
		LBNDP TEMP				
		THERMOCOUPLE				
		STRIPCHART				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER	SERIAL NUMBER			Q/A
		DISPLAY				
		M.A. OUTLET DEWPOINT TEMP 0-100 DEG F				
		ANALYZER - CAMBRIDGE				
		STRIPCHART				
		ERG-MTR. LOAD MOD T 1-2 0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		VACUUM SYSTEM FLOW				
		VOL-O-FLO				
		METER				
		POTABLE H2O TEMP 1-3 0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				
		URINE CHILLER TEMP 0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE DATE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER	SERIAL NUMBER			Q/A
		DISPLAY				
		WASTE MGT BLOWER TEMP				
		0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		FOOD FREEZER TEMP				
		0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				
		IMSS CHILLER H2O IN TEMP				
		0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				
		IMSS CHILLER AIR TEMP				
		0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				
		CO2 CONTROL FAN TEMP				
		0-300 DEG F				
		THERMOCOUPLE				
		STRIPCHART				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE DATE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER				
		DISPLAY	SERIAL NUMBER			Q/A
		PORTABLE FAN TEMP 0-300 DEG F				
		THERMOCOUPLE - BRN				
		STRIPCHART				
		TRANSFER LOCK POSITION OPEN/CLOSED				
		SWITCH				
		LIGHT				
		FACILITY O2 SUPPLY				
		PRESS. SWITCH				
		LIGHT				
		FACILITY N2 SUPPLY				
		PRESS. SWITCH				
		LIGHT				
		FACILITY CO2 SUPPLY				
		PRESS. SWITCH				
		LIGHT				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL	CAL.	DATE	TSI
			NUMBER	DUE	CKD	
		NOMENCLATURE - MANUFACTURER		DATE		
		DISPLAY	SERIAL			Q/A
			NUMBER			
		EMERGENCY AIR COMP.				
		ON/OFF				
		PRESS. SWITCH				
		LIGHT				
		BUILDING WATER PRESSURE				
		ON/OFF				
		PRESS. SWITCH				
		LIGHT				
		NOISE ANALYSIS				
		10-20K HZ				
		B AND K				
		METER AND STRIPCHART				
		AUDIOMETRIC TEST				
		METER AND STRIPCHART				
		BATTERY VOLTAGE				
		VOLTS				
		VOLTMETER				
		METER				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL	CAL.	DATE	TSI
			NUMBER	DUE	CKD	
		NOMENCLATURE - MANUFACTURER		DATE		
		DISPLAY	SERIAL NUMBER			Q/A
		BATTERY CURRENT				
		AMPS				
		AMMETER				
		METER				
		HOUSE DC VOLTAGE				
		VOLTS				
		VOLTMETER				
		METER				
		HOUSE DC CURRENT				
		AMPS				
		AMMETER				
		METER				
		TRANSFER DC VOLTAGE				
		VOLTS				
		VOLTMETER				
		METER				
		TRANSFER DC CURRENT				
		AMPS				
		AMMETER				
		METER				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

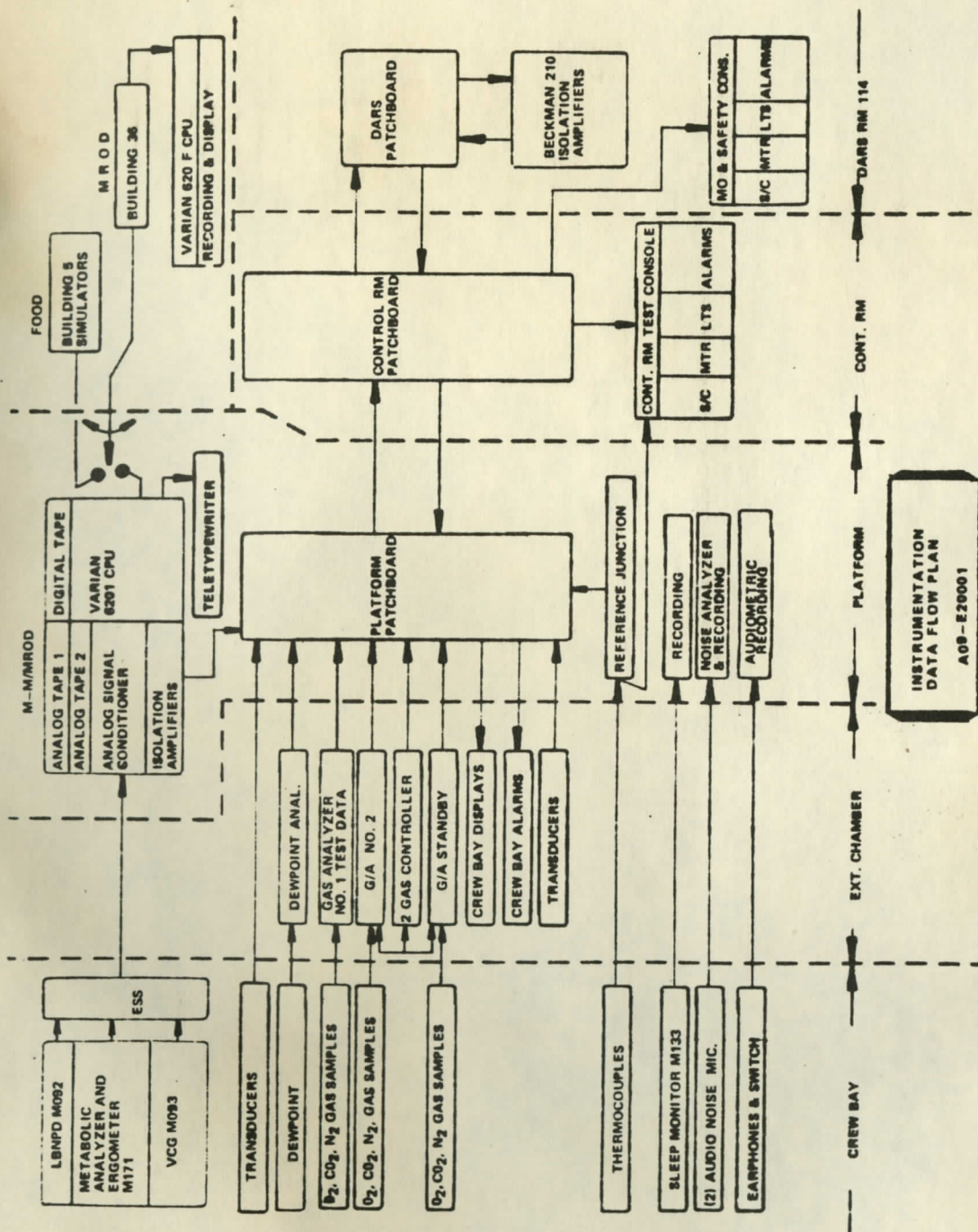
I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL NUMBER	CAL. DUE DATE	DATE CKD	TSI
		NOMENCLATURE - MANUFACTURER	SERIAL NUMBER			Q/A
		DISPLAY				
		CIRCUIT BREAKER X1-X6 ON/OFF				
		BREAKER				
		LIGHT				
		EMERGENCY GENERATOR ON/OFF				
		HOUSTON LIGHT AND POWER ON/OFF				
		N/A				
		LIGHT				
		SMEAT 1 60 HZ ON/OFF VOLTS				
		VOLTMETER				
		METER				
		SMEAT 1 400 HZ ON/OFF VOLTS				
		VOLTMETER				
		METER				

INSTRUMENTATION EQUIPMENT REQUIREMENT, CONTINUED

I T E M	R E Q U I R E M E N T	PARAMETER - RANGE - ACCURACY	MODEL	CAL.	DATE	TSI
			NUMBER	DUE	CKD	
		NOMENCLATURE - MANUFACTURER		DATE		
		DISPLAY	SERIAL NUMBER			Q/A
		SMEAT 1 DC ON/OFF VOLTS				
		VOLTMETER				
		METER				
		SMEAT 2 60 HZ ON/OFF VOLTS				
		VOLTMETER				
		METER				
		SMEAT 2 400 HZ ON/OFF VOLTS				
		VOLTMETER				
		METER				
		SMEAT 2 DC ON/OFF VOLTS				
		VOLTMETER				
		METER				
		OWS LOW VOLTAGE VOLTS				
		VOLTMETER				
		METER				

4.5

DATA SYSTEM SCHEMATIC



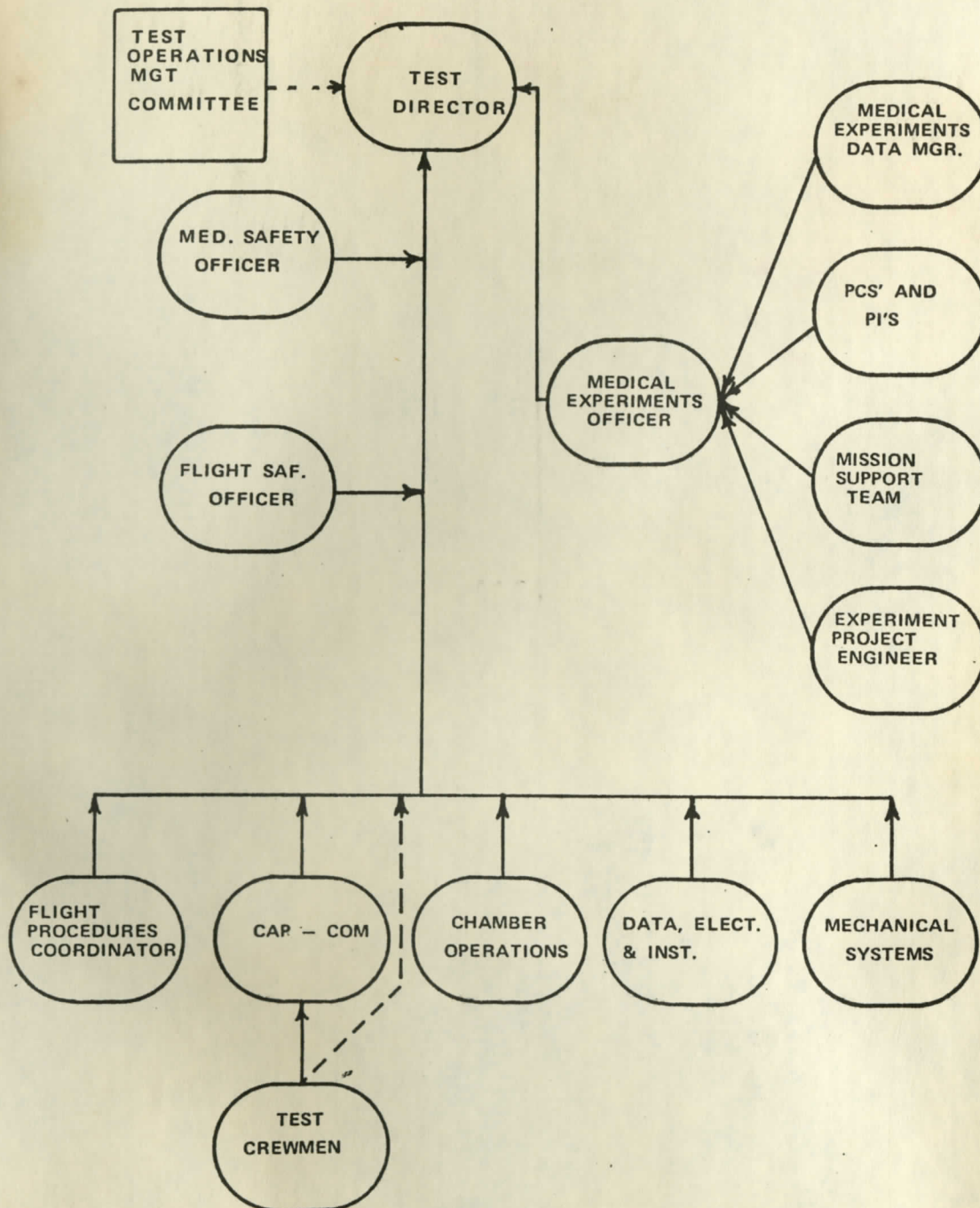
5.0 TEST BUILDUP AND PERSONNEL

5.1 SYSTEMS INSTALLATION AND CHECKOUTS

ALL INTERNAL AND EXTERNAL CHAMBER SYSTEMS WILL BE INSTALLED ACCORDING TO ESTABLISHED QUALITY ASSURANCE PROCEDURES USING INSTALLATION DESIGN DRAWINGS. FOLLOWING THE INSTALLATIONS FORMAL ACCEPTANCE TESTS WILL BE CONDUCTED FOR EACH SYSTEM. AFTER THE COMPLETION OF INSTALLATION AND ACCEPTANCE TESTS FOR THE INDIVIDUAL SYSTEMS, ALL THE SYSTEMS WILL BE EVALUATED TOGETHER IN AN INTEGRATED FUNCTIONAL TEST. AT THE CONCLUSION OF ALL THESE TESTS, THE OPERATIONAL BEHAVIOR OF THE SYSTEMS WILL BE KNOWN AND ANOMOLIES WILL BE CORRECTED BEFORE THE MANNED PHASE OF TESTING IS BEGUN.

5.2 TEST TEAM ORGANIZATION AND POSITION DESCRIPTION

5.2.1 TEST TEAM ORGANIZATION DIAGRAM



5.2.2 TEST TEAM POSITION DESCRIPTION

TEST DIRECTOR...

THE TEST DIRECTOR SHALL DIRECT AND CONDUCT THE TEST IN ACCORDANCE WITH THIS DETAILED APPROVED TEST PROCEDURE. DURING CRITICAL CREW OPERATIONS, FCOD WILL PROVIDE A CAPSULE COMMUNICATOR TO DIRECT THE CREW. THE TD WILL ACT AS CAP COMM DURING ALL OTHER OPERATIONS. THE TD WILL TERMINATE TEST ACTIVITIES WHEN IMMINENT DANGER IS APPARENT, OR WHEN ABSOLUT CONTROL IS NOT OR CANNOT BE MAINTAINED. THE TD WILL REMAIN IN COMPLETE CONTROL UNTIL THE EMERGENCY IS OVER. THE TD SHALL IMPLEMENT THE DIRECTIONS OF THE MO AND TSO IN SITUATION INVOLVING MANNED SAFETY AND/OR MEDICAL WELL BEING. ALL DEVIATIONS OR PROCEDURAL CHANGES MUST BE APPROVED BY THE TD. ALL DR OR TPS' USED DURING THE EXTENT OF THE TEST WILL HAVE TO CONCURRENCE.

ASSISTANT TEST DIRECTOR...

DURING CRITICAL CREW OPERATIONS THE ATD WILL ACT AS FACILITY MONITOR AND ASSIST THE TD AS REQUIRED. THE ATD WILL ASSUME ALL THE RESPONSIBILITIES OF THE TD WHEN RELIEVING THE TD. DURING ALL EMERGENCIES, THE ATD WILL CALL THE MSC FIRE DEPARTMENT AND NOTIFY THEM OF THE EMERGENCY CONDITION. THE ATD WILL OVERSEE ALL WORK DONE ON TPS OR DR DISPOSITION DURING TEST OPERATIONS.

CAPSULE COMMUNICATOR...

THE CAPSULE COMMUNICATOR WILL BE THE ONLY STATION WITH DIRECT COMMUNICATIONS WITH THE TEST CREW. THE CAP COMM WILL COORDINATE ALL CREW ACTIVITIES WITH THE EXCEPTION OF EMERGENCIES. THE FCOD CAP COMM WILL BE PRESENT DURING PEAK CREW ACTIVITIES (DAY SHIFT), AND AT OTHER TIMES THE TD WILL ACT AS THE CAP COMM AND TD.

FLIGHT PLANNER...

THE FLIGHT PLANNER WILL UPDATE THE TIME LINE AND PROCEDURE AS REQUIRED.

EXPERIMENTS OPERATIONS SPECIALIST...

THE EXPERIMENTS OPERATIONS SPECIALIST WILL UPDATE PROCEDURES ON EXPERIMENTS AND ANSWER CREW QUESTIONS CONCERNING EXPERIMENTS.

TEST SAFETY INSPECTOR...

THE TEST SAFETY INSPECTOR WILL INSURE THAT ENOUGH GASES(O₂, N₂, ETC) ARE AVAILABLE AND MEET THE PROPER MSC CLEANING SPEC FOR USE IN THE TEST. THE TSI WILL ALSO INSURE THAT FIRE LANES REMAIN OPEN AND THAT THE STB SOPM AND MSC SAFETY MANUAL ARE FOLLOWED AT ALL TIMES. THE TSI WILL COORDINATE WITH THE MSC FACILITY MAINTENANCE TO ASSURE THAT ANY WORK THEY DO IN NO WAY WILL AFFECT THE TEST.

INSTRUMENTATION ENGINEER...

THE INSTRUMENTATION ENGINEER WILL ASSURE PROPER DATA IS BEING RECORDED THROUGHOUT THE TEST. THE IE WILL BE REQUIRED TO BE ON STATION DURING ALL CRITICAL TEST OPERATIONS.

MEDICAL OFFICER...

THE MEDICAL OFFICER WILL INSURE THE SAFETY, PHYSICAL AND OR MENTAL WELL-BEING OF THE CREWMEN, AND WILL DIRECT ALL OPERATIONS DURING MEDICAL EMERGENCIES. THE MO WILL BE PRESENT AT HIS DISCRETION.

MEDICAL TECHNICIAN...

THE MEDICAL TECH WILL ASSIST THE MO AS REQUIRED AND WILL CONTACT THE MO BY PHONE IF REQUIRED.

FACILITY COORDINATOR...

THE FACILITY COORDINATOR WILL ASSURE THAT ALL STATIONS ARE MANNED WITH CERTIFIED PERSONNEL AND COORDINATE WORK ON TPS AND DR'S INVOLVING BRN. HE WILL BE THE BRN SENIOR SUPERVISOR.

QUALITY ASSURANCE INSPECTOR...

THE QUALITY ASSURANCE INSPECTOR WILL ASSURE THAT ALL OPERATIONS ARE CONDUCTED PER APPROVED PROCEDURES OR DOCUMENTS.

TEST SAFETY OFFICER...

THE TEST SAFETY OFFICER SHALL MONITOR AND APPROVE ALL TEST OPERATIONS FROM A SAFETY STANDPOINT. THE TSO WILL HAVE THE AUTHORITY TO ORDER DISCONTINUANCE OF TEST OPERATIONS CONSIDERED UNSAFE.

CHAMBER/LOCK OPERATOR...

THE CHAMBER/LOCK OPERATOR WILL OPERATE THE 20-FT CHAMBER CONSOLE AND ASSURE PROPER OPERATIONS OF MAIN CHAMBER VACUUM HOLDING SYSTEM. THE CHAMBER OPERATOR WILL ALSO MANUALLY REPRESS THE CHAMBER TO SITE PRESSURE IF THE AUTOMATIC REPRESS SYSTEM FAILS.

ECS TECHNICIANS...

THE ECS TECHNICIANS WILL VERIFY PROPER ECS CONFIGURATION AND OPERATION AND WILL REPAIR ECS AS REQUIRED. THEY WILL OPERATE THE TRANSFER LOCK, CHANGE CO2 AND N2 BOTTLES AND ASSIST IN CHANGING POTABLE WATER TANKS. THE ECS TECH WILL ALSO ACT AS A RESCUE TECH DURING ALL EMERGENCIES.

INSTRUMENTATION TECHNICIAN...

THE INSTRUMENTATION TECH WILL ASSURE PROPER OPERATION OF ALL DATA RECORDERS IN THE CONTROL ROOM AND CHAMBER AREA. THE INSTRUMENTATION TECH WILL BE REQUIRED TO TURN CHAMBER LIGHTS ON AND OPEN THE LARGE DOOR AT THE NORTH END OF BLDG. 7 DURING ALL EMERGENCIES

DATA TECHNICIAN...

THE DATA TECH WILL OPERATE AUDIO RECORDING EQUIPMENT LOCATED ON 20-FT CHAMBER PLATFORM.

GAS ANALYZER TECHNICIANS...

THE GAS ANALYZER OPERATORS WILL MONITOR AND ASSURE PROPER OPERATION OF THE TWO GAS CONTROL SYSTEM AND THE GAS SAMPLE SYSTEM. THE GA WILL CALIBRATE ANALYZER EQUIPMENT AND ASSORTED HARDWARE AND ACT AS A RESCUE TECH DURING EMERGENCIES.

VIDEO TECHNICIAN...

THE VIDEO TECH WILL ASSURE PROPER OPERATION OF ALL TV MONITORS AND CAMERAS. THE VIDEO TECH WILL COORDINATE WITH BLDG 8 FOR VIDEO TAPE AND WILL TURN ALL MONITORS ON DURING EMERGENCIES.

MROD DATA SYSTEM OPERATOR...

THE MROD DATA OPERATOR WILL OPERATE DATA RECORDING EQUIPMENT LOCATED ON 20-FT PLATFORM.

5.3 TEST PERSONNEL STATIONS

THE FOLLOWING TEST STATIONS REQUIRE PERSONNEL AS OPERATORS AND/OR MONITORS TO ADEQUATELY SUPPORT THIS TEST. PRIMARY AND ALTERNATE PERSONNEL ARE AS SHOWN.

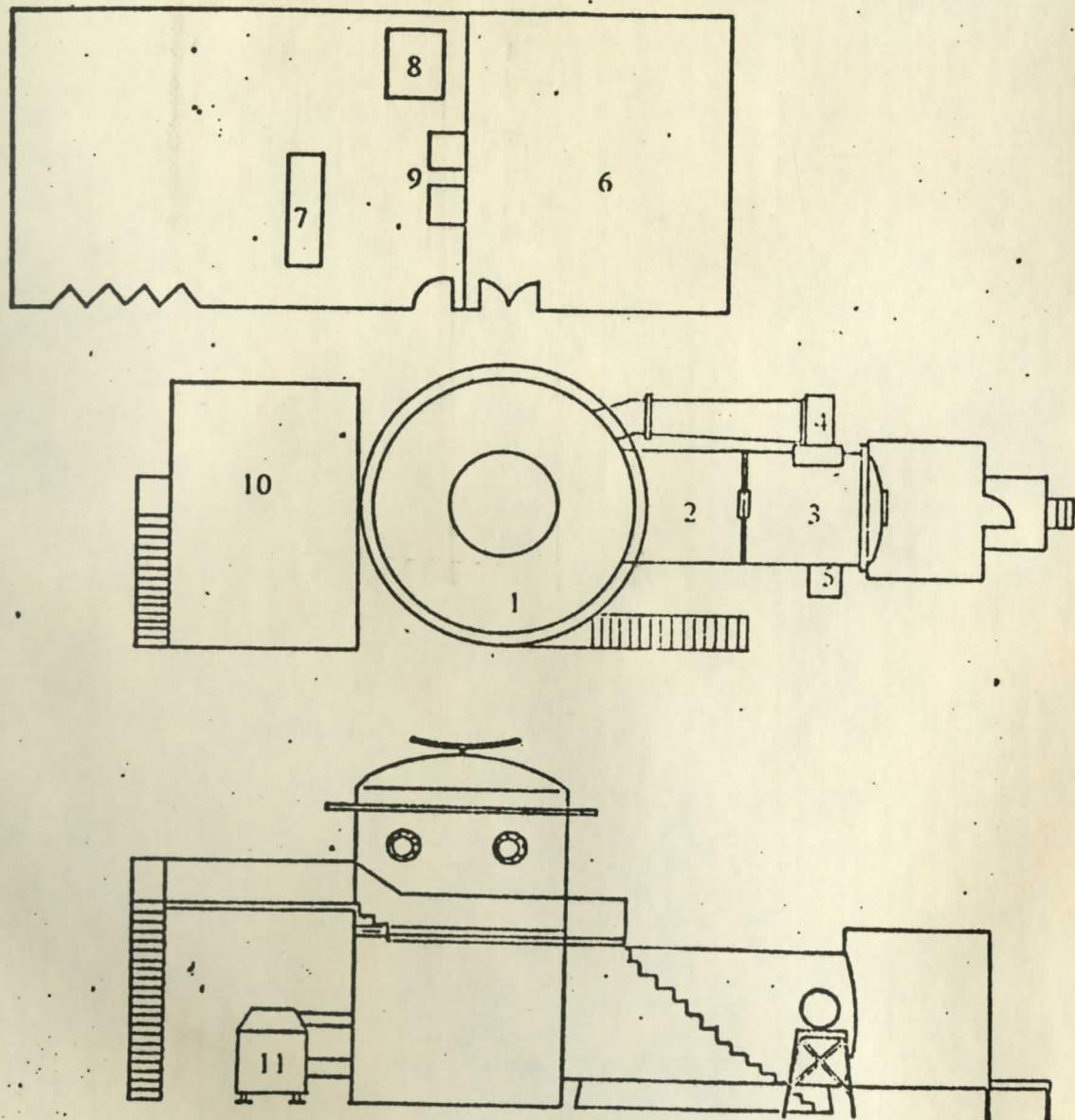
PERSONNEL TITLE	TEST STATION	NO	PRIMARY	ALTERNATE
TEST DIRECTOR	20-FT CHAMBER	1		
	CONTROL RM			
ATD	20-FT CHAMBER	1		
	CONTROL RM			
CAP COMM	20-FT CHAMBER	1		
	CONTROL RM			
EOS	20-FT CHAMBER	1		
	CONTROL RM			
FLIGHT PLANNER	20-FT CHAMBER	1		
	CONTROL RM			
IE	20-FT CHAMBER	1		
	CONTROL RM			
IT	20-FT CHAMBER	1		
	CONTROL RM			
CO	20-FT CHAMBER	1		
	CONTROL RM			
QA	20-FT CHAMBER	1		
	CONTROL RM			
MO	RM 114	1		
MED TECH	RM 114	1		
TSO	RM 114	1		
VIDEO TECH	RM 114	1		
ECS TECH	HIGH BAY	2		

TEST PERSONNEL STATIONS - CONCLUDED

PERSONNEL TITLE	TEST STATION	NO	PRIMARY	ALTERNATE
TSI	BLDG 7	1		
FACILITY COORDINATOR	BLDG 7	1		
DATA TECH	HIGH BAY	1		
GA	HIGH BAY	2		
CREWMEN	20-FT CHAMBER	3		
LOCK OBSERVER (INGRESS)	20-FT CHAMBER	1		
MROD DATA OPERATOR	HIGH BAY	1		
MEO	20-FT CHAMBER	1		
	CONTROL ROOM			

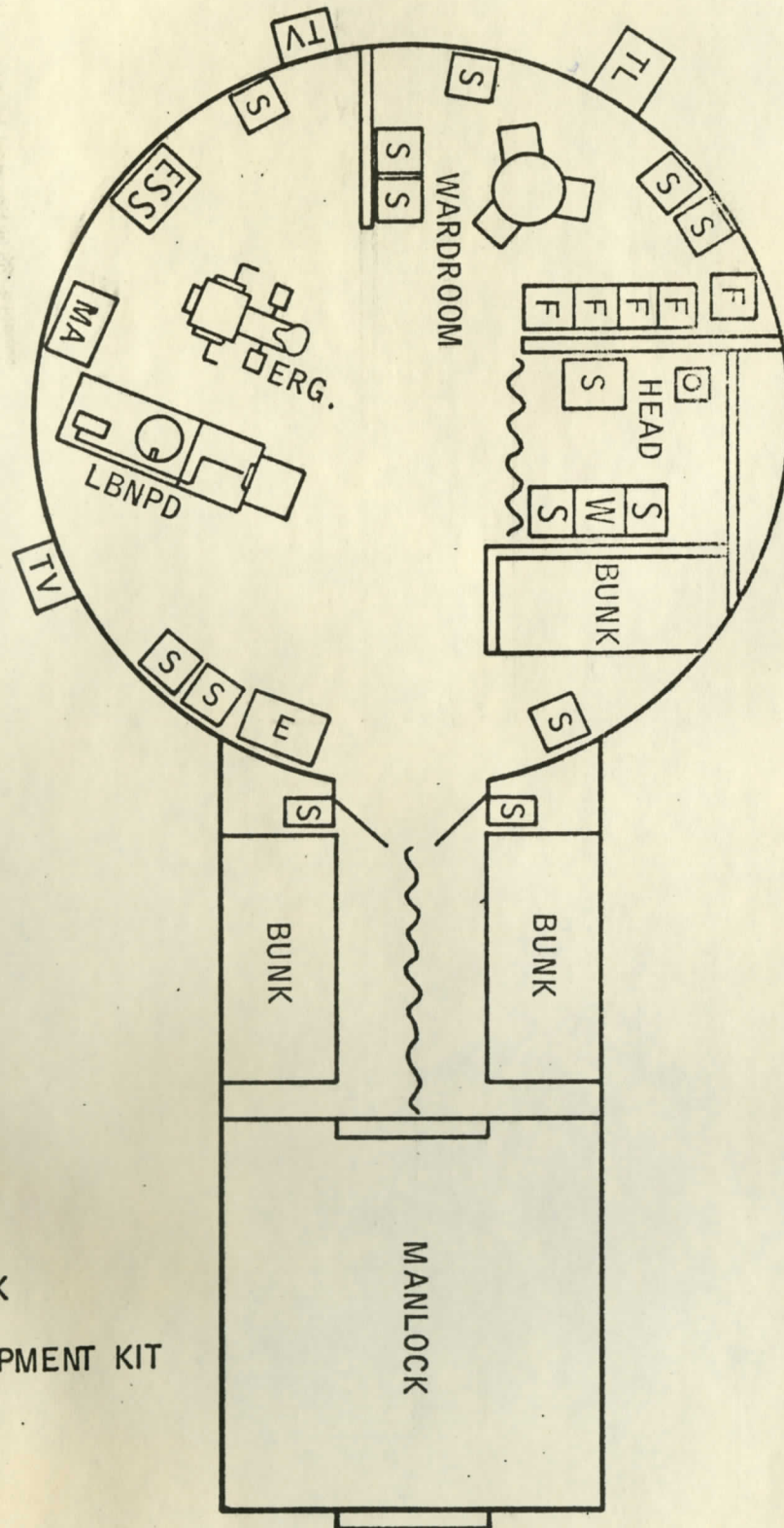
5.4 TEST BUILDUP SCHEMATICS

5.4.1 20-FT CHAMBER COMPLEX



- | | |
|--------------------------------|------------------------------------|
| 1. Main Chamber | 6. Control Room |
| 2. Inner Lock | 7. Roots Connersville Pumps |
| 3. Outer Lock | 8. Beach Russ Vacuum Pump |
| 4. Decompression Chamber | 9. Nash Vacuum Pumps |
| 5. 2 Ft Thermal Vacuum Chamber | 10. Equipment Platform |
| | 11. Atmosphere Distribution System |

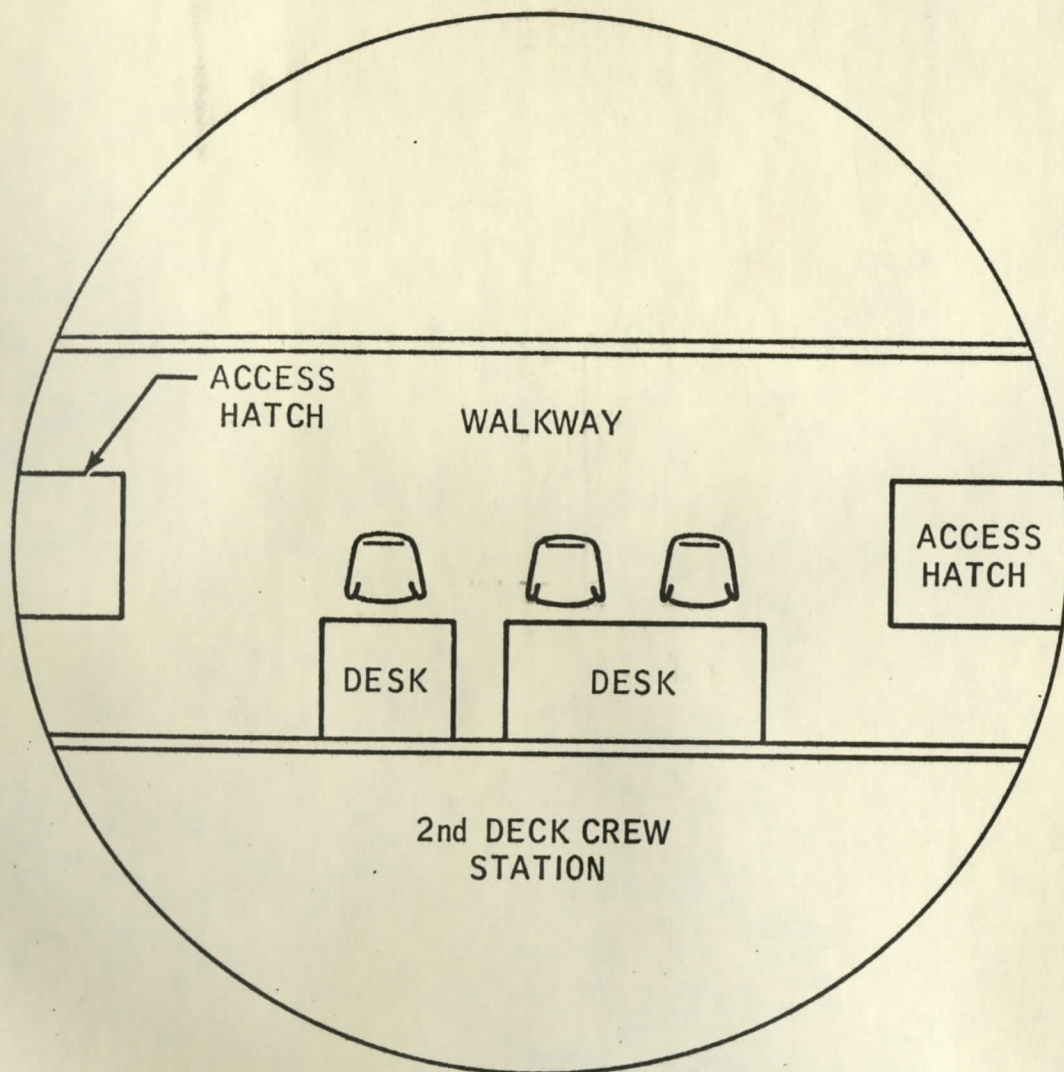
5.4.2 INTERNAL CHAMBER LAYOUT



STOWAGE
FOOD
TRANSFER LOCK
WASH BASIN
OFF-DUTY EQUIPMENT KIT

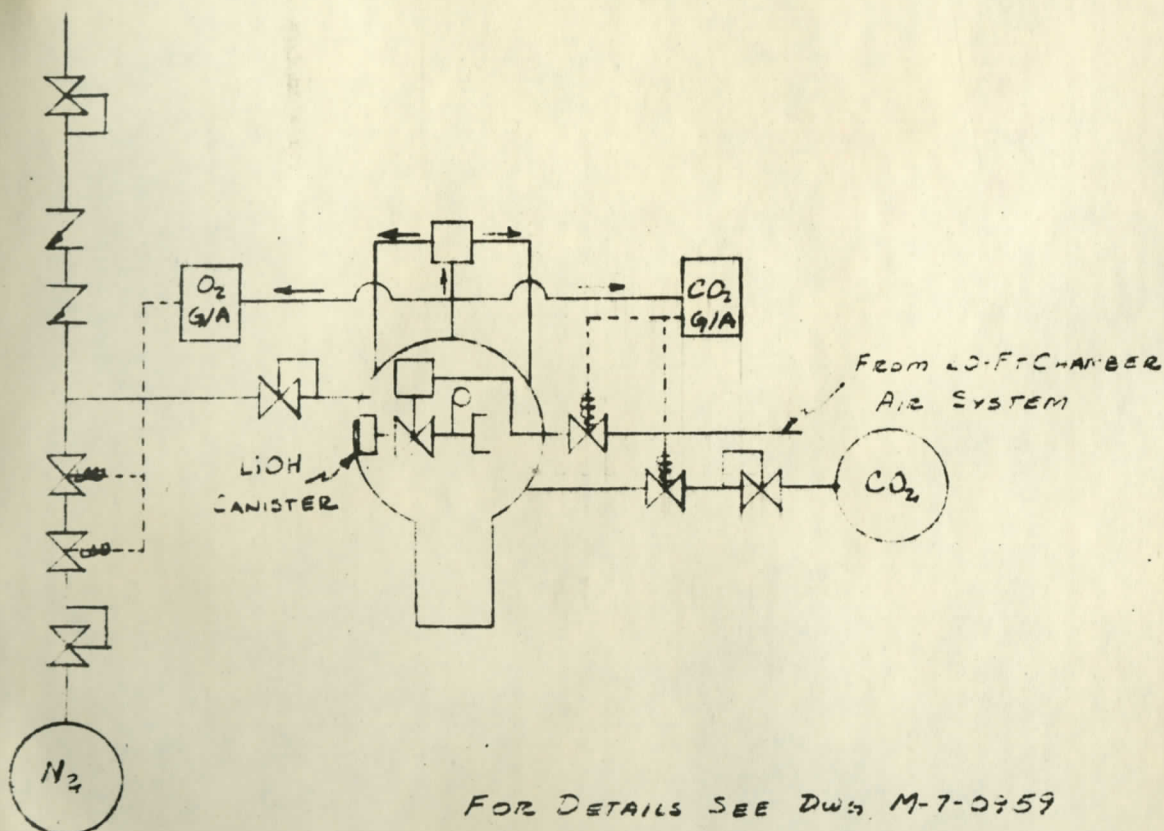
S
F
TL
W
E

5.4.2 INTERNAL CHAMBER LAYOUT - CONCLUDED



5.4.3 ECS SCHEMATIC

FROM 20-FT CHAMBER
OXYGEN SYSTEM



FOR DETAILS SEE DWH M-7-0759

6.0

TEST SAFETY

TO INSURE THE OPTIMUM TEST SAFETY FOR THE THREE CREWMAN DURING TEST OPERATIONS, MANY MSC PROTOCOLS ARE FOLLOWED. THE BASIC 20-FT CHAMBER CONFIGURATION MUST MEET OPERATIONAL READINESS CRITERIA AND BE TESTED ACCORDINGLY BEFORE IT CAN BE MAN-RATED. MODIFICATIONS AND TEST BUILD-UP IN THE MAN-RATED CHAMBER THEN FOLLOW A SERIES OF TEST MILESTONES RELATED TO TEST SAFETY.

THE FIRST SERIES OF MILESTONES ARE THE DESIGN REVIEWS OF EACH OF THE SMEAT SUBSYSTEMS, IN WHICH THE TEST SAFETY REPRESENTATIVE ASSIGNED TO THE TEST ATTENDS THE REVIEWS AND CONCURS WITH THE DESIGNS. ALSO, AS PART OF THE COMPLETED DESIGN PACKAGES, NON-METALLIC MATERIALS ARE DOCUMENTED AND CHECKED TO SEE IF THEY MEET THE NON-FLAMMABLE REQUIREMENTS FOR THE OXYGEN RICH TEST ENVIRONMENT. FAILURE MODES AND EFFECTS ANALYSIS ARE COMPLETED FOR ALL THE SUBSYSTEMS AND THE TOTAL SYSTEM TO PROVIDE AN INDEPENDENT ANALYSIS OF POSSIBLE SINGLE POINT FAILURES AND OTHER SAFETY CONSIDERATIONS. AS PREVIOUSLY MENTIONED ALL SYSTEMS ARE FUNCTIONALLY CHECKED TO INSURE THEY OPERATE ACCORDING TO DESIGN. AT THIS POINT EMERGENCY RESCUE DRILLS ARE CONDUCTED ACCORDING TO DETAILED PROCEDURES TO EVALUATE THE PROCEDURES, AND TO TRAIN THE TEST TEAM AND CREW MEMBERS FOR RESCUE IN EMERGENCIES. MISSION RULES AS OUTLINED IN THE DETAILED TEST PROCEDURES, GIVE THE GUIDELINES TO BE FOLLOWED.

AFTER THE COMPLETION OF THE EMERGENCY DRILLS, A TEST READINESS REVIEW BOARD REVIEWS ALL ASPECTS OF READINESS, QUALITY ASSURANCE, AND SAFETY. ONLY AFTER THE SUCCESSFUL COMPLETION OF THE REVIEW IS THE TEST SET UP DECLARED READY FOR MANNED TESTING.

THE PRIMARY HARDWARE SAFETY FEATURES FOR SMEAT ARE A TV MONITORING SYSTEM, A WATER DELUGE SYSTEM, A FIRE DETECTION AND WARNING SYSTEM, A RAPID REPRESSURIZATION CAPABILITY, EMERGENCY LIGHTING, EMERGENCY POWER, AND EMERGENCY COMMUNICATIONS.

MANNED DRY RUNS WILL BE CONDUCTED TO CHECK OUT DETAILED TEST PROCEDURES, FLIGHT DATA FILES, AND ANY REMAINING OPERATIONAL PROBLEMS BEFORE AN ACTUAL MANNED CHAMBER PUMPDOWN IS MADE.

THE PREREQUISITE FOR MANNED TESTING WILL BE APPROVAL OF THE TEST READINESS REVIEW BOARD FOLLOWED BY A SUCESSFUL DRY RUN. PRIOR TO THE 56 DAY TEST, THERE WILL BE A 3 DAY ALTITUDE SHAKEDOWN TEST FOLLOWED BY A THREE WEEK PERIOD FOR POSSIBLE REPAIRS OR MODIFICATIONS. THE ACTUAL 56 DAY ALTITUDE TEST, THEN, WILL BEGIN AFTER A LONG SERIES OF TROUBLE SHOOTING EVALUATIONS AND TESTS.

7.0 TRAINING -----

7.1 CREW TRAINING

AS IN AN ACTUAL SKYLAB MISSION, THE TEST CREW WILL UNDERGO A SERIES OF SCHEDULED TRAINING ACTIVITIES FOR THE SMEAT. THESE ACTIVITIES INCLUDE MEDICAL EXPERIMENTS BRIEFINGS, AND HARDWARE OPERATION, CHAMBER SYSTEMS BRIEFINGS AND SYSTEMS OPERATION, STOWAGE BENCH CHECKS, CREW COMPARTMENT FIT AND FUNCTIONAL, MAINTENANCE BRIEFINGS, TEST PROCEDURE AND FLIGHT DATA FILE BRIEFINGS, DIAGNOSTIC AND THERAPEUTIC BRIEFINGS, MICROBIOLOGICAL TRAINING, AND EMERGENCY PROCEDURE TRAINING.

7.2 TEST TEAM TRAINING

EACH MEMBER OF THE CHAMBER OPERATIONS TEST TEAM WILL HAVE COMPLETED A MINIMUM OF TRAINING AS SPECIFIED IN CSD'S TRAINING MANUAL. ONCE THE MINIMUM TRAINING HAS BEEN ACCOMPLISHED, THE CSD TRAINING OFFICER WILL SUBMIT A LIST OF NAMES AND RESPECTIVE DUTY STATIONS FOR FORMAL CERTIFICATION. A CERTIFICATION BOARD, COMPRISED OF MEMBERS FROM TEST SAFETY, SYSTEMS TEST BRANCH, BRN, AND MEDICAL OPERATIONS, WILL THEN MEET AND ACCEPT OR REJECT THOSE SUBMITTED FOR CERTIFICATION. ALL CERTIFIED TEST TEAM MEMBERS MUST THEN PARTICIPATE IN THE SCHEDULED DRILLS AND TESTS TO COMPLETE THEIR TRAINING.

8.0

MISSION RULES

ITEM	CONDITION	ACTION
001	LOSS OF VIDEO WITH ACCEPTABLE COMM	HOLD AND EVALUATE
002	ABNORMAL ECG	HOLD AND EVALUATE. ABORT OR ER AT DISCRETION OF MO
003	LOW CHAMBER OXYGEN PARTIAL PRESSURE (NORMAL IS 70 PERCENT) A. AT 60 PERCENT	PURGE CHAMBER TO BRING LEVEL UP TO 70 PCT. HOLD AND EVALUATE.
	B. AT 50 PERCENT	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. HOLD AND EVALUATE. CONTINUE TO PURGE
004	LOSS OF OXYGEN ANALYZERS	
	A. 2-GAS CONTROL SYSTEM	MAINTAIN 70 PCT OXYGEN IN CHAMBER USING HAND VALVES AND BACK UP OXYGEN ANALYZER. MAKE NECESSARY REPAIRS.
	B. LOSS OF ALL O2 ANALYZERS	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. HOLD AND MAKE NECESSARY REPAIRS.
005	HIGH CHAMBER CO2 PARTIAL PRESSURE (NORMAL IS 5.0 MM HG)	
	A. MORE THAN 7.6 BUT LESS THAN 15 MM HG (SUSTAINED)	TERMINATE CO2 INJECTION, PURGE WITH OXYGEN/NITROGEN, AND MAKE NECESSARY REPAIRS.
	B. GREATER THAN 15 MM HG (SUSTAINED)	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. TERMINATE CO2 INJECTION, PURGE WITH OXYGEN/NITROGEN, AND MAKE NECESSARY REPAIRS.

MISSION RULES - CONTINUED

ITEM	CONDITION	ACTION
006	LOSS OF CO2 ANALYZERS	
	A. ON CO2 CONTROL SYSTEM	MAINTAIN 5 MM HG OF CO2 USING MANUAL CONTROLS AND BACK UP CO2 ANALYZER. MAKE NECESSARY REPAIRS.
	B. LOSS OF ALL CO2 ANALYZERS	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. TERMINATE CO2 INJECTION. MAKE NECESSARY REPAIRS.
007	LOW-PRESSURE BUILDING O2 SUPPLY	
	A. LOSS OF PRIMARY SUPPLY WITH NORMAL SECONDARY SUPPLY AND NORMAL HIGH-PRESSURE SUPPLY	VERIFY AUTOMATIC SWITCHOVER TO SECONDARY SUPPLY. FTC RESTORE PRESSURE TO PRIMARY SUPPLY SYSTEM
	B. LOSS OF SECONDARY SUPPLY WITH NORMAL PRIMARY SUPPLY AND NORMAL HIGH-PRESSURE SUPPLY	CONTINUE TEST. FTC INVESTIGATE CAUSE OF LOSS OF PRESSURE
	C. LOW PRESSURE ON SECONDARY SUPPLY WITH FAILED PRIMARY SUPPLY	VERIFY 80-PSIG DELIVERY TO CHAMBER. REPLACE BOTTLES ON NO. 1 SECONDARY MANIFOLD (MANIFOLD C)
	D. LOSS OF SECONDARY SUPPLY WITH FAILED PRIMARY SUPPLY	ABORT TEST
008	ACTUATION OF HIGH OXYGEN CONCENTRATION BUZZER OF OXYGEN MONITORING SYSTEM	
	A. OUTER LOCK	VENTILATE LOCK UNTIL WARNING LIGHT AND/OR BUZZER GOES OFF AND CONTINUE TEST

MISSION RULES - CONTINUED

ITEM	CONDITION	ACTION
009	LOW CHAMBER PRESSURE	
	A. AT 4.0 PSIA	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. TERMINATE ALL VACUUM PUMPING SYSTEMS TO CHAMBER. PERFORM MANUAL OXYGEN REPRESS TO REACH 5.0 PSIA
	B. AT 3.5 PSIA	WITH CREW BREATHING 100 PCT OXYGEN, REPRESS CHAMBER WITH AIR TO 5.0 PSIA. HOLD AND EVALUATE.
010	FIRE IN TEST FACILITY	
	A. MAIN CHAMB/INNER LOCK	FOLLOW EMERGENCY PROCEDURES
	B. OUTER LOCK	FOLLOW EMERGENCY PROCEDURES
	C. CONTROL ROOM	FOLLOW EMERGENCY PROCEDURES
011	SMOKE IN TEST FACILITY	
	A. MAIN CHAMB/INNER LOCK	FOLLOW EMERGENCY PROCEDURES
	B. OUTER LOCK	FOLLOW EMERGENCY PROCEDURES
	C. CONTROL ROOM	FOLLOW EMERGENCY PROCEDURES
012	FAILURE OF ALL MEDICAL EXPERIMENTS BASELINE DATA	IF TOTAL SYSTEM NOT REPAIRED HOLD AND EVALUATE. REFER TO TEST OPERATIONS MANAGEMENT COMMITTEE
013	PARTIAL FAILURE OF MEDI- CAL EXPERIMENTS BASELINE DATA SYSTEMS	HOLD AND EVALUATE. REFER TO TEST OPERATIONS MANAGEMENT COMMITTEE
014	FAILURE OF AIR DISTRIBU- TION SYSTEM	CREW PUT ON OXYGEN MASKS AND BREATHE 100 PCT OXYGEN. HOLD AND EVALUATE
015	FAILURE OF 17 INCH DIA TRANSFER LOCK	CONTINUE TEST. PERFORM TRANSFERS VIA OUTER LOCK AS PER PROCEDURES.
016	FAILURE OF SMEAT	CONTINUE TEST USING

MISSION RULES - CONTINUED

ITEM	CONDITION	ACTION
	LIGHTING SYSTEM	EMERGENCY LIGHTING SYSTEM. PERFORM NECESSARY REPAIRS.
017	RISE IN LEVEL OF TRACE CONTAMINANTS	
	A. CO MORE THAN XXX PPM	
	B. CH4 MORE THAN XXX PPM	
018	LOSS OF FACILITY COMM	HOLD AND EVALUATE, ESTABLISH BACKUP COMM AND REFER TO TEST OPERATIONS MANAGEMENT COMMITTEE
019	LOSS OF COMM AND VIDEO	HOLD AND EVALUATE. ESTABLISH BACKUP COMM AND REFER TO TEST OPERATIONS MANAGEMENT COMMITTEE
020	SUPPORT AREA PROBLEM	HOLD AND EVALUATE
021	DECLARATION OF CONTINGENCY MODE STATUS BY TD, I.E. THE TD WILL DECLARE THIS STATUS IF HE DECIDES THERE IS AN EQUIPMENT OR PROCEDURE PROBLEM THAT WOULD NECESSITATE HIS DIRECT INVOLVEMENT WITH THE CREW	A. DECLARE TEST IN A HOLD B. SWITCH CREW TO THE TEST TEAM CHANNEL C. DECLARE 'CONTINGENCY MODE STATUS' OVER THE COMM. D. PROCEED WITH DIRECT COMMUNICATIONS WITH THE CREW TO CORRECT THE PROBLEM(S).

9.0 EMERGENCY DRILLS

9.1 EMERGENCY DRILL PROCEDURES

SQ	TO	OPERATION	REMARKS
		DURING THE PERFORMANCE OF THE EMERGENCY DRILL PROCEDURES, EACH TYPE OF EMERGENCY (REF. EMERGENCY DRILL COMPLETION CHECKLIST, ITEMS 1 THROUGH 4) SHALL BE DECLARED IN A RANDOM MANNER BY THE TEST SAFETY INSPECTOR, WHO SHALL ALSO MONITOR THE REACTION TIME OF THE TEST PER- SONNEL FOR EACH EMERGENCY. ALL DRILLS SHALL BE REPEATED UNTIL THEY ARE SATISFACTORILY PERFORMED. AFTER THE DRILLS ARE SATISFACTOR- ILY PERFORMED, THE TEST DIRECTOR AND THE MEDICAL OFFICER SHALL VERIFY THE DRILLS AS COMPLETED ON THE EMERGENCY DRILL COMPLETION CHECKLIST. IT SHOULD ALSO BE NOTED THAT THESE DRILLS ARE SIMULATED AND NO SWITCHES ARE TO BE ACTUATED AT ANY TIME	
001	ALL	TAKE POSITIONS AT TEST STATIONS AND DON HEADSETS	
002	CM	TAKE POSITION AT TEST SETUP IN CHAMBER	
003	TSI	DECLARE AN EMERGENCY OVER THE COMMUNICATIONS LOOP	
004	ALL	FOLLOW APPROPRIATE EMERGENCY PROCEDURE, SIMULATING SWITCH ACTUATIONS AND CHAMBER DESCENT RATE AS FOLLOWS...	

EMERGENCY DRILL PROCEDURES - CONCLUDED

SQ	TO	OPERATION	REMARKS
		A. 5.0 PSIA TO SITE PRESSURE IN 9 SEC-FIRE EMERGENCY REPRESS RATE	
		B. 5.0 PSIA TO SITE PRESSURE IN 9 SEC - ER SWITCH ACTUATION	
005	ALL	INDICATE SWITCH AND VALVE ACTUATION OVER COMMUNICATIONS LOOP	
006	TSI	RECORD TIME TO COMPLETE EMERGENCY DRILL AND VERIFY PERSONNEL ARE AT CORRECT STATION ON TIME	
007	TSI	DISCUSS EMERGENCY DRILL TD PERFORMANCE AND REPEAT IF AND NECESSARY TO IMPROVE PERFORMANCE MO	
008	TD	SIGN EMERGENCY DRILL COMPLETION AND CHECKLIST IF PERFORMANCE WAS MO SATISFACTORY	
009	TD	REPEAT SEQUENCE 1 THROUGH 8 AS REQUIRED TO COMPLETE ALL EMERGENCY DRILLS FOR SIMULATED EMERGENCIES	

9.2 EMERGENCY DRILL COMPLETION CHECKLIST

EMERGENCY DRILL
-----COMPLETION APPROVAL

TD

MO

1. FIRE DETECTION BY PERSONNEL

A. MAIN CHAMBER/INNER LOCK

B. OUTER LOCK

C. CONTROL ROOM

2. SMOKE DETECTION BY PERSONNEL

A. MAIN CHAMBER/INNER LOCK

B. OUTER LOCK

C. CONTROL ROOM

3. FIRE OR SMOKE DETECTION BY SENSORS

4. ER SWITCH

10.0

SYSTEMS AND SUBSYSTEMS TEST READINESS VERIFICATION

THE FOLLOWING PERSONNEL VERIFY THAT THEIR EQUIPMENT IS READY FOR EXPOSURE TO THE TEST CONDITIONS SPECIFIED IN THIS PROCEDURE. BEFORE SIGNING, THE RESPONSIBLE PERSONNEL HAVE GIVEN THE TEST DIRECTOR A TPS OR AN EQUIVALENT CHECKSHEET

BIOMEDICAL RECORDING
SYSTEM, DATA SYSTEM,
AND ELECTRICAL
SUPPORT EQUIPMENT

INSTRUMENTATION ENGINEER-----
DATE

MECHANICAL SYSTEMS

TEST DIRECTOR-----
DATE

CHAMBER AND FACILITY
PRETEST CHECKLISTS
COMPLETED

FACILITY COORDINATOR-----
DATE

TEST CREWMAN AND
INSIDE OBSERVER

MEDICAL OFFICER-----
DATE

MEDICAL EXPERIMENTS AND
MEDICAL DATA SYSTEMS

MROD REPRESENTATIVE-----
DATE

Q/A VERIFICATION
AND ALL DR/MRR'S
DISPOSITIONED

R&QA-QC INSPECTOR-----
DATE

11.0 TEST SEQUENCES

SQ' TO	OPERATION	REMARKS
	THE FOLLOWING TEST SEQUENCES ARE TO BE PERFORMED AS THEY APPEAR. THE TEST DIRECTOR WILL DIRECT THE PERSON INDICATED IN EACH SEQUENCE TO PERFORM THE ACTION REQUIRED BY THAT SEQUENCE. ALL SUCH DIRECTIONS SHALL BE GIVEN OVER THE COMMUNICATIONS LOOP WITH THE PERSON RECEIVING THE DIRECTION VERIFYING THE COMMUNICATIONS WAS RECEIVED AND ALSO THAT THE ACTION WAS PERFORMED. NO SEQUENCE SHALL BE PERFORMED UNTIL THE TEST DIRECTOR HAS DIRECTED THAT IT BE PERFORMED	
001 TD	VERIFY MODE SWITCH ON TD CONSOLE IN THE MANUAL MODE	
002 TD	PERFORM COMMUNICATIONS AND STATION STATUS CHECK	
	DURING COMMUNICATIONS AND STATION STATUS CHECK, PERSONNEL SHALL ACKNOWLEDGE WITH A 'GO' OR 'NO GO' OVER THE COMM LOOP AND, IF APPROPRIATE, BY ALSO DEPRESSING THE 'GO' BUTTON ON THEIR STATION STATUS PANEL. WHEN ALL STATIONS HAVE REPORTED A 'GO' CONDITION, THE TD SHALL DEPRESS THE 'TEST' BUTTON. IF DURING CONTINUATION OF THE TEST, A 'NO GO' CONDITION RESULTS AT ANY STATION, THAT STATION SHALL INFORM THE TD OVER THE COMM LOOP OF THE 'NO GO' CONDITION AND THE TD SHALL RESET THE STATION STATUS CONDITION TO 'NO GO.' THE TD SHALL THEN DECLARE A 'HOLD' CONDITION IF IT IS APPROPRIATE AND DEPRESS THE 'HOLD' BUTTON. WHEN ALL STATIONS ARE 'GO' AGAIN, THE TD SHALL DEPRESS THE 'TEST' BUTTON AND CONTINUE	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
		THE TEST SEQUENCES	
		A. CAPSULE COMMUNICATOR	
		B. ATD	
		C. CHAMBER OPERATOR	
		D. LOCK OPERATOR	
		E. INSTRUMENTATION TECH	
		F. INSTRUMENTATION ENGINEER	
		G. DATA RECORDER	
		H. Q/A INSPECTOR	
		I. VIDEO TECHNICIAN	
		J. MEDICAL OFFICER	
		K. TEST SAFETY OFFICER	
		L. FLIGHT PLANNER	
		M. MEDICAL TECH	
		N. ECS TECH 1 AND 2	
		O. GAS ANALYZER TECH 1	
		P. GAS ANALYZER TECH 2	
		Q. EOS	
		R. MEDICAL EXPERIMENTS OFFICER	
003	TD	ALL STATIONS - THROUGHOUT THE ENTIRETY OF THE TEST, THE STRICTEST COMMUNICATIONS DISCIPLINE SHALL BE OBSERVED AS FOLLOWS...	
		A. COMMUNICATIONS SHALL BE KEPT TO A MINIMUM	

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
	'B. WHEN SPEAKING, IDENTIFY THE STATIONS BEING CALLED AND THE STATION CALLING AND WAIT FOR A RESPONSE BEFORE PROCEEDING	
	'C. IF A PRIVATE CONVERSATION IS DESIRED WITH ANOTHER STATION, APPROVAL MUST BE OBTAINED FROM THE TD FROM THE TD	
	'D. REQUEST PERMISSION TO LEAVE A STATION AND INFORM THE TD WHEN RETURNING TO A STATION	
	'E. CRITICAL PERSONNEL WILL BE REPLACED ONLY BY THEIR DESIGNATED ALTERNATE AT A TIME DETERMINED BY THE TD	
	'F. PRIMARY PERSONNEL WILL BE ALLOWED AWAY FROM THEIR STATION FOR A MAXIMUM OF 5 MINUTES	
	'G. CLOSE ALL MIKE SWITCHES WHEN NOT IN USE	
	'H. ALL DIRECTIONS FOR THE CREW WILL BE DIRECTED TO THE CAP COMM	
004 TD	'ALL STATIONS ACKNOWLEDGE WITH A 'GO' THAT THEY HAVE A COPY OF THE EMERGENCY PROCEDURES AND UNDERSTAND THE TD'S COMMENTS ON COMMUNICATIONS DISCIPLINE	
	'A. CAPSULE COMMUNICATOR	
	'B. ATD	
	'C. CHAMBER OPERATOR	
	'D. LOCK OPERATOR	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
		E. INSTRUMENTATION TECH	
		F. INSTRUMENTATION ENGINEER	
		G. DATA RECORDER	
		H. Q/A INSPECTOR	
		I. VIDEO TECHNICIAN	
		J. MEDICAL TECH	
		K. MEDICAL OFFICER	
		L. TEST SAFETY ENGINEER	
		M. FLIGHT PLANNER	
		N. ECS TECH 1 AND 2	
		O. GAS ANALYZER TECH 1	
		P. GAS ANALYZER TECH 2	
		Q. EOS	
		R. MEDICAL EXPERIMENTS OFFICER	
005	TD	VERIFY ALL SYSTEMS OPERATIONAL PER APPROPRIATE CHECKLIST	
006	PE	ESCORT CREWMEN AND LO TO 20-FT CHAMBER OUTER LOCK	
007	VT	START VIDEO RECORDING	GMT
008	ALL	REVIEW INDIVIDUAL EMERGENCY PROCEDURES	
009	IT	TURN COMM POWER TO OUTER LOCK OFF	
010	PE	TRANSFER O2 UMBILICALS FROM WALK AROUND BOTTLES TO CHAMBER SUPPLY AND CONNECT COMM LINES TO OUTER LOCK COMM STATIONS	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
		I. VT	
		J. MEDICAL TECH	
		K. MO	
		L. TSO	
		M. CM	
		N. LOB	
		O. GAS ANALYZER TECH 1	
		P. GAS ANALYZER TECH 2	
		Q. ECS TECH 1 AND 2	
		R. FLIGHT PLANNER	
		S. EOS	
		T. MEDICAL EXPERIMENTS OFFICER	
020	MO	VERIFY CM AND LOB READY FOR LOCK ASCENT TO 27,000 FT	
021	CO	ASCEND CHAMBER AND LOCK TO 27,000 FT AT 5000 FT/MIN AND HOLD	
022	CM	ONCE LOCK DOOR OPENS, REMOVE HELMETS AND LEAVE IN LOCK	
023	CM	TRANSFER TO CHAMBER O2 AND VERIFY COMM BOXES WORKING	
024	LO	SECURE LOCK DOOR	
025	MO	VERIFY LO READY FOR DESCENT TO SITE	
026	L OP	DESCEND LOCK TO SITE AT 5000 FT/MIN	
027	CO	MAINTAIN CHAMBER AT 27,000 FT	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS
028	TD	VERIFY PROPER GAS CONCENTRATION IN MAIN CHAMBER AND ECS SYSTEM OPERATING	
029	CM	REMOVE MASKS AND PLACE IN TRANSFER LOCK	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'030'	TD	'DAY 1 OPERATIONS	'DATE		
			'GMT	(T-0)	
'031'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
		'CHECKLIST(T+12 HR)			
		(T+24 HR)	'GMT		
'032'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
		'LIST TO TD	---	---	---
'033'	TD	'COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
038	TD	DAY 3 OPERATIONS	DATE		
			GMT	(T-0)	
039	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)	GMT		
		(T+24 HR)			
040	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
041	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'042'	TD	'DAY 4 OPERATIONS	'DATE		
'	'	'	'GMT	(T-0)	'
'	'	'	'		'
'043'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST(T+12 HR)	'		
'	'	'(T+24 HR)	'GMT		
'	'	'	'		
'044'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'	'	'	'		
'045'	TD	'COMMENTS...	'		

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
'046' TD	'DAY 5 OPERATIONS	'DATE
'	'	'-----'
'	'	'GMT (T-0)'
'	'	'-----'
'047' ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'CHECKLIST(T+12 HR)	'-----'
'	'(T+24 HR)	'GMT
'	'	'-----'
'048' FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'LIST TO TD	'--- --- ---'
'	'	'
'049' TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'050'	TD	'DAY 6 OPERATIONS	'DATE		
'	'	'	'GMT	(T-0)	'
'	'	'	'		'
'051'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST(T+12 HR)	'		
'	'	'(T+24 HR)	'GMT		
'	'	'	'		
'052'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'	'	'	'		
'053'	TD	'COMMENTS...	'		

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
054	TD	DAY 7 OPERATIONS	DATE _____
			GMT _____ (T-0)
055	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST (T+12 HR) (T+24 HR)	GMT _____
			GMT _____
056	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST ____ 2ND ____ 3RD ____
057	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
'058'	TD	DAY 8 OPERATIONS	DATE
:	:	:	GMT
:	:	:	(T-0)
'059'	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST(T+12 HR) (T+24 HR)	GMT
:	:	:	GMT
'060'	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST
:	:	:	2ND
:	:	:	3RD
'061'	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'062'	TD	'DAY 9 OPERATIONS	'DATE		
'	'	'	'	-----	'
'	'	'	'GMT	(T-0)	'
'	'	'	'	-----	'
'063'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST(T+12 HR)	'	-----	'
'	'	'(T+24 HR)	'GMT		
'	'	'	'	-----	'
'064'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'	---	---
'	'	'	'		
'065'	TD	'COMMENTS...	'		

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'066'	TD	'DAY 10 OPERATIONS	'DATE		
			'GMT	(T-0)	
'067'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
		'CHECKLIST (T+12 HR)			
		(T+24 HR)	'GMT		
'068'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
		'LIST TO TD			
'069'	TD	'COMMENTS...			

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
'070' TD	'DAY 11 OPERATIONS	'DATE
'	'	'-----'
'	'	'GMT (T-0)'
'	'	'-----'
'071' ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'CHECKLIST(T+12 HR)	'-----'
'	'(T+24 HR)	'GMT
'	'	'-----'
'072' FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'LIST TO TD	'--- --- ---'
'	'	'
'073' TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
074	TD	DAY 12 OPERATIONS	DATE		
			GMT	(T-0)	
075	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST(T+12 HR)	GMT		
		(T+24 HR)			
076	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
077	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS		
'078'	TD	DAY 13 OPERATIONS	DATE		
'079'	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)			
		(T+24 HR)			
'080'	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
'081'	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
082	TD	DAY 14 OPERATIONS	DATE
			GMT (T-0)
083	ATD	PERFORM FACILITY MAINTENANCE	GMT
		CHECKLIST (T+12 HR)	GMT
		(T+24 HR)	GMT
084	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	
085	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

'SQ'	TO	OPERATION	REMARKS
'086'	TD	'DAY 15 OPERATIONS	'DATE _____'
'	'	'	'GMT _____ (T-0)'
'087'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT _____'
'	'	'CHECKLIST (T+12 HR)	'GMT _____'
'	'	'(T+24 HR)	'GMT _____'
'088'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'	'LIST TO TD	'--- --- ---'
'089'	TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
'090'	TD	'DAY 16 OPERATIONS	'DATE
'	'	'	'GMT (T-0)
'091'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'	'CHECKLIST (T+12 HR)	'GMT
'	'	'(T+24 HR)	'GMT
'092'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'	'LIST TO TD	'
'093'	TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

'SQ'	TO	OPERATION	REMARKS
'094'	TD	'DAY 17 OPERATIONS	'DATE
'	'	'	'-----'
'	'	'	'GMT (T-0)'
'	'	'	'-----'
'095'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'	'CHECKLIST (T+12 HR)	'-----'
'	'	'(T+24 HR)	'GMT
'	'	'	'-----'
'096'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'	'LIST TO TD	'--- --- ---'
'	'	'	'
'097'	TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'098'	TD	'DAY 18 OPERATIONS	'DATE		
'	'	'	'GMT	(T-0)	'
'	'	'	'		'
'099'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST (T+12 HR)	'		
'	'	'(T+24 HR)	'GMT		
'	'	'	'		
'100'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'	'	'	'		
'101'	TD	'COMMENTS...	'		

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'102'	TD	'DAY 19 OPERATIONS	'DATE		'
'	'	'	'GMT	(T-0)	'
'103'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		'
'	'	'CHECKLIST(T+12 HR)	'		'
'	'	'(T+24 HR)	'GMT		'
'104'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'105'	TD	'COMMENTS...	'		'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
106	TD	DAY 20 OPERATIONS	DATE		
			GMT	(T-0)	
107	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST(T+12 HR)	GMT		
		(T+24 HR)			
108	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
109	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
110	TD	DAY 21 OPERATIONS	DATE _____
			GMT _____ (T-0)
111	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
112	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	___ ___ ___
113	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

' SQ' TO '		OPERATION	' REMARKS '		
'114'	TD	'DAY 22 OPERATIONS	'DATE		'
'	'	'	'GMT	(T-0)	'
'	'	'	'		'
'115'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		'
'	'	'CHECKLIST(T+12 HR)	'		'
'	'	'(T+24 HR)	'GMT		'
'	'	'	'		'
'116'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'	'	'	'		'
'117'	TD	'COMMENTS...	'		'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
118	TD	DAY 23 OPERATIONS	DATE		
			GMT	(T-0)	
119	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)			
		(T+24 HR)	GMT		
120	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
121	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'122'	TD	'DAY 24 OPERATIONS	'DATE		'
'	'	'	'	-----	'
'	'	'	'GMT	(T-0)	'
'	'	'	'	-----	'
'123'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		'
'	'	'CHECKLIST(T+12 HR)	'	-----	'
'	'	'(T+24 HR)	'GMT		'
'	'	'	'	-----	'
'124'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'	---	---
'	'	'	'		'
'125'	TD	'COMMENTS...	'		'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
126	TD	DAY 25 OPERATIONS	DATE		
			GMT	(T-0)	
127	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)	GMT		
		(T+24 HR)			
128	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
129	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
130	TD	DAY 26 OPERATIONS	DATE
			GMT (T-0)
131	ATD	PERFORM FACILITY MAINTENANCE	GMT
		CHECKLIST (T+12 HR)	
		(T+24 HR)	GMT
132	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	
133	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
134	TD	DAY 27 OPERATIONS	DATE		
			GMT	(T-0)	
135	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)			
		(T+24 HR)	GMT		
136	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
137	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

' SQ'	TO '	OPERATION	' REMARKS '
'138'	TD	'DAY 28 OPERATIONS	'DATE
'	'	'	'-----'
'	'	'	'GMT (T-0)'
'	'	'	'-----'
'139'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'	'CHECKLIST(T+12 HR)	'-----'
'	'	'(T+24 HR)	'GMT
'	'	'	'-----'
'140'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'	'LIST TO TD	'--- --- ---'
'	'	'	'
'141'	TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
'142' TD	'DAY 29 OPERATIONS	'DATE
'	'	'-----'
'	'	'GMT (T-0)'
'	'	'-----'
'143' ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'CHECKLIST(T+12 HR)	'-----'
'	'(T+24 HR)	'GMT
'	'	'-----'
'144' FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'LIST TO TD	'--- --- ---'
'	'	'
'145' TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
'146'	TD	'DAY 30 OPERATIONS	'DATE
'	'	'	'-----'
'	'	'	'GMT (T-0)'
'	'	'	'-----'
'147'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT
'	'	'CHECKLIST (T+12 HR)	'-----'
'	'	'(T+24 HR)	'GMT
'	'	'	'-----'
'148'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST 2ND 3RD
'	'	'LIST TO TD	'--- --- ---'
'	'	'	'
'149'	TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
150	TD	DAY 31 OPERATIONS	DATE _____ GMT _____ (T-0)
151	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST (T+12 HR) (T+24 HR)	GMT _____ GMT _____
152	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST 2ND 3RD --- --- ---
153	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
154	TD	DAY 32 OPERATIONS	DATE _____
			GMT _____ (T-0)
155	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
156	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
157	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
'158'	TD	DAY 33 OPERATIONS	'DATE
			GMT (T-0)
'159'	ATD	PERFORM FACILITY MAINTENANCE	GMT
		CHECKLIST (T+12 HR)	
		(T+24 HR)	GMT
'160'	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
'161'	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
162	TD	DAY 34 OPERATIONS	DATE _____
			GMT _____ (T-0)
163	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST (T+12 HR) (T+24 HR)	GMT _____ GMT _____
164	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST 2ND 3RD --- --- ---
165	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
166	TD	DAY 35 OPERATIONS	DATE _____
			GMT _____ (T-0)
167	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	_____
		(T+24 HR)	GMT _____
168	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
169	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
170	TD	DAY 36 OPERATIONS	DATE _____
			GMT _____ (T-0)
171	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
172	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
173	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
174	TD	DAY 37 OPERATIONS	DATE		
			GMT	(T-0)	
175	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)			
		(T+24 HR)	GMT		
176	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD	---	---	---
177	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
178	TD	DAY 38 OPERATIONS	DATE		
			GMT	(T-0)	
179	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST(T+12 HR)	GMT		
		(T+24 HR)			
180	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
181	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

' SQ'	TO	OPERATION	REMARKS		
'182'	TD	'DAY 39 OPERATIONS	'DATE		
'	'	'	'GMT	(T-0)	
'	'	'	'		
'183'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST(T+12 HR)	'		
'	'	'(T+24 HR)	'GMT		
'	'	'	'		
'184'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'	'	'	'		
'185'	TD	'COMMENTS...	'		

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
'186' TD	'DAY 40 OPERATIONS	'DATE ----- 'GMT (T-0) -----
'187' ATD	'PERFORM FACILITY MAINTENANCE 'CHECKLIST (T+12 HR) (T+24 HR)	'GMT ----- 'GMT -----
'188' FC	'SUBMIT SHIFT CHANGE PERSONNEL 'LIST TO TD	'1ST 2ND 3RD --- --- ---
'189' TD	'COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
190	TD	DAY 41 OPERATIONS	DATE
			GMT (T-0)
191	ATD	PERFORM FACILITY MAINTENANCE	GMT
		CHECKLIST (T+12 HR)	
		(T+24 HR)	GMT
192	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	
193	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
194	TD	DAY 42 OPERATIONS	DATE
			GMT (T-0)
195	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST (T+12 HR) (T+24 HR)	GMT
			GMT
196	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST 2ND 3RD
197	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
198	TD	DAY 43 OPERATIONS	DATE _____
			GMT _____ (T-0)
199	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
200	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
201	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
202	TD	DAY 44 OPERATIONS	DATE _____
			GMT _____ (T-0)
203	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
204	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
205	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
206	TD	DAY 45 OPERATIONS	DATE
			GMT (T-0)
207	ATD	PERFORM FACILITY MAINTENANCE	GMT
		CHECKLIST (T+12 HR)	GMT
		(T+24 HR)	GMT
208	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	
209	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
210	TD	DAY 46 OPERATIONS	DATE		
			GMT	(T-0)	
211	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST(T+12 HR)			
		(T+24 HR)	GMT		
212	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
213	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS		
214	TD	DAY 47 OPERATIONS	DATE		
			GMT	(T-0)	
215	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST (T+12 HR)			
		(T+24 HR)	GMT		
216	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
217	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
218	TD	DAY 48 OPERATIONS	DATE		
			GMT	(T-0)	
219	ATD	PERFORM FACILITY MAINTENANCE	GMT		
		CHECKLIST(T+12 HR)			
		(T+24 HR)	GMT		
220	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST	2ND	3RD
		LIST TO TD			
221	TD	COMMENTS...			

TEST SEQUENCES - CONTINUED

' SQ'	TO	OPERATION	REMARKS
' 222'	TD	' DAY 49 OPERATIONS	' DATE
'	'	'	' _____
'	'	'	' GMT (T-0)
'	'	'	' _____
' 223'	ATD	' PERFORM FACILITY MAINTENANCE	' GMT
'	'	' CHECKLIST (T+12 HR)	' _____
'	'	' (T+24 HR)	' GMT
'	'	'	' _____
' 224'	FC	' SUBMIT SHIFT CHANGE PERSONNEL	' 1ST
'	'	' LIST TO TD	' 2ND
'	'	'	' 3RD
' 225'	TD	' COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
226	TD	DAY 50 OPERATIONS	DATE _____ _____ (T-0) GMT _____
227	ATD	PERFORM FACILITY MAINTENANCE CHECKLIST (T+12 HR) (T+24 HR)	GMT _____ GMT _____
228	FC	SUBMIT SHIFT CHANGE PERSONNEL LIST TO TD	1ST 2ND 3RD --- --- ---
229	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'230'	TD	'DAY 51 OPERATIONS	'DATE		
'	'	'	'GMT	(T-0)	'
'231'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		
'	'	'CHECKLIST (T+12 HR)	'GMT		
'	'	'(T+24 HR)	'GMT		
'232'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'233'	TD	'COMMENTS...			

TEST SEQUENCES - CONTINUED

SQ	TO	OPERATION	REMARKS
234	TD	DAY 52 OPERATIONS	DATE _____
			GMT _____ (T-0)
235	ATD	PERFORM FACILITY MAINTENANCE	GMT _____
		CHECKLIST (T+12 HR)	GMT _____
		(T+24 HR)	GMT _____
236	FC	SUBMIT SHIFT CHANGE PERSONNEL	1ST 2ND 3RD
		LIST TO TD	--- --- ---
237	TD	COMMENTS...	

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
' 238' TD	' DAY 53 OPERATIONS	' DATE
'	'	'
'	'	' GMT (T-0)
'	'	'
' 239' ATD	' PERFORM FACILITY MAINTENANCE	' GMT
'	' CHECKLIST (T+12 HR)	'
'	' (T+24 HR)	' GMT
'	'	'
' 240' FC	' SUBMIT SHIFT CHANGE PERSONNEL	' 1ST 2ND 3RD
'	' LIST TO TD	' --- --- ---
'	'	'
' 241' TD	' COMMENTS...	'

TEST SEQUENCES - CONTINUED

' SQ' TO '	OPERATION	REMARKS
' 242' TD	' DAY 54 OPERATIONS	' DATE _____ ' GMT _____ (T-0)
' 243' ATD	' PERFORM FACILITY MAINTENANCE ' CHECKLIST (T+12 HR) ' (T+24 HR)	' GMT _____ ' GMT _____
' 244' FC	' SUBMIT SHIFT CHANGE PERSONNEL ' LIST TO TD	' 1ST 2ND 3RD ' --- --- ---
' 245' TD	' COMMENTS...	'

TEST SEQUENCES - CONTINUED

SQ TO		OPERATION	REMARKS		
'246'	TD	'DAY 55 OPERATIONS	'DATE		'
'	'	'	'GMT	(T-0)	'
'247'	ATD	'PERFORM FACILITY MAINTENANCE	'GMT		'
'	'	'CHECKLIST (T+12 HR)	'GMT		'
'	'	'(T+24 HR)	'GMT		'
'248'	FC	'SUBMIT SHIFT CHANGE PERSONNEL	'1ST	2ND	3RD
'	'	'LIST TO TD	'---	---	---
'249'	TD	'COMMENTS...	'		'

TEST SEQUENCES - CONTINUED

SQ TO			OPERATION	REMARKS		
250	TD	DAY 56 OPERATIONS		DATE		
				GMT	(T-0)	
251	ATD	PERFORM FACILITY MAINTENANCE		GMT		
		CHECKLIST (T+12 HR)		GMT		
		(T+24 HR)		GMT		
252	FC	SUBMIT SHIFT CHANGE PERSONNEL		1ST	2ND	3RD
		LIST TO TD		---	---	---
253	TD	COMMENTS...				

TEST SEQUENCES - CONCLUDED

' SQ' TO '	OPERATION	REMARKS
' 254' TD	' AT END OF TEST, PREPARE FOR	
'	' CHAMBER REPRESS	
' 255' MO	' VERIFY CM READY FOR DESCENT TO	
'	' SITE	
' 256' CO	' DESCEND CHAMBER TO SITE AT 5000'	
'	' FT/MIN	
' 257' CM	' EXIT CHAMBER	
' 258' DT	' TERMINATE DATA RECORDING	
' 259' VT	' TERMINATE VIDEO SYSTEM	
' 260' ALL	' SECURE STATIONS PER APPROPRIATE'	
'	' CHECKLISTS	

