ALSEP Performance Summary Reports

1976

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ALSEP PERFORMANCE SUMMARY REPORT

9 January 1976
G.m.t.: 1300

This report covers the three week period from 19 December 1975 to 9 January 1976.

Apollo 17 ALSEP

Sunrise of the 39th lunation occurred on 6 January at the Taurus Littrow site. Downlink signal strength was reported at -139.0 ± 6.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 8 January the lunar surface temperature, as measured by the HFE thermocouples, was 297 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.6°K at probe #1 and 256.9°K at probe #2. *The HFE was inadvertently left in Probe #1 Sequence Select Mode 1, 29 December 1975. The instrument was commanded to Full Sequence Select Mode 1 on 31 December 1975 at completion of the ring bridge survey.*

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic HIGH gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses. *LSG seismic data was invalid from 1000-2200 G.m.t., 22 December 1975 and 0930-1530 G.m.t., 26 December 1975.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 20 December 1975, for lunar night operation.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1300 G.m.t., 19 December 1975, to 1300 G.m.t., 9 January 1976

Central station	Sunrise at the Descartes Site occurred on 8 January for the 47th lunation. The DSS-1 heater (10 watts) is OFF for lunar day operations. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B was reported between -132.0 and -137.5 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1094 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis continues to be static.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1300 G.m.t., 19 December 1975, to 1300 G.m.t., 9 January 1976

Central station	Sunrise of the 56th lunation occurred at the Hadley Rille Site on 9 January. Transmitter A downlink signal strength is reported between -133.5 and -139.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were noted during real-time support this report period.
Suprathermal ion detector/cold cathode gauge experiments	The SIDE is ON. The CCGE high voltage is OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors being sampled in full sequence. The lunar surface temperature was 82.5°K on 8 January as indicated by the cable thermocouples. The subsurface temperature was 253.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.1°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1300 G.m.t., 19 December 1975, to 1300 G.m.t., 9 January 1976

Central station	Midnight of the 61st lunation occurred on 3 January. Transmitter A signal strength was reported at -138.5 ± 4.5 dbm from the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON. The internal temperature (DL-07) was onscale from 18-26 December 1975. The PSE heater has been in Forced OFF since 24 February 1975. During this report period the long period X & Y-axes appeared to be responding normally. The long period Y-axis was onscale from 17-19 December and 27-31 December 1975. No significant seismic events were noted during real-time this report period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument status is unknown.
Charged particle lunar environmental experiment	The experiment is in STANDBY.

Apollo 12 ALSEP

Operational status from 1300 G.m.t., 19 December 1975, to 1300 G.m.t., 9 January 1976

Central station	Midnight of the 76th lunation occurred on 3 January. A signal strength of -139.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor was commanded ON, 27 December, to maximize heating in the instrument. *During this reporting period noise spikes are again appearing on the data recorded by the Helicorders on 31 December during real-time support. This noise is attributed to the third (3rd) least significant bit not setting properly in the analog to digital (A/D) converter. This is the second occurrence of this anomaly and the cause is suspected to be a result of low PSE electronics temperature. Central Station AT-04, internal temperature, has been reading -5.0°F during lunar night.* No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is currently in the normal gain mode and is recording solar wind plasma data. The instrument ac calibrate measurements (sequence 15) were intermittently LOW during this report period.
Suprathermal ion detector experiment	The SIDE is currently ON.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

THE CENTRAL STATION TEMPERATURE TEST CONDUCTED ON 8 JANUARY WILL BE REPORTED FULLY IN THE 16 JANUARY REPORT.

Status as of 1600 G.m.t., 8 January 1975, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2241	1798	1622	1357
Total Commands to Date	28082	15648	32165	19281
Sun Angle	327.7°	333.6°	354.8°	6.6°
Input Power	57.5w	60.6w	59.1w	65.3w
Heater and Power Dumps	All ON	All OFF	All OFF	All OFF
Experiment Status	LSM OFF	SIDE/ASE/CPLEE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	-3.9°F	8.8°F	-5.5°F	46.9°F
PSE Sensor Temp (DL-07)	Offscale LOW	Offscale LOW	124.2°F	126.1°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	9.7°C
SWS Module 300 Temp (DW-13)	-16.1°C	N/A	OFF	N/A
SIDE Temp (DI-05)	4.3°C	STBY	7.8°C	N/A
CCGE Temp (DI-04)	HIGH	STBY	106.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.4°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.4°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1122
Total Commands to Date	31088
Sun Angle	21.9°
Input Power	67.8w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	71.9°F
LACE Temp (AM-41)	94.2°F
LEAM Temp (AJ-11)	166.3°F
HFE Temp Ref 1 (DH-13)	299.4°K
LSG Temp (DG-04)	Offscale HIGH
LSP Temp (AP-01)	72.0°F

DATA LOSSES FROM 19 DECEMBER 1975 TO 9 JANUARY 1976

Remote site coverage for recordings of ALSEP downlink data are not available during the following periods. It must be noted that these losses are non-recoverable.

ALSEP	DATE	G.m.t.	LOSS	SITE	REMARKS
A16	21 Dec 75	1105/1120	15^m	HAW	Station Problem
ALL	21 Dec 75	2346/2400	14^m	VAN	Station Problem
ALL	22 Dec 75	0000/0006	06^m	VAN	Station Problem
A16	22 Dec 75	0755/0803	08^m	ACN	Station Problem
ALL	22 Dec 75	1018/1047	29^m	AGO	Station Problem
A17	27 Dec 75	1330/1346	16^m	HAW	Station Problem
A14	28 Dec 75	1644/1657	13^m	QUI	Station Problem
A12,15, 16,17	28 Dec 75	1650/1655	05^m	QUI	Station Problem
ALL	30 Dec 75	0602/0610	08^m	VAN	Station Problem
A16	01 Jan 76	2157/2316	1^h19^m	GDS	Station Problem
A14,17	01 Jan 76	2157/2316	1^h19^m	GDS	Higher Priority
ALL	05 Jan 76	2126/2129	03^m	MIL	Station Problem
ALL	06 Jan 76	0955/0957	02^m	ORR	Station Problem
ALL	06 Jan 76	1106/1126	20^m	MAD	Station Problem

DEC 21/355	22/356	23/357	24/358	25/359	26/360	27/361
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON	0900-1100 ALSEP 17 ALSEP 12 CYCLE SIDE HFE RBS LSM FLIP CAL 2100-2200	0600-0800 ALSEP 12 CYCLE SIDE 1600-1700	0100-0200 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE HFE RBS	0900-1100 ALSEP 15 ALSEP 12 SIDE ON	0900-1100 ALSEP 14 HFE RBS	0800-1200 ALSEP 12 C/S HTR ON PSE Z MTR ON
DEC 28/362	29/363	30/364	31/365	JAN 01/001	02/002	03/003
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT
JAN 04/004	05/005	06/006	07/007	08/008	09/009	10/010
NO SUPPORT	0900-1300 HFE RBS	NO SUPPORT ALSEP 17	NO SUPPORT ALSEP 16	0900-1350 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JAN 11/011	12/012	13/013	14/014	15/015	16/016	17/017
0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	0900-1100 HFE RBS LSM FLIP CAL	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0030-0430 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE SUPT	1200-1400 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL ALSEP 15 SIDE STBY, MODE I	0900-1100 ALSEP 12 & 15 CYCLE SIDES
JAN 18/018	**19/019**	**20/020**	**21/021**	**22/022**	**23/023**	**24/024**
1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	1000-1200
JAN 25/025	**26/026**	**27/027**	**28/028**	**29/029**	**30/030**	**31/031**
0800-1100 ALSEP 14 ALSEP 12	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

16 January 1976
G.m.t.: 1300

Apollo 17 ALSEP

Noon of the 39th lunation occurred on 14 January at the Taurus Littrow site. Downlink signal strength is reported between -134.0 and -141.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 15 January the lunar surface temperature, as measured by the HFE thermocouples was 385 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater remains OFF for the lunar day time operation. *The thermal regulation anomaly continues.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is OFF for the lunar day.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1300 G.m.t., 9 January 1976, to 1300 G.m.t., 16 January 1976

Central station	Noon at the Descartes Site occurred on 15 January for the 47th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -136.0 ± 3.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH but is expected to return onscale 22 January. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1100 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1300 G.m.t., 9 January 1976, to 1300 G.m.t., 16 January 1976

Central station	Noon of the 56th lunation occurred at the Hadley Rille Site today 16 January. Transmitter A downlink signal strength is reported between -134.0 and -138.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH on 14 January at a sun angle of 67.6° and is expected to return onscale 19 January. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. *A Special Operational Test of the SIDE is being conducted from 14 to 17 January at the request of the Principal Investigator.*
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 367.0°K on 15 January as measured by the cable thermocouples. The subsurface temperature was 252.9°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.3°K at its lowermost point. Ring bridge surveys are obtained periodically. *A spurious functional change, high conductivity mode select, (octal 140), occurred at 2234 G.m.t., 8 January, as observed by the Merritt Island Tracking Station. The HFE was returned to its normal gradient mode (octal 135) during real time support on 9 January. At 0008 G.m.t., 14 January, a spurious functional change was observed by the Merritt Island Tracking Station, Heater Advance (octal 152) 14 ON. The HFE was returned to its normal configuration at the conclusion of the ring bridge survey on 14 January.*
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1300 G.m.t., 9 January 1976, to 1300 G.m.t., 16 January 1976

Central station	Noon at the Apollo 14 site (62nd lunation) will occur on 18 January. Transmitter A signal strength was reported between -134.5 and -142.5 dbm from the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON. The internal temperature (DL-07) has remained offscale low during this report period. The PSE heater has been in Forced OFF since 24 February 1975. During this report period the long period Y-axis appeared to be responding normally. On 15 January the Y-axis returned onscale with a reading of 15.91 u rad. at a sun angle of 52.6°. No significant seismic events were noted during real-time this report period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument status is unknown.
Charged particle lunar environmental experiment	The experiment is in STANDBY.

Apollo 12 ALSEP

Operational status from 1300 G.m.t., 9 January 1976, to 1300 G.m.t., 16 January 1976

Central station

Noon of the 77th lunation will occur on 18 January. A signal strength of -139.0 ± 3.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. *Extended tests were conducted to resolve the Passive Seismic Experiment Analog to Digital (PSE A/D) converter anomaly during the real time support periods ending 8 January. On 5 January, the DSS-3 (10 watt) thermostatically controlled heater was commanded ON again for a longer period of time than was attempted on 2 January. However, the Central Station (C/S) temperature never dropped low enough to cause the heater to turn ON. The DSS-3 heater was commanded OFF after approximately 4 hours and the DSS-1 (10 watt) heater was turned back ON. The PSE A/D converter anomaly continued. On 8 January, the Suprathermal Ion Detector Experiment (SIDE) and Solar Wind Spectrometer Experiment (SWS) were commanded to STANDBY to increase the reserve power in the Central Station. This added heat caused the Central Station PSE electronics temperature, AT-05, to increase from a low of -5.5°F to +0.3°F over a period of several hours and the PSE A/D converter problem cleared up. The SWS was commanded ON and the AT-05 temperature continued to increase to +3.0°F by the next support period with proper operation of the PSE continuing. Detailed analysis of the data collected during the warmup showed that the ADC problem cleared at -0.8°F (AT-05). It is planned for future lunar night operations to command the SIDE to STANDBY when the C/S AT-05 temperature approaches +0.3°F.*

It should also be pointed out that numerous commands were required to get the SIDE turned back ON at lunar sunrise on 11 January. The SIDE temperature T-2 was reading -14.96°F at turn-on after being in STANDBY approximately three days. Analysis of this problem is in progress.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *During this reporting period the noise spikes previously reported on the data recorded by the Helicorders is no longer observed as covered in the above explanation.* No significant seismic events were noted during the real-time support of this instrument.

Solar wind spectrometer experiment

The instrument is currently in the normal gain mode and is recording solar wind plasma data.

Apollo 12 ALSEP (continued)

Operational status from 1300 G.m.t., 9 January 1976, to 1300 G.m.t., 16 January 1976

Suprathermal ion detector experiment	*At 1556 G.m.t., 8 January the SIDE was commanded to STANDBY and left in that configuration until 1230 G.m.t., 11 January, when it was commanded ON (see previous page).* The SIDE is currently OFF. Cyclic commanding of the instrument in the full automatic stepping sequence with Channeltron high voltages ON to experiment power OFF is in effect for this lunar day.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 0300 G.m.t., 15 January 1975, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2248	1805	1629	1364
Total Commands to Date	28182	15648	32324	19419
Sun Angle	46.1°	52.1°	73.2°	85.1°
Input Power	55.9w	61.7w	60.2w	65.3w
Heater and Power Dumps	All OFF	All OFF	All OFF	All OFF
Experiment Status	SIDE/LSM OFF	SIDE/ASE/CPLEE STBY	LSM/SWS OFF & SIDE STBY	ASE OFF
Avg Thermal Plate Temp	94.2°F	109.4°F	111.9°F	106.4°F
PSE Sensor Temp (DL-07)	127.4°F	Offscale LOW	Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	48.2°C
SWS Module 300 Temp (DW-13)	61.7°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	STBY	STBY	N/A
CCGE Temp (DI-04)	OFF	STBY	STBY	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	65.6°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	328.8°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1129
Total Commands to Date	31239
Sun Angle	100.3°
Input Power	67.4w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY & LEAM OFF
Avg Thermal Plate Temp	93.5°F
LACE Temp (AM-41)	158.6°F
LEAM Temp (AJ-11)	196.0°F
HFE Temp Ref 1 (DH-13)	330.4°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	94.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 01/15/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
05 JANUARY	MIL	Station Problem	LOS 05/2126 AOS 05/2129	ALL	03^m
06 JANUARY	ORR	Station Problem	LOS 06/0955 AOS 06/0957	ALL	02^m
06 JANUARY	MAD	Station Problem	LOS 06/1106 AOS 06/1126	ALL	20^m
08 JANUARY	MIL	Station Problem	LOS 08/2006 AOS 08/2010	A15	04^m
**03 NOVEMBER '75	VAN	Station Problem	LOS 03/0851 AOS 03/1202	ALL	3^h11^m
**04 NOVEMBER '75	VAN	Station Problem	LOS 04/1055 AOS 04/1208	ALL	1^h13^m
**05 NOVEMBER '75	VAN	Station Problem	LOS 05/0542 AOS 05/0645	A12, 14	1^h03^m
**20 NOVEMBER '75	VAN	Station Problem	LOS 20/2052 AOS 20/2400	A15	3^h08^m
**21 NOVEMBER '75	VAN	Station Problem	LOS 21/0000 AOS 21/0023	A15	23^m
13 JANUARY	GWM	Station Problem	LOS 13/1025 AOS 13/1028	A12, 14 16, 17	03^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

DEC 21/355	22/356	23/357	24/358	25/359	26/360	27/361
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON	0900-1100 ALSEP 17 ALSEP 12 CYCLE SIDE HFE RBS LSM FLIP CAL 2100-2200	0600-0800 ALSEP 12 CYCLE SIDE 1600-1700	0100-0200 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE HFE RBS	0900-1100 ALSEP 15 ALSEP 12 SIDE ON	0900-1100 ALSEP 14 HFE RBS	0800-1200 ALSEP 12 C/S HTR ON PSE Z MTR ON
DEC 28/362	29/363	30/364	31/365	JAN 01/001	02/002	03/003
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT
JAN 04/004	05/005	06/006	07/007	08/008	09/009	10/010
NO SUPPORT	0900-1300 HFE RBS	NO SUPPORT ALSEP 17	NO SUPPORT ALSEP 16	0900-1350 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JAN 11/011	12/012	13/013	14/014	15/015	16/016	17/017
0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	0900-1100 HFE RBS LSM FLIP CAL	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL 2130-2230	0530 ALSEP 15 SIDE STBY, MODE I 1730-1830	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12 SIDE 15 ON HFE RBS LSM FLIP CAL 2300 ALSEP 15 SIDE STBY, MODE I	0900-1100 ALSEP 12 & 15 CYCLE SIDES
JAN 18/018	**19/019**	**20/020**	**21/021**	**22/022**	**23/023**	**24/024**
1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	1000-1200
JAN 25/025	**26/026**	**27/027**	**28/028**	**29/029**	**30/030**	**31/031**
0800-1100 ALSEP 14 ALSEP 12	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

22 January 1976
G.m.t.: 1800

Apollo 17 ALSEP

Sunset of the 39th lunation occurred on 21 January at the Taurus Littrow site. Downlink signal strength is reported at -140.5 ± 3.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 22 January the lunar surface temperature, as measured by the HFE thermocouples, was 120 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to insure that the instrument will not go into an out of limits condition thereby losing the seismic data. The thermal regulation anomaly continues.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1300 G.m.t., 16 January 1976, to 1800 G.m.t., 22 January 1976

Central station	Sunset at the Descartes Site will occur later today, 22 January, for the 47th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B is reported at -137.0 ± 2.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07 = 140.0°F) returned onscale today, 22 January (sun angle = 176.4°). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1104 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis remains static.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1300 G.m.t., 16 January 1976, to 1800 G.m.t., 22 January 1976

Central station	Noon of the 56th lunation occurred at the Hadley Rille Site on 16 January. Transmitter A downlink signal strength is reported between -134.0 and -137.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale 20 January (DL-07 = 138.3°F) at a sun angle of 140.8°. *At 0542 G.m.t., 17 January the instrument experienced a spurious command (octal 073) to the uncage/arm fire circuitry as observed by the Ascension Tracking Station. As the 18-hour timer is presently operating uninhibited no adverse effects were encountered by this spurious command. Therefore, a corrective command was not entered.* No seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating with the Channeltron high voltages commanded ON and in full automatic stepping sequence (0-127 frames) (Apollo 15 ALSEP, SMEAR 47). *A special operational test of the SIDE was conducted from 14 to 17 January at the request of the Principal Investigator.*
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 293.3°K on 22 January as indicated by the cable thermocouples. The subsurface temperature was 253.8°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.2°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1300 G.m.t., 16 January 1976, to 1800 G.m.t., 22 January 1976

The Orroral Valley Tracking Station reported an abrupt loss of the downlink telemetry signal at 192924 G.m.t., 18 January. Thirteen commands to turn transmitters ON were sent, Mode I through Guam on 18 January, but all resulted in spacecraft rejects. Subsequent commanding on 20 January also resulted in spacecraft rejects. Playback of the data just prior to LOS showed no abnormalities for the housekeeping paramaters which would indicate cause for the drop. The downlink signal strength from transmitter A was 133.0 dbm at the time of LOS. The cause of LOS is believed similar to the LOS of 1-5 March 1975. After a 4 to 5 day cooldown the possibility exists that downlink may return as it did in the first LOS anomaly.

Central station	Noon of the 62nd lunation at the Apollo 14 site occurred on 18 January. Transmitter A signal strength was reported at -140.0 ± 2.0 dbm from the 30-foot antenna tracking stations prior to LOS.
Passive seismic experiment	The instrument is ON. DL-07, internal temperature, was reading 121.3°F on 18 January. The PSE heater has been in Forced OFF since 24 February 1975. During this report period the Y-axis returned onscale and went from offscale HIGH to offscale LOW. No seismic events were noted during real-time this reporting period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument status is unknown.
Charged particle lunar environmental experiment	The experiment is in STANDBY.

Apollo 12 ALSEP

Operational status from 1300 G.m.t., 16 January 1976, to 1800 G.m.t., 22 January 1976

Central station	Noon of the 77th lunation occurred on 18 January. A signal strength of -138.5 ± 3.5 dbm from transmitter B was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature (DL-07) went offscale HIGH on 18 January and is expected to return onscale 25 January. No significant seismic events were noted during real-time this report period.
Solar wind spectrometer experiment	The instrument is currently in the normal gain mode and is recording solar wind plasma data.
Suprathermal ion detector experiment	The SIDE is currently OFF. Cyclic commanding of the instrument in the full automatic stepping sequence with Channeltron high voltages ON to experiment power OFF is in effect for this lunar day. *At 0951 G.m.t., 17 January, the Guam Tracking Station observed a spurious functional command (SIDE ON, octal 052) in the Apollo 12 ALSEP downlink. Word 15 was read out and was dynamic. The instrument was commanded to STANDBY/OFF at 1117 G.m.t., 17 January by Mode I command through Guam at the direction of Mission Control.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1800 G.m.t., 22 January 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
		LOS - 18 January 1976		
Total Days of Operation	2255	*1808*	1636	1371
Total Commands to Date	28221	*15667*	32432	19528
Sun Angle	137.1°	*143.1°*	164.2°	176.1°
Input Power	55.9w	*61.7w*	60.6w	64.6w
Heater and Power Dumps	All OFF	*All OFF*	All OFF	All OFF
Experiment Status	SIDE/LSM OFF	*SIDE/ASE/CPLEE STBY*	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	85.3°F	*119.6°F*	77.0°F	45.2°F
PSE Sensor Temp (DL-07)	Offscale HIGH	*121.3°F*	125.8°F	140.0°F
LSM Internal Temp (DM-05)	OFF	*N/A*	OFF	31.9°C
SWS Module 300 Temp (DW-13)	60.0°C	*N/A*	OFF	N/A
SIDE Temp (DI-05)	OFF	*STBY*	64.5°C	N/A
CCGE Temp (DI-04)	OFF	*STBY*	316.2°K	N/A
CPLEE Elect Temp (AC-06)	N/A	*STBY*	N/A	N/A
ASE GLA Temp (AS-03)	N/A	*82.0°C*	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	*N/A*	298.4°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1136
Total Commands to Date	31335
Sun Angle	191.3°
Input Power	69.3w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	16.2°F
LACE Temp (AM-41)	-10.0°F
LEAM Temp (AJ-11)	-11.9°F
HFE Temp Ref 1 (DH-13)	284.6°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	17.5°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 01/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
15 JANUARY	AGO/MIL	Higher Priority	LOS 15/0604 AOS 15/0609	ALL	05^{m}
15 JANUARY	MIL/ORR	Higher Priority	LOS 15/0800 AOS 15/0835	A14,15	35^{m}
16 JANUARY	MAD/ETC	Higher Priority	LOS 16/1850 AOS 16/2228	A12,15	$3^{h}38^{m}$
16 JANUARY	MAD/ACN	Higher Priority	LOS 16/1850 AOS 16/2306	A14,16.17	$4^{h}16^{m}$
17 JANUARY	MAD/AGO	Higher Priority	LOS 17/2011 AOS 17/2400	ALL	$3^{h}49^{m}$
18 JANUARY	MAD/AGO	Higher Priority	LOS 18/0000 AOS 18/0109	ALL	$1^{h}09^{m}$
18 JANUARY	MIL/ORR	Higher Priority	LOS 18/0916 AOS 18/1038	ALL	$1^{h}22^{m}$
18 JANUARY	*ORR*	*LOSS OF DOWNLINK SIGNAL*	LOS *18/1929:24* AOS	*A14*	--
18 JANUARY	ORR/MAD	Higher Priority	LOS 18/2032 AOS 18/2037	ALL	05^{m}
19 JANUARY	MIL/HAW	Higher Priority	LOS 19/1107 AOS 19/1131	A12	24^{m}
20 JANUARY	MIL/ULA	Higher Priority	LOS 20/1254 AOS 20/1453	ALL	$1^{h}59^{m}$
21 JANUARY	ULA/HAW	Higher Priority	LOS 21/1645 AOS 21/1732	ALL	47^{m}
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			LOS AOS		
			LOS AOS		
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TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JAN 11/011	12/012	13/013	14/014	15/015	16/016	17/017
0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	0900-1100 HFE RBS LSM FLIP CAL	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL 2130-2230	0530 ALSEP 15 SIDE STBY, MODE I 1730-1830	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12 SIDE 15 ON HFE RBS LSM FLIP CAL 2300 ALSEP 15 SIDE STBY, MODE I	0900-1100 ALSEP 12 & 15 CYCLE SIDES
JAN 18/018	19/019	20/020	21/021	22/022	23/023	24/024
1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	1000-1200
JAN 25/025	26/026	27/027	28/028	29/029	30/030	31/031
0800-1100 ALSEP 14 ALSEP 12	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

29 January 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 39th lunation occurred today at the Taurus Littrow site. Downlink signal strength is reported at -139.0 ± 4.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 28 January the lunar surface temperature, as measured by the HFE thermocouples, was 110 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.6°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to insure that the instrument will not go into an out of limits condition thereby losing the seismic data. The thermal regulation anomaly continues.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 22 January 1976, to 1800 G.m.t., 29 January 1976

Central station	Midnight at the Descartes Site will occur tomorrow 30 January for the 47th lunation. The DSS-1 heater (10 watts) is ON for lunar night operation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, was reported between -133.5 and -139.5 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter, IN). No significant seismic events were noted this report period.
Lunar surface magnetometer experiment	The LSM is ON. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperatures of the Z-axis sensor head. Science data from the Z-axis remains static.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 22 January 1976, to 1800 G.m.t., 29 January 1976

Central station	Sunset of the station's 56th lunation occurred on 23 January. Transmitter A downlink signal strength was reported between -133.5 and -139.5 dbm from the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry has been cycling per the normal 18-hour timer output pulse functions. No significant seismic events were noted this report period.
Suprathermal ion detector/cold cathode gauge experiment	The SIDE is currently ON and operating in the full automatic stepping sequence (0-127 frames) with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode with all sensors being sampled in full sequence. The lunar surface temperature was 89.5°K on 28 January, as indicated by the cable thermocouples. The subsurface temperature was 253.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.1°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 22 January 1976, to 1800 G.m.t., 29 January 1976

The Apollo 14 ALSEP 4 downlink signal remains silent. It was hoped that the signal would return when the central station (C/S) cooled down as lunar night approached. However, sunset (62nd lunation) occurred on 25 January at 1556 G.m.t. (1056 EST) with no reacquisition of signal.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 22 January 1976, to 1800 G.m.t., 29 January 1976

Central station	Sunset of the 77th lunation occurred on 26 January. A signal strength of -139.5 ± 3.5 dbm from transmitter B was reported by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-axis levelling motor is ON to maximize internal heating in the instrument for lunar night operation. *At the beginning of the 2nd support period on 22 January, it was observed that the PSE feedback filter was OUT. No command verification word (octal 101) was noted in the downlink signal. This spurious functional change occurred between support periods and was commanded back IN (octal 101) during real-time support 22 January.* The instrument assembly temperature returned onscale 25 January (DL-07 = 136.4°F), at a sun angle of 173.6° and on 28 January (DL-07) was Offscale LOW at a sun angle of 210.0°F. No significant seismic events were noted this report period.
Solar wind spectrometer experiment	The instrument is currently in the normal gain mode and is recording solar wind plasma data.
Suprathermal ion detector experiment	The SIDE is currently in STANDBY. *The SIDE was commanded to STANDBY AT 1601 G.m.t., 27 January when the central station internal temperature AT-05 dropped to + 0.3°F (Ref. Weekly Status Report dated 16 January 1976 and Apollo 12 ALSEP SMEAR 84).*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1800 G.m.t., 28 January 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2261	1808	1642	1377
Total Commands to Date	28340	15667	32555	19599
Sun Angle	211.7°	217.6°	238.7°	250.6°
Input Power	54.8w		59.5w	65.3w
Heater and Power Dumps	DSS-1 (10w) ON	*NOTE: LOS 1/18/76*	All OFF	DSS-1 (10w) ON
Experiment Status	SIDE STBY/LSM OFF	*SUN ANGLE 96.7°*	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	5.0°F		-3.1°F	31.1°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.7°F	125.9°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-14.8°C		OFF	N/A
SIDE Temp (DI-05)	STBY		7.8°C	N/A
CCGE Temp (DI-04)	STBY		112.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.6°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1142
Total Commands to Date	31481
Sun Angle	265.8°
Input Power	69.0w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	7.8°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.4°K
LSG Temp (DG-04)	51.9°C
LSP Temp (AP-01)	9.4°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 01/29/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
24 JANUARY	HAW/VAN	Higher Priority	LOS 24/2045 AOS 24/2200	ALL	1^h15^m
26 JANUARY	VAN	Station Problem	LOS 26/0247 AOS 26/0304	A16	17^m
27 JANUARY	VAN	Station Problem	LOS 27/0553 AOS 27/0557	A16	04^m
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TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JAN 11/011	12/012	13/013	14/014	15/015	16/016	17/017
0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	0900-1100 HFE RBS LSM FLIP CAL	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL 2130-2230	0530 ALSEP 15 SIDE STBY, MODE I 1730-1830	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12 SIDE 15 ON HFE RBS LSM FLIP CAL 2300 ALSEP 15 SIDE STBY, MODE I	0900-1100 ALSEP 12 & 15 CYCLE SIDES
JAN 18/018	19/019	20/020	21/021	22/022	23/023	24/024
1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	1000-1200
JAN 25/025	26/026	27/027	28/028	29/029	30/030	31/031
0800-1100 ALSEP 14 ALSEP 12	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 01/032	02/033	03/034	04/035	05/036	06/037	07/038
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15
FEB 08/039	**09/040**	**10/041**	**11/042**	**12/043**	**13/044**	**14/045**
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14 ALSEP 12 C/S HTR OFF PSE Z MTR OFF HFE RBS LSM FLIP CAL	0900-1100	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES
FEB 15/046	**16/047**	**17/048**	**18/049**	**19/050**	**20/051**	**21/052**
0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1300-1500 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0800-1000 ALSEP 16 C/S HTR ON

ALSEP PERFORMANCE SUMMARY REPORT

5 February 1976
G.m.t.: 1800

Apollo 17 ALSEP

Sunrise of the 40th lunation occurred today at the Taurus Littrow site. Downlink signal strength was reported at -137.0 ± 2.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 4 February the lunar surface temperature, as measured by the HFE thermocouples, was 106 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.6°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic HIGH gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses. *However, LSG seismic data was invalid from 2000 G.m.t., 1 February to 2000 G.m.t., 2 February.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 29 January 1976, to 1800 G.m.t., 5 February 1976

Central station	Midnight at the Descartes Site occurred on 30 January for the 47th lunation. The DSS-1 heater (10 watts) is ON for lunar night operation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B was reported between -134.0 and -137.5 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis continues to be static.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 29 January 1976, to 1800 G.m.t., 5 February 1976

Central station	Midnight of the 56th lunation occurred at the Hadley Rille Site on 31 January. Transmitter A downlink signal strength is reported at -136.5 ± 2.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were noted during real-time support this report period.
Suprathermal ion detector/cold cathode gauge experiments	The SIDE is ON. The CCGE high voltage is OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode with all sensors being sampled in full sequence. The lunar surface temperature was 84.0°K on 4 February as indicated by the cable thermocouples. The subsurface temperature was 253.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.1°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974. *At 1336 G.m.t., 31 January, the instrument responded to a spurious operational power ON (octal 045) command as reported by the Madrid Tracking Station. The experiment was commanded to OFF (octal 050), Mode I, by the Guam Tracking Station at the direction of mission control.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 29 January 1976, to 1800 G.m.t., 5 February 1976

The Apollo 14 ALSEP downlink signal remains silent. Midnight of the 62nd lunation occurred on 2 February.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 29 January 1976, to 1800 G.m.t., 5 February 1976

Central station	Midnight of the 77th lunation occurred on 2 February. A signal strength of -138.5 ± 2.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor is ON to maximize heating in the instrument. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is currently in the normal gain mode and is recording solar wind plasma data. The instrument ac calibrate measurements (sequence 15) were intermittently LOW during this report period.
Suprathermal ion detector experiment	The SIDE is in STANDBY. (Ref. Performance Summary Report, 16 January 1976, and Apollo 12 ALSEP SMEAR 84).
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 4 February 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2268	1808	1649	1384
Total Commands to Date	28350	15667	32629	19626
Sun Angle	296.0°	301.9°	323.0°	334.9°
Input Power	54.5w *(55.2w)*		58.7w *(59.1w)*	65.3w *(65.3w)*
Heater and Power Dumps	All ON		All OFF	All ON
Experiment Status	LSM OFF/SIDE STBY	*NOTE: LOS 1/18/76*	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	2.1°F	*SUN ANGLE 96.7°*	-5.5°F	30.4°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.3°F	125.8°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C		OFF	N/A
SIDE Temp (DI-05)	STBY		7.8°C	N/A
CCGE Temp (DI-04)	STBY		108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.4°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1149
Total Commands to Date	31580
Sun Angle	350.1°
Input Power	68.9w *(69.3w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	12.0°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-20.8°F
HFE Temp Ref 1 (DH-13)	284.9°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	12.7°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 2/5/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
29 JANUARY	AGO/HAW	Higher Priority	LOS 29/2006 AOS 29/2047	ALL	41^{m}
29 JANUARY	HAW/GDS	Higher Priority	LOS 29/2210 AOS 29/2249	A12,15,16	39^{m}
29 JANUARY	HAW	Higher Priority	LOS 29/2210 AOS 29/2400	A17	$1^{h}50^{m}$
29 JANUARY	HAW	Higher Priority	LOS 29/2345 AOS 29/2400	A12,15,16	15^{m}
30 JANUARY	GDS/HAW	Higher Priority	LOS 30/0000 AOS 30/0152	ALL	$1^{h}52^{m}$
30, JANUARY	HAW/VAN	Higher Priority	LOS 30/0315 AOS 30/0440	ALL	$1^{h}25^{m}$
01 FEBRUARY	ORR	Higher Priority	LOS 01/0325 AOS 01/0416	ALL	51^{m}
03 FEBRUARY	ORR	Higher Priority	LOS 03/0356 AOS 03/0445	ALL	49^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JAN 11/011	12/012	13/013	14/014	15/015	16/016	17/017
0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	0900-1100 HFE RBS LSM FLIP CAL	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY. HFE RBS LSM FLIP CAL 2130-2230	0530 ALSEP 15 SIDE STBY, MODE I 1730-1830	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12 SIDE 15 ON HFE RBS LSM FLIP CAL 2300 ALSEP 15 SIDE STBY, MODE I	0900-1100 ALSEP 12 & 15 CYCLE SIDES
JAN 18/018	19/019	20/020	21/021	22/022	23/023	24/024
1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	1000-1200
JAN 25/025	26/026	27/027	28/028	29/029	30/030	31/031
0800-1100 ALSEP 14 ALSEP 12	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	0900-1100 ALSEP 12 SIDE STBY	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 01/032	02/033	03/034	04/035	05/036	06/037	07/038
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15
FEB 08/039	09/040	10/041	11/042	12/043	13/044	14/045
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0930-1100	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	1100-1300 ALSEP 12 & 15 CYCLE SIDES	0717-0917 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL 2000 ALSEP 15 SIDE STBY, MODE I	0800-1000 ALSEP 12 & 15 CYCLE SIDES
FEB 15/046	16/047	17/048	18/049	19/050	20/051	21/052
0800-1000 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	1300-1500 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	0800-1000 ALSEP 16 C/S HTR ON

APOLLO ALSEP PERFORMANCE SUMMARY REPORT

AC/H. Clements
AP3/C. Redmond
AP5/F. Carlton
CF5/S. Larsen
ED/D. Gerke
ED5/J. Lowery
EP5/J. Briley
FD2/L. Braun

C-30/L. Stephenson

FD5/R. Lacy
FS4/M. Ward
TA/P. Armitage
TN/J. Minear
TN3/W. Eichelman
TN3/J. Bates
WA2/J. Lobb

NASA HQS.

SL/M. J. Smith

APOLLO DATA ARCHIVING GROUP

GSFC 601/R. Vostreys (NSSDC)

BENDIX CORPORATION

B. J. Rusky

AEC/W. C. Remini

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Dr. J. Hoffman
Dr. R. Kovach
Dr. M. Langseth
Dr. G. Latham
Dr. D. Reasoner

ALSEP PERFORMANCE SUMMARY REPORT

12 February 1976
G.m.t.: 1800

Apollo 17 ALSEP

Noon of the 40th lunation will occur later today, 12 February, at the Taurus Littrow site. Downlink signal strength is reported at -138.5 ± 3.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 12 February the lunar surface temperature, as measured by the HFE thermocouples was 377 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is OFF.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 5 February 1976, to 1800 G.m.t., 12 February 1976

Central station	Sunrise at the Descartes Site occurred on 6 February for the 48th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -136.5 ± 1.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 7 February for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH but is expected to return onscale 21 February. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1108 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis remained static this report period.
Active seismic	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 5 February 1976, to 1800 G.m.t., 12 February 1976

Central station	Sunrise of the 57th lunation occurred at the Hadley Rille Site on 7 February. Transmitter A downlink signal strength is reported at -134.0 $\pm$ 2.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. *A Special Operational Test of the SIDE will be conducted from 13 to 16 February at the request of the Principal Investigator.*
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 359.5°K on 12 February as measured by the cable thermocouples. The subsurface temperature was 251.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.5°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 5 February 1976, to 1800 G.m.t., 12 February 1976

Sunrise at the Apollo 14 site (63rd lunation) occurred on 9 February.

The Ascension Islands (ACN) Tracking Station reported picking up weak signals on the Apollo 14 ALSEP frequency (2279.5 MHz) at 1930 G.m.t., on 7 February. The signals were too weak to lock up on and get any data. During real time support from 1500 to 1700 G.m.t., 8 February, ACN was supporting and reported signal glitches on a frequency of 2280.73 MHz. The frequency of 2280.73 MHz can possibly occur when the oscillator overdrives the crystal. This anomaly is under investigation. The signal strength was extremely variable and again they could not lock up their receiver on it. They did put it on a scope and said the pattern looked like ALSEP type signals. When asked if they had seen any similar type signals before, they said they had been getting some from a COSMOS satellite once in awhile, but according to their tracking data it was 70° away from the moon at this time.

There is some question whether Madrid (MAD) picked up the same signals on 7 February. ACN, Network Ops, and Controllers say that MAD said they saw them, too. However, when asked about it on 8 February, MAD said there was nothing in their log. Mission Control tried to get another tracking site with a big antenna to pickup the signals on 8 February, but none were available. The tracking sites have been instructed to lock on and track this spurious signal, even if it means losing lock on the moon for awhile.

APOLLO 12 ALSEP

Operational status from 1800 G.m.t., 5 February 1976, to 1800 G.m.t., 12 February 1976

Central station

Sunrise of the 78th lunation occurred on 9 February. A signal strength between -136.0 and -141.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 10 February for lunar day operation.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *The operation of the SIDE in STANDBY to increase Central Station temperature has avoided the noise spike anomaly in the PSE seismic data. The minimum Average Thermal Plate temperature, this lunar night, was 6.86°F.* The Z-motor was commanded OFF for lunar day operation on 9 February. No significant seismic events were noted during the real-time support of this instrument.

Solar wind spectrometer experiment

The instrument is currently in the normal gain mode and is recording solar wind plasma data.

Suprathermal ion detector experiment

At 1601 G.m.t., 27 January, the SIDE was commanded to STANDBY and left in that configuration until 0215 G.m.t., 10 February, when it was commanded ON. Four commands were required before the experiment turned ON. The Central Station Average Thermal Plate temperature was 6.86°F when the first command was executed at 2355 G.m.t., 9 February. The DSS-1 (10 watts) heater was left ON during the support period and the experiment was commanded ON at 0215 G.m.t., 10 February, when the ATP increased to 18.6°F. On 11 January, when the SIDE finally turned ON, the ATP was 18.2°F.

The SIDE is ON with all voltages turned OFF. The purpose of this operation is to bakeout the instrument during lunar day high temperatures. On 12 February the SIDE voltages were commanded ON. The instrument arced to X10 at 1732 G.m.t. and back to LECPA Voltage OFF, Velocity Filter Voltage OFF, and + 4.5 K vdc OFF. The instrument was left ON to continue the bakeout. Later in the lunar day, when the instrument cools, the voltages will be commanded ON. This operation is being done at the request of the Principal Investigator, who was present during the above.

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 12 February 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2276	1808	1657	1392
Total Commands to Date	28485	15667	32780	19751
Sun Angle	33.3°	39.2°	60.3°	72.2°
Input Power	55.2w		59.8w	64.5w
Heater and Power Dumps	All OFF		All OFF	All OFF
Experiment Status	LSM OFF		LSM/SWS OFF & SIDE STBY ASE OFF	
Avg Thermal Plate Temp	89.5°F		106.0°F	103.9°F
PSE Sensor Temp (DL-07)	126.8°F		140.8°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	*NOTE: LOS 1/18/76*	OFF	45.8°C
SWS Module 300 Temp (DW-13)	54.3°C	*SUN ANGLE 96.7°*	OFF	N/A
SIDE Temp (DI-05)	64.5°C		STBY	N/A
CCGE Temp (DI-04)	HIGH		STBY	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		323.6°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1157
Total Commands to Date	31725
Sun Angle	87.4°
Input Power	66.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY & LEAM OFF
Avg Thermal Plate Temp	92.2°F
LACE Temp (AM-41)	157.5°F
LEAM Temp (AJ-11)	182.0°F
HFE Temp Ref 1 (DH-13)	330.1°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	92.2°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 2/12/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
06 FEBRUARY	MIL/HAW	Higher Priority	LOS 06/0355 AOS 06/0422	ALL	27^{m}
06 FEBRUARY	ORR/MAD	Higher Priority	LOS 06/1028 AOS 06/1143	ALL	$1^{h}15^{m}$
06 FEBRUARY	MIL	Station Problem	LOS 06/2228 AOS 06/2234	A12,15,17	06^{m}
09 FEBRUARY	MIL	Station Problem	LOS 09/0351 AOS 09/0400	ALL	09^{m}
09 FEBRUARY	ORR/ACN	Higher Priority	LOS 09/1200 AOS 09/1457	ALL	$2^{h}57^{m}$
10, FEBRUARY	ORR/ACN	Higher Priority	LOS 10/1326 AOS 10/1505	ALL	$1^{h}39^{m}$
11 FEBRUARY	HAW/MAD	Higher Priority	LOS 11/1334 AOS 11/1407	ALL	33^{m}
11 FEBRUARY	MAD	Higher Priority	LOS 11/1440 AOS 11/1529	ALL	49^{m}
12 FEBRUARY	HAW	Higher Priority	LOS 12/1045 AOS 12/1131	ALL	46^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

FEB 01/032	02/033	03/034	04/035	05/036	06/037	07/038
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15
FEB 08/039	**09/040**	**10/041**	**11/042**	**12/043**	**13/044**	**14/045**
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0930-1100	1000-1200 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	1100-1300 ALSEP 12 & 15 CYCLE SIDES	0717-0917 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL 2000 ALSEP 15 SIDE STBY, MODE I	0800-1000 ALSEP 12 & 15 CYCLE SIDES
FEB 15/046	**16/047**	**17/048**	**18/049**	**19/050**	**20/051**	**21/052**
0800-1000 ALSEP 12 & 15 CYCLE SIDES	0800-1000 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0800-1000 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	0700-0900 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	0700-0900 ALSEP 12 CYCLE SIDE 2100-2200	0730-1030 ALSEP 17 HFE RBS LSM FLIP CAL 2100-2200	0800-1000 ALSEP 16 C/S HTR ON

ALSEP PERFORMANCE SUMMARY REPORT

19 February 1976
G.m.t.: 1500

Apollo 17 ALSEP

Noon of the 40th lunation occurred on 19 February at the Taurus Littrow site. Downlink signal strength is reported at -140.0 ± 2.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 18 February the lunar surface temperature, as measured by the HFE thermocouples was 257 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 18 February, and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 12 February 1976, to 1500 G.m.t., 19 February 1976

Central station	Noon at the Descartes Site occurred on 14 February for the 48th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -136.5 $\pm$ 2.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH but is expected to return onscale 21 February. *A probable seismic event was observed during real time from 1645 to 1745 G.m.t., 17 February. The event was not observed at any of the other ALSEP sites.*
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1114 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 12 February 1976, to 1500 G.m.t., 19 February 1976

Central station	Noon of the 57th lunation occurred at the Hadley Rille Site today 15 February. Transmitter A downlink signal strength is reported at -135.0 ± 1.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH on 13 February at a sun angle of 72.2° and is expected to return onscale later today. No significant seismic events were observed during this report period
Suprathermal ion detector/cold cathode gauge experiments	*A Special Operational Test of the SIDE is being conducted at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.*
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 346.6°K on 18 February as measured by the cable thermocouples. The subsurface temperature was 253.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.3°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 12 February 1976, to 1500 G.m.t., 19 February 1976

The Madrid Tracking Station reported that the Apollo 14 ALSEP downlink signal was reacquired at 0232 G.m.t., 19 February. After Madrid reconfigured for ALSEP 14 valid data was observed at 0246 G.m.t. An emergency real-time support period was activated. The configuration of the ALSEP 14 central station was Transmitter A, Power Conditioner Unit 2, Processor Y, and Receiver Crystal B. The downlink signal strength was reported at -128.0 dbm by Madrid (85-ft antenna) and at -138.0 dbm by Merritt Island (30-ft antenna). The Passive Seismic Experiment, and Charged Particle Lunar Environmental Experiment were ON, the Active Seismic Experiment in STANDBY, the Dust Detector Experiment OFF, and the Suprathermal Ion Detector Experiment in STANDBY/OFF. A command was transmitted at 0425 G.m.t. and upon execution indicated that uplink had also been restored. Numerous commands were then transmitted to reconfigure the experiments and central station (PCU 1, CPLEE STANDBY, PSE Heater FORCED OFF, and DTREM ON).

Central station	*Noon at the Apollo 14 site (63rd lunation) occurred on 16 February.*
Passive seismic experiment	*The instrument is ON. The internal temperature (DL-07) was reading 112.7°F and increasing. The PSE heater was commanded to Forced OFF and the temperature began stabilizing at approximately 130.0°F. The Feedback loop filter was commanded IN. No significant seismic events were noted during the real-time period.*
Active seismic experiment	*The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).*
Suprathermal ion detector/cold cathode gauge experiments	*The instrument status is unknown.*
Charged particle lunar environmental experiment	*The experiment is in STANDBY.*

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 12 February 1976, to 1500 G.m.t., 19 February 1976

Central station	Noon of the 78th lunation occurred on 17 February. A signal strength of -138.5 ± 2.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature (DL-07) was offscale HIGH on 17 February at a sun angle of 93.9°. It is expected to return onscale on 24 February with the approach of lunar sunset. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	*The instrument is ON. At 1254 G.m.t., 18 February, the instrument was commanded to the extended range mode to observe an increase in solar wind activity.*
Suprathermal ion detector experiment	*The SIDE is ON with -3.5 K vdc voltage turned OFF. The purpose of this operation is to bakeout the instrument during lunar day high temperatures. On 18 February the SIDE voltages were commanded ON. The instrument arced to X10 and -3.5 K vdc OFF immediately. The instrument was left ON to continue the bakeout. Later in the lunar day, when the instrument cools, the -3.5 K vdc voltage will be commanded ON. This operation is being done at the request of the Principal Investigator.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1300 G.m.t., 18 February 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	***APOLLO 14 ALSEP***	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2283	*1808*	1664	1399
Total Commands to Date	28539	*15745*	32918	19835
Sun Angle	117.2°	*119.4°*	144.3°	156.1°
Input Power	55.2w	*61.7w*	59.8w	64.5w
Heater and Power Dumps	All OFF	*All OFF*	All OFF	All OFF
Experiment Status	LSM OFF	*SIDE/ASE STBY*	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	92.0°F	*95.7°F*	108.9°F	88.2°F
PSE Sensor Temp (DL-07)	Offscale HIGH	*113.1°F*	Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	*N/A*	OFF	42.4°C
SWS Module 300 Temp (DW-13)	66.1°C	*N/A*	OFF	N/A
SIDE Temp (DI-05)	86.9°C	*STBY*	61.4°C	N/A
CCGE Temp (DI-04)	HIGH	*STBY*	355.6°K	N/A
CPLEE Elect Temp (AC-06)	N/A	*74.1°C*	N/A	N/A
ASE GLA Temp (AS-03)	N/A	*82.0°C*	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	*N/A*	323.5°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1164
Total Commands to Date	31839
Sun Angle	171.4°
Input Power	67.4w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	61.3°F
LACE Temp (AM-41)	113.6°F
LEAM Temp (AJ-11)	177.5°F
HFE Temp Ref 1 (DH-13)	301.9°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	62.2°F

***APOLLO 14 ALSEP as of 0248 G.m.t., 19 February 1976.*

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 2/19/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
12 FEBRUARY	ORR/ACN	Higher Priority	LOS 12/1538 AOS 12/1649	ALL	1^h11^m
13 FEBRUARY	ORR/ACN	Higher Priority	LOS 13/1535 AOS 13/1739	ALL	2^h04^m
17 FEBRUARY	ORR	Higher Priority	LOS 17/1449 AOS 17/1543	ALL	54^m
1975 22 DECEMBER	HAW	Station Problem	LOS 22/1154 AOS 22/1609	A17	4^h15^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

FEB 01/032	02/033	03/034	04/035	05/036	06/037	07/038
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15
FEB 08/039	09/040	10/041	11/042	12/043	13/044	14/045
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0930-1100	1000-1200 ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	1100-1300 ALSEP 15 CYCLE SIDE	0900-1100 1300-1500 ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL 2000 ALSEP 15 SIDE STBY, MODE I	1230-1430 ALSEP 15 CYCLE SIDE
FEB 15/046	16/047	17/048	18/049	19/050	20/051	21/052
0800-1000 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	1000-1200 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM ON	0700-0900 ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	2200-0130 ALSEP 14 ACQUISITION SUPPORT 1900-2100	0830-1030 ALSEP 17 HFE RBS LSM FLIP CAL 2000-2100	0800-1000 ALSEP 16 C/S HTR ON

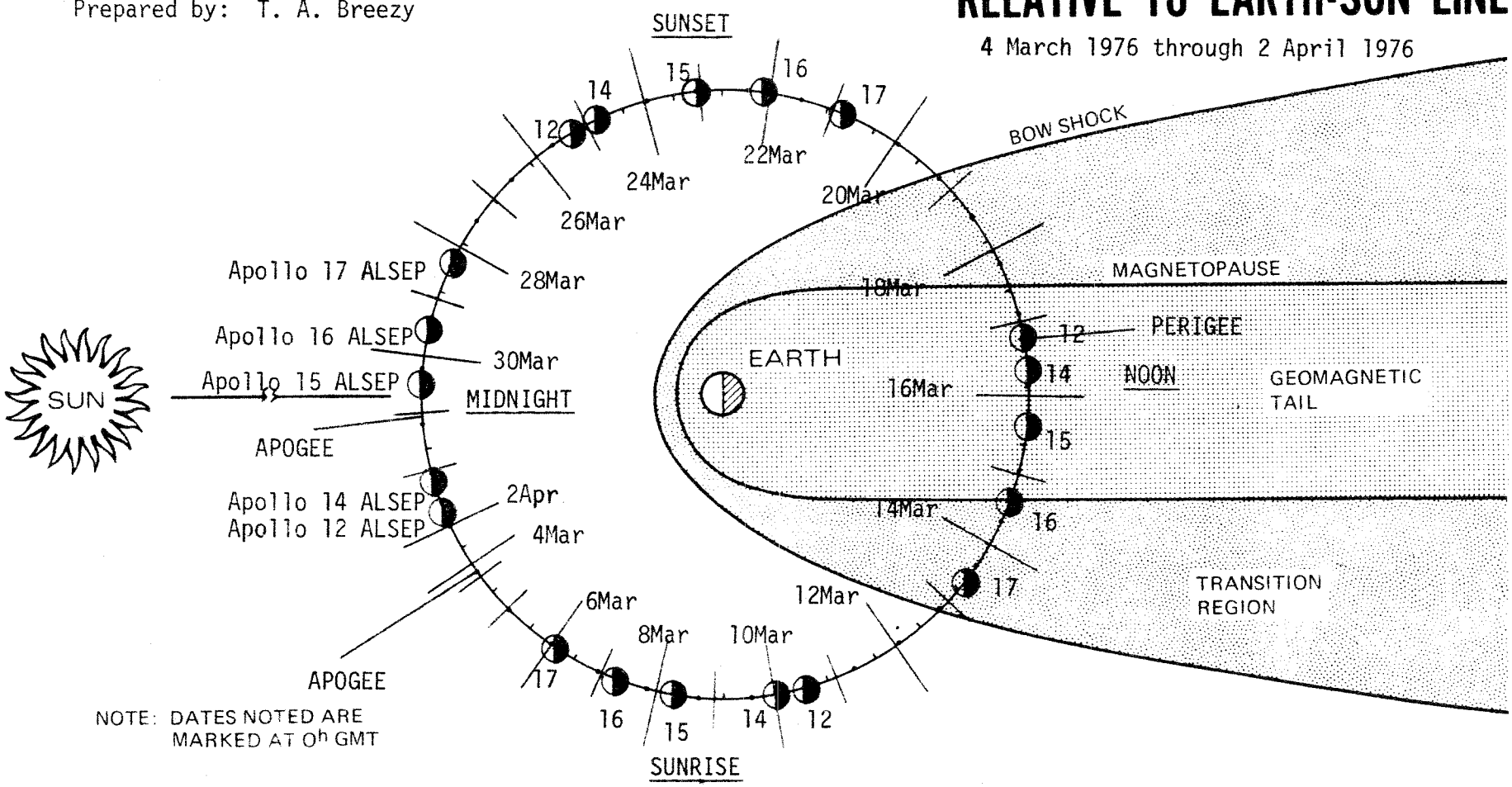
FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15	0900-1100 HFE RBS	1400-1800 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 HFE RBS	0900-1100 ALSEP 12 SIDE STBY	0900-1100 HFE RBS	NO SUPPORT
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	06/066
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
MAR 07/067	08/068	09/069	10/070	11/071	12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 17 LEAM OFF	0800-1200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL 2000-2100	0900-1100	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

4 March 1976 through 2 April 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	Midnight	DAY/HOUR(GMT) Sunrise	Lunation/Noon	Sunset	Midnight
17	27Feb/1618	06Mar/0130	(41)13Mar/1058	20Mar/2042	28Mar/0552
16	28Feb/2225	07Mar/0729	(49)14Mar/1714	22Mar/0244	29Mar/1147
15	29Feb/2144	08Mar/0652	(58)15Mar/1629	23Mar/0206	30Mar/1104
14	02Mar/1519	10Mar/0031	(64)17Mar/1014	24Mar/1944	01Apr/0436
12	03Mar/0300	10Mar/1239	(79)17Mar/2159	25Mar/0622	01Apr/1616

ALSEP PERFORMANCE SUMMARY REPORT

26 February 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 40th lunation will occur on 27 February at the Taurus Littrow site. Downlink signal strength was reported between -134.0 and -139.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 26 February the lunar surface temperature, as measured by the HFE thermocouples was 109 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY. *On 26 February the experiment was commanded ON for an operational check between 1553 G.m.t. and 1620 G.m.t. The instrument had been in STANDBY since 5 November 1975. No change was observed in the high voltage and sweep lock anomaly.*

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1500 G.m.t., 19 February 1976, to 1800 G.m.t., 26 February 1976

Central station	Sunset at the Descartes Site occurred on 21 February for the 48th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -136.0 $\pm$ 2.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature returned onscale 21 February (DL-07 = 128.5°F at 180.2° sun angle). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1116 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1500 G.m.t., 19 February 1976, to 1800 G.m.t., 26 February 1976

Central station

Sunset of the 57th lunation occurred at the Hadley Rille Site on 22 February. Transmitter A downlink signal strength was reported between -133.5 and -137.0 dbm by the tracking stations with 30-foot antennas.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale 20 February (DL-07 = 130.9°F at 149.8° sun angle). No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiments

A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.

Heat flow experiment

The HFE was commanded to STANDBY at 1618 G.m.t., 23 February then back to ON at 1954 G.m.t. 24 February with monitoring of the HFE electronics temperature (TREF 1) to determine how long it would take to return to a stable operating temperature. After turn ON at 1954 G.m.t. no digital data was printed out until approximately 2 1/2 hours later. Analog data on the voltages and heater status was available, however, during this time. The first TREF 1 reading of 250.373°K was obtained at 2233 G.m.t. and heater 13 ON in Mode I was indicated at 2230 G.m.t. Initially, TREF 1 was increasing at a rate of 9°K per hour but had tapered off to about 6°K per hour by the end of real time support with a final reading of 259.600°K at 2353 G.m.t. Extrapolating backwards, it is estimated that TREF 1 had stabilized around 225°K while in STANDBY.

At the start of support on 25 February, TREF 1 was reading 283.298°K at 1454 G.m.t., which is a normal reading for 217.7° sun angle, and appeared to be stable. Playback data was obtained from Ascension Islands for some intermediate data points which were: 275.980°K at 0428 G.m.t., 278.523°K at 0602 G.m.t., 281.127°K at 0842 G.m.t. The plot of available data points shows that thermal stability had just been reached 20 hours after turn ON. This test was run to determine future time sharing operations of the HFE and SIDE during lunar night when it becomes necessary to place one of these experiments in STANDBY.

Operational status from 1500 G.m.t., 19 February 1976, to 1800 G.m.t., 26 February 1976

Heat flow experiment (continued)	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 90.1°K on 26 February as measured by the cable thermocouples. The subsurface temperature was 252.3°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.0°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1500 G.m.t., 19 February 1976, to 1800 G.m.t., 26 February 1976

Central station	Sunset at the Apollo 14 site occurred on 24 February for the 63rd lunation. Transmitter A signal strength was reported between -137.0 and -141.5 dbm from the 30-foot antenna tracking stations. The DSS-1 heater (10 watts) has been ON for lunar night operations since 2021 G.m.t., 24 February.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP except feedback filter OUT). *Operation of the PSE with the feedback loop filter commanded IN causes the data to become invalid.* The instrument's heater is in AUTO ON for lunar night operations. Since 19 February when the ALSEP 4 returned to normal operation the long period Y-axis has remained in the offscale LOW position. Many commands sent to level this axis have thus far been unsuccessful. No significant seismic events were noted during real-time support this report period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge	The instrument is OFF.
Charged particle lunar environment experiment	The experiment is operating in the manual mode at the -35 vdc range and automatic thermal control mode since 1516 G.m.t., 23 February. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage, to 2280 vdc, at which time the instrument will be commanded to STANDBY. *Between the end of real time support on 24 February and 0421 G.m.t., 25 February, the experiment responded to a spurious change with no CVW (octal 114, automatic voltage sequence). At 1520 G.m.t., 25 February the instrument was commanded back to the -35 vdc range without incident.*

Apollo 12 ALSEP

Operational status from 1500 G.m.t., 19 February 1976, to 1800 G.m.t., 26 February 1976

Central station	Sunset of the 78th lunation occurred on 24 February. A signal strength between -135.0 and -140.5 dbm from transmitter B was reported by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-axis levelling motor is ON to maximize internal heating in the instrument for lunar night operation. The instrument assembly temperature returned onscale 23 February (DL-07 = 141.7°F at 166.5° sun angle) and on 26 February (DL-07) was off-scale LOW at a sun angle of 203.0°. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON. *At 0144 G.m.t., 20 February, the instrument was commanded back to the normal range mode.*
Suprathermal ion detector experiment	*The SIDE is in STANDBY (Ref. Performance Summary Report, 16 January 1976 and Apollo 12 ALSEP SMEAR 84). The -3.5 K vdc voltage was turned ON at 1446 G.m.t., 23 February (Experiment Temp 2 = 49.2°C) completing the bakeout of the instrument during lunar day high temperatures. The test was performed to attempt to increase the day time operating time above the + 55°C temperature limitation due to high voltage arcing. This mode of operation was accomplished at the request of the Principal Investigator. The SIDE was commanded to STANDBY for the lunar night at 1631 G.m.t., 25 February.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 26 February 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2290	1815	1671	1406
Total Commands to Date	28630	15786	33145	19971
Sun Angle	203.9°	209.9°	231.0°	242.9°
Input Power	54.4w	62.4w	58.6w	65.2w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	All OFF	DSS-1 (10w) ON
Experiment Status	LSM OFF/SIDE STBY	SIDE OFF/ASE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	4.3°F	28.5°F	-5.1°F	31.0°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.6°F	125.9°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-14.4°C	N/A	OFF	N/A
SIDE Temp (DI-05)	STBY	OFF	7.2°C	N/A
CCGE Temp (DI-04)	STBY	OFF	114.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-21.3°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-64.0°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.9°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1171
Total Commands to Date	32056
Sun Angle	258.1°
Input Power	68.6w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	11.4°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	284.7°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	12.7°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 02/26/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
19 FEBRUARY	ORR/MAD	Higher Priority	LOS 19/2105 AOS 19/2319	ALL	2^h14^m
21 FEBRUARY	ORR	Higher Priority	LOS 21/2153 AOS 21/2247	ALL	54^m
21 FEBRUARY	ORR	Higher Priority	LOS 21/2337 AOS 21/2400	ALL	23^m
22 FEBRUARY	ORR	Higher Priority	LOS 22/0000 AOS 22/0020	ALL	20^m
22 FEBRUARY	ORR	Higher Priority	LOS 22/2200 AOS 22/2250	ALL	50^m
23 FEBRUARY	ORR	Station Problem	LOS 23/1706 AOS 23/1709	A16	03^m
24 FEBRUARY	GDS	Higher Priority	LOS 24/1504 AOS 24/1517	A14 & 17	13^m
25 FEBRUARY	ORR	Higher Priority	LOS 25/0211 AOS 25/0313	ALL	1^h02^m
26 FEBRUARY	ORR/ACN	Higher Priority	LOS 26/0156 AOS 26/0410	ALL	2^h14^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 01/032	02/033	03/034	04/035	05/036	06/037	07/038
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15
FEB 08/039	**09/040**	**10/041**	**11/042**	**12/043**	**13/044**	**14/045**
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0930-1100	1000-1200 ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	1100-1300 ALSEP 15 CYCLE SIDE	0900-1100 1300-1500 ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL 2000 ALSEP 15 SIDE STBY, MODE I	1230-1430 ALSEP 15 CYCLE SIDE
FEB 15/046	**16/047**	**17/048**	**18/049**	**19/050**	**20/051**	**21/052**
0800-1000 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	1000-1200 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM ON	0700-0900 ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	2200-0130 ALSEP 14 ACQUISITION SUPPORT 1900-2100	0830-1030 ALSEP 17 HFE RBS LSM FLIP CAL 2000-2200	0800-1000 ALSEP 16 C/S HTR ON

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15	0900-1100 HFE RBS	1400-1800 ALSEP 14 C/S HTR ON CPLEE ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	06/066
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
MAR 07/067	08/068	09/069	10/070	11/071	12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14 C/S HTR OFF CPLEE STBY PSE HTR OFF ALSEP 17 LEAM OFF	1630-2030 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0900-1100	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES

ALSEP PERFORMANCE SUMMARY REPORT

4 March 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 40th lunation occurred on 27 February at the Taurus Littrow site. Downlink signal strength is reported between -135.0 and -141.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 3 March the lunar surface temperature, as measured by the HFE thermocouples, was 106 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.6°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to insure that the instrument will not go into an out of limits condition thereby losing the seismic data.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 26 February 1976, to 1800 G.m.t., 4 March 1976

Central station	Midnight at the Descartes Site occurred on 28 February for the 48th lunation. The DSS-1 heater (10 watts) is ON for lunar night operation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B was reported between -133.5 and -138.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis continues to be static. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 26 February 1976, to 1800 G.m.t., 4 March 1976

Central station	Midnight of the 57th lunation occurred at the Hadley Rille Site on 29 February. Transmitter A downlink signal strength is reported at -136.0 ± 2.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were noted during real-time support this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF. *Between real-time support periods of 26 and 27 February the SIDE experienced a change from Reset Frame Counter at 39 to Master Reset (0 - 127 frames). As the mode register still contained the last command (CCIG HV OFF, Load 013) executed during real-time support on 26 February and Master Reset (Load 008) requires two separate commands to occur, the change is attributed to an internal instrument change and not to any spurious commands. The SIDE was commanded back to Reset Frame Counter at 39 on 27 February at 1630 G.m.t.*
Heat flow experiment	The instrument is presently operating in the gradient mode with all sensors being sampled in full sequence. The lunar surface temperature was 87.1°K on 3 March as indicated by the cable thermocouples. The subsurface temperature was 252.3°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.1°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 26 February 1976, to 1800 G.m.t., 4 March 1976

Central station	Midnight at the Apollo 14 site occurred on 2 March for the 63rd lunation. Transmitter A signal strength was reported at -140.5 ± 1.5 dbm from the 30-foot antenna tracking stations. The DSS-1 heater (10 watts) is ON for lunar night operations. *The mechanical timer was commanded to Timer Output Accept (octal 032) at 1611 G.m.t., 3 March, in a test to verify whether the timer is still inoperative.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP except feedback filter OUT). Operation of the PSE with the feedback loop filter commanded IN causes the data to become invalid. The instrument heater is in AUTO ON for lunar night operations. Since 19 February, when the ALSEP 4 returned to normal operation, the long period Y-axis has remained in the offscale LOW position. Many commands sent to level this axis have thus far been unsuccessful. No significant seismic events were noted during real-time support this report period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge	The instrument is OFF.
Charged particle lunar environment experiment	The experiment is operating in the manual mode at the -35 vdc range and automatic thermal control mode since 1520 G.m.t., 25 February. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage, to 2280 VDC, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 26 February 1976, to 1800 G.m.t., 4 March 1976

Central station	Midnight of the 78th lunation occurred on 3 March. A signal strength between -137.0 and -140.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation. *At 1936 G.m.t., 29 February, the central station responded to a spurious command (Timer Output Accept, octal 032) as reported by the Merritt Island Tracking Station. The command was confirmed by mission control during real-time support on 1 March and a corrective command (Timer Output Inhibit, octal 033) was sent at 1527 G.m.t., 1 March, without incident.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor is ON to maximize heating in the instrument. The sensor temperature (DL-07) has been offscale LOW since 26 February. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	*The instrument was commanded to STANDBY at 1546 G.m.t., 3 March, in an attempt to avoid the PSE A/D converter problem due to low temperatures in the PSE electronics (Ref. Apollo 12 ALSEP SMEAR 84).*
Suprathermal ion detector	The SIDE is in STANDBY. (Ref. Performance Summary Report, 16 January 1976, and Apollo 12 ALSEP SMEAR 84). *The bakeout completed this last lunar day, did not result in any improvement of operation at temperatures above 55°C. Both times, 12 and 18 February, that the high voltages were commanded ON the instrument arced internally to X10 and turned OFF the high voltages.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 3 March 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2296	1821	1677	1412
Total Commands to Date	28651	15807	33231	20004
Sun Angle	277.1°	283.1°	304.7°	316.6°
Input Power	53.7w *(54.4w)*	62.0w *(N/A)*	58.2w *(59.0w)*	64.8w *(65.2w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	All OFF	DSS-1 (10w) ON
Experiment Status	LSM OFF/SIDE/SWS STBY	SIDE OFF/ASE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	1.3°F	27.7°F	-6.1°F	30.1°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.6°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C	N/A	OFF	N/A
SIDE Temp (DI-05)	STBY	OFF	7.2°C	N/A
CCGE Temp (DI-04)	STBY	OFF	108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-60.1°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.4°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.6°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1177
Total Commands to Date	32154
Sun Angle	331.3°
Input Power	68.2w *(68.9w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	4.6°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-20.8°F
HFE Temp Ref 1 (DH-13)	284.8°K
LSG Temp (DG-04)	Offscale HIGH
LSP Temp (AP-01)	6.2°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 03/04/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
26 FEBRUARY	ACN/MIL	Scheduling	LOS 26/0940 AOS 26/0942	ALL	02^{m}
27 FEBRUARY	ORR	Station Problem	LOS 27/0130 AOS 27/0133	ALL	03^{m}
27 FEBRUARY	ORR/ACN	Higher Priority	LOS 27/0135 AOS 27/0506	ALL	$3^{h}31^{m}$
27 FEBRUARY	ACN/QUI	Higher Priority	LOS 27/0918 AOS 27/0955	ALL	27^{m}
28 FEBRUARY	ORR	Higher Priority	LOS 28/0134 AOS 28/0251	ALL	$1^{h}17^{m}$
28 FEBRUARY	ORR	Higher Priority	LOS 28/0333 AOS 28/0430	ALL	57^{m}
28 FEBRUARY	AGO	Station Problem	LOS 28/1019 AOS 28/1032	A14	13^{m}
29 FEBRUARY	ORR	Higher Priority	LOS 29/0121 AOS 29/0414	ALL	$2^{h}53^{m}$
01 MARCH	MAD/ACN	Higher Priority	LOS 01/0835 AOS 01/0900	ALL	25^{m}
01 MARCH	ACN/MAD	Higher Priority	LOS 01/1012 AOS 01/1051	ALL	39^{m}
02 MARCH	ORR/ACN	Higher Priority	LOS 02/0814 AOS 02/0839	ALL	25^{m}
02 MARCH	ACN/MAD	Higher Priority	LOS 02/0957 AOS 02/1047	ALL	50^{m}
02 MARCH	MAD/BDA	Higher Priority	LOS 02/1219 AOS 02/1230	ALL	21^{m}
02 MARCH	BDA/HAW	Higher Priority	LOS 02/1911 AOS 02/2007	ALL	56^{m}
03 MARCH	HAW/ORR	Higher Priority	LOS 03/0441 AOS 03/0535	ALL	54^{m}
03 MARCH	ORR/ACN	Higher Priority	LOS 03/0809 AOS 03/0854	ALL	45^{m}
03 MARCH	ACN	Higher Priority	LOS 03/1139 AOS 03/1214	ALL	35^{m}
04 MARCH	ORR/ACN	Higher Priority	LOS 04/0925 AOS 04/1012	ALL	47^{m}

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15	0900-1100 HFE RBS	1400-1800 ALSEP 14 C/S HTR ON CPLEE ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	06/066
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
MAR 07/067	08/068	09/069	10/070	11/071	12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14 C/S HTR OFF CPLEE STBY PSE HTR OFF ALSEP 17 LEAM OFF	1630-2030 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL	0930-1130	1100-1300 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0830-1030 ALSEP 12 & 15 CYCLE SIDES

ALSEP PERFORMANCE SUMMARY REPORT

11 March 1976
G.m.t.: 1800

Sunrise of the 41st lunation occurred on 6 March, at the Taurus Littrow site. Downlink signal strength is reported at -140.0 ± 4.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 11 March the lunar surface temperature, as measured by the HFE thermocouples was 336 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded OFF 9 March for the remainder of the lunar day.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 4 March 1976, to 1800 G.m.t., 11 March 1976

Central station	Sunrise at the Descartes Site occurred on 7 March for the 49th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -133.0 and -140.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 7 March for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1120 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis remained static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 4 March 1976, to 1800 G.m.t., 11 March 1976

Central station	Sunrise of the 58th lunation occurred at the Hadley Rille Site on 8 March. Transmitter A downlink signal strength is reported between -134.0 and -138.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 312.4°K on 11 March as measured by the cable thermocouples. The subsurface temperature was 250.9°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.3°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 4 March 1976, to 1800 G.m.t., 11 March 1976

Central station	Sunrise at the Apollo 14 site occurred on 10 March for the 64th lunation. Transmitter A signal strength is reported between -136.0 and -140.5 dbm from the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operations. *The mechanical timer was commanded to Timer Output Accept (octal 032), 3 March, in a test to verify whether the timer is still inoperative. The test was terminated 6 March after it was determined by mission control from the remote site parameter monitoring of the PSE UNCAGED/OT status (AL-08), had indicated no change. The timer was returned to Timer Output Inhibit (octal 033) on 9 March.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP except feedback filter OUT). Operation of the PSE with the feedback loop filter commanded IN causes the data to become invalid. The long period Y-axis remained in the offscale LOW position during this report period. No significant seismic events were noted during real-time support this report period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument is OFF.
Charged particle lunar environment experiment	The experiment is currently in STANDBY for the lunar day.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 4 March 1976, to 1800 G.m.t., 11 March 1976

Central station

Sunrise of the 79th lunation occurred on 10 March. A signal strength between -135.0 and -141.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 10 March for lunar day operation.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *The placement of the SIDE & SWS in STANDBY to increase Central Station temperature has avoided the noise spike anomaly in the PSE seismic data during this lunar night. Between real time support periods of 9 and 10 March a spurious change occurred, Long Period Z axis gain (octal 064) went from 0 db to -10 db. During the support period on 10 March, the gain was commanded back to the 0 db level through the Ascension Tracking Station. No CVW was reported in the ALSEP 12 downlink for this functional change.* The Z-motor was commanded OFF for lunar day operation on 10 March. The sensor temperature returned onscale 10 March (DL-07 = 126.5°F, sun angle 5.3°). No significant seismic events were noted during the real-time support of this instrument.

Solar wind spectrometer experiment

The experiment is currently ON. *From 3 March until 10 March the instrument was placed in the STANDBY mode to provide additional power to the Central Station to avoid the PSE electronics A/D converter anomaly at low temperatures. This configuration gave a 1.89 watt increase in reserve power (8.00 to 9.89 watts) and an average C/S thermal plate temperature increase in 48 hours from 1.3°F to 5.4°F (Ref. Apollo 12 ALSEP SMEAR 84).*

Suprathermal ion detector experiment

The SIDE was commanded from STANDBY to ON 10 March for operation during the lunar day. *During the lunar night the experiment was in the STANDBY mode for the same reason as noted above (Ref. Apollo 12 ALSEP SMEAR 84).*

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

Status as of 1730 G.m.t., 11 March 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2304	1828	1685	1420
Total Commands to Date	28711	15844	33389	20087
Sun Angle	14.9°	20.8°	41.9°	53.8°
Input Power	54.5w	61.9w	58.9w	64.1w
Heater and Power Dumps	All OFF	All OFF	All OFF	All OFF
Experiment Status	LSM OFF	SIDE OFF/CPLEE-ASE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	63.9°F	92.4°F	91.0°F	94.6°F
PSE Sensor Temp (DL-07)	125.9°F	124.8°F	129.2°F	131.7°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	39.3°C
SWS Module 300 Temp (DW-13)	29.0°C	N/A	OFF	N/A
SIDE Temp (DI-05)	33.1°C	OFF	76.8°C	N/A
CCGE Temp (DI-04)	HIGH	OFF	355.6°K	N/A
CPLEE Elect Temp (AC-06)	N/A	29.1°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	6.8°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	311.2°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1185
Total Commands to Date	33287
Sun Angle	69.0°
Input Power	66.6w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY/LEAM OFF
Avg Thermal Plate Temp	86.2°F
LACE Temp (AM-41)	148.9°F
LEAM Temp (AJ-11)	185.0°F
HFE Temp Ref 1 (DH-13)	327.1°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	86.3°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 3/11/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
05 MARCH	HAW	Higher Priority	LOS 05/0340 AOS 05/0550	ALL	2^h10^m
05 MARCH	ORR/MAD	Higher Priority	LOS 05/0920 AOS 05/0959	ALL	39^m
05 MARCH	ACN/BDA	Higher Priority	LOS 05/1242 AOS 05/1310	ALL	28^m
06 MARCH	HAW	Higher Priority	LOS 06/0330 AOS 06/0420	ALL	50^m
07 MARCH	HAW/ORR	Higher Priority	LOS 07/0342 AOS 07/0406	ALL	24^m
07 MARCH	HAW/MAD	Higher Priority	LOS 07/0700 AOS 07/1026	ALL	3^h26^m
08 MARCH	ULA/HAW	Higher Priority	LOS 08/0650 AOS 08/0734	A14, A17	44^m
09 MARCH	ORR	Higher Priority	LOS 09/1213 AOS 09/1226	ALL	13^m
09 MARCH	ORR/ACN	Higher Priority	LOS 09/1251 AOS 09/1415	ALL	1^h24^m
10 MARCH	ORR/ACN	Higher Priority	LOS 10/1348 AOS 10/1437	ALL	49^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15	0900-1100 HFE RBS	1400-1800 ALSEP 14 C/S HTR ON CPLEE ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	06/066
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
MAR 07/067	08/068	09/069	10/070	11/071	12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	0900-1100 ALSEP 17 LEAM OFF	1630-2030 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE/SWS ON HFE RBS LSM FLIP CAL	0930-1130 ALSEP 14 C/S HTR OFF CPLEE STBY	1100-1300 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0830-1030 ALSEP 12 & 15 CYCLE SIDES

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

MAR 14/074	15/075	16/076	17/077	18/078	19/079	20/080
0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON	0900-1100 ALSEP 12 CYCLE SIDE HFE RBS LSM FLIP CAL	0500-0600 1600-1700 ALSEP 17
MAR 21/081	22/082	23/083	24/084	25/085	26/086	27/087
0300-0500 1300-1500 ALSEP 16 C/S HTR ON 2200-2300	0900-1100 ALSEP 15 ALSEP 12 CYCLE SIDE HFE RBS	0900-1100 ALSEP 12 SIDE ON	0900-1100 ALSEP 14 HFE RBS	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100 HFE RBS	0900-1100
MAR 28/088	29/089	30/090	31/091	APR 01/092	02/093	03/094
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

18 March 1976
G.m.t.: 1800

Apollo 17 ALSEP

Noon of the 41st lunation occurred on 13 March at the Taurus Littrow site. Downlink signal strength is reported at -139.5 ± 4.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 18 March the lunar surface temperature, as measured by the HFE thermocouples was 290 ± 8°K. At a depth of 230 cm the subsurface temperatures were 257.1°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 18 March, and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 11 March 1976, to 1800 G.m.t., 18 March 1976

Central station	Noon at the Descartes Site occurred on 14 March for the 49th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -137.5 $\pm$ 2.5 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH but is expected to return onscale 21 March. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1126 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 11 March 1976, to 1800 G.m.t., 18 March 1976

Central station	Noon of the 58th lunation occurred at the Hadley Rille Site on 15 March. Transmitter A downlink signal strength is reported at -136.5 ± 1.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH on 13 March at a sun angle of 66.0° and is expected to return onscale 19 March. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is being conducted at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 349.4°K on 18 March as measured by the cable thermocouples. The subsurface temperature was 247.5°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 247.7°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 11 March 1976, to 1800 G.m.t., 18 March 1976

The Ascension Island Tracking Station reported an abrupt loss of the downlink telemetry signal at 014655 G.m.t., 17 March. Commands, to turn transmitters ON, were sent Mode I through Merritt Island, but all resulted in spacecraft rejects. Subsequent commanding also resulted in spacecraft rejects. Again, playback of the data just prior to LOS showed no abnormalities of the housekeeping paramaters which would indicate cause for the drop. The downlink signal strength from transmitter A was -137.0 dbm at the time of LOS. The cause is believed similar to the previous shutdowns. After a cooldown period the possibility exists that downlink and uplink may return as they had done previously.

APOLLO 14 ALSEP STATUS AT AOS-LOS

	LOS	AOS	LOS	AOS	LOS
Date	1 Mar 75	5 Mar 75	18 Jan 76	19 Feb 76	17 Mar 76
Sun Angle	108.1°	159.3°	95.2°	117.5°	85.6°
Avg Therm P1	115.8°F	62.9°F	119.6°F	95.7°F	116.5°F
RTG Power	63.63w	64.15w	61.74w	62.12w	61.94w
Res. Power	39.11w	40.88w	36.51w	30.49w	36.94w
Transmitter	A	A	A	A	A
Receiver	OFF-Xtal A	OFF-Xtal A	OFF-Xtal A	ON-Xtal B	ON-Xtal B
PCU	1	2	2	1	1
PSE	ON	ON	ON	ON	ON
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	Forced OFF
CPLEE	STBY	STBY	STBY	ON	STBY
SIDE	UNK	UNK	UNK	UNK	OFF
ASE	STBY	STBY	STBY	STBY	STBY
DTREM	ON	ON	ON	OFF	ON

Central Station

Noon of the 64th lunation at the Apollo 14 site occurred on 17 March. Transmitter A signal strength was reported at -139.0 ± 4.0 dbm from the 30-foot antenna tracking stations prior to LOS.

Passive seismic experiment

The instrument was ON at LOS. The PSE heater had been in Forced OFF since 10 March. Attempts to level the Y-axis were unsuccessful this past week. No seismic events were noted during real-time support this reporting period.

Apollo 14 ALSEP (continued)

Operational status from 1800 G.m.t., 11 March 1976, to 1800 G.m.t., 18 March 1976

Active seismic experiment	The experiment was in STANDBY (Apollo 14 ALSEP, SMEAR 86) at LOS.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was OFF at LOS.
Charged particle lunar environmental experiment	The experiment was in STANDBY at LOS.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 11 March 1976, to 1800 G.m.t., 18 March 1976

Central station	Noon of the 79th lunation occurred on 17 March. A signal strength of -139.5 ± 2.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature (DL-07) was offscale HIGH on 17 March at a sun angle of 86.1°. It is expected to return onscale on 25 March with the approach of lunar sunset. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	*The instrument is ON and in the extended range mode as of 1527 G.m.t., 18 March. The instrument was also operated in the extended range mode to observe an increase in solar wind activity from 1912 G.m.t., 12 March, to 1509 G.m.t., 13 March.*
Suprathermal ion detector experiment	*The SIDE is ON with -3.5 K vdc voltage turned OFF. The purpose of this operation is to bakeout the instrument during lunar day high temperatures. On 18 March the SIDE high voltages were commanded ON. The instrument arced to high voltages and LECPA voltages OFF immediately. The instrument was left ON to continue the bakeout. Later in the lunar day, when the instrument cools, the -3.5 K vdc high voltage will be commanded ON. This operation is being done at the request of the Principal Investigator.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 18 March 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	**APOLLO 14 ALSEP***	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2311	*1834*	1692	1427
Total Commands to Date	28788	*15878*	33552	20182
Sun Angle	99.1°	*85.6°*	126.2°	138.1°
Input Power	54.8w	*61.9w*	59.4w	64.1w
Heater and Power Dumps	All OFF	*All OFF*	All OFF	All OFF
Experiment Status	LSM OFF	*SIDE OFF/ASE & CPLEE STBY*	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	91.4°F	*116.5°F*	109.9°F	91.1°F
PSE Sensor Temp (DL-07)	Offscale HIGH	*132.0°F*	Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	*N/A*	OFF	40.3°C
SWS Module 300 Temp (DW-13)	66.1°C	*N/A*	OFF	N/A
SIDE Temp (DI-05)	86.8°C	*OFF*	63.5°C	N/A
CCGE Temp (DI-04)	HIGH	*OFF*	355.6°K	N/A
CPLEE Elect Temp (AC-06)	N/A	*STBY*	N/A	N/A
ASE GLA Temp (AS-03)	N/A	*78.8°C*	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	*N/A*	323.5°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1192
Total Commands to Date	32431
Sun Angle	153.3°
Input Power	67.0w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	64.9°F
LACE Temp (AM-41)	120.6°F
LEAM Temp (AJ-11)	165.2°F
HFE Temp Ref 1 (DH-13)	306.6°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	65.7°F

***APOLLO 14 ALSEP as of 0146 G.m.t., 17 March 1976.*

TIMES - CST | ALSEP SUPPORT SCHEDULE/EVENTS | PSE CALS DAILY

FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15	0900-1100 HFE RBS	1400-1800 ALSEP 14 C/S HTR ON CPLEE ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	06/066
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 12 SWS STBY HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
MAR 07/067	08/068	09/069	10/070	11/071	12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 17 LEAM OFF	1630-2030 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE/SWS ON HFE RBS LSM FLIP CAL	0930-1130 ALSEP 14 C/S HTR OFF CPLEE STBY	1300-1500 ALSEP 12 SIDE HV OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0830-1030 ALSEP 15 CYCLE SIDE

TIMES - CST | ALSEP SUPPORT SCHEDULE/EVENTS | PSE CALS DAILY

MAR 14/074	15/075	16/076	17/077	18/078	19/079	20/080
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON ALSEP 17 LEAM ON	0900-1100 HFE RBS LSM FLIP CAL	0500-0600 1600-1700 ALSEP 17
MAR 21/081	**22/082**	**23/083**	**24/084**	**25/085**	**26/086**	**27/087**
0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	0900-1100 ALSEP 15 HFE RBS	0900-1100 ALSEP 12 SIDE HV ON	0900-1100 ALSEP 14 CPLEE ON HFE RBS	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	0900-1100 HFE RBS	0900-1100 ALSEP 12 SIDE STBY
MAR 28/088	**29/089**	**30/090**	**31/091**	**APR 01/092**	**02/093**	**03/094**
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 12 SWS STBY HFE RBS	NO SUPPORT

REMOTE SITE NON-RECOVERAI ALSEP
DATA LOSSES FOR WEEK ENDING 03/18/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 11/1207		
11 MARCH	HAW	Station Problem	AOS 11/1210	A17	03m
			LOS 11/1456		
11 MARCH	ORR/ACN	Higher Priority	AOS 11/1528	ALL	32m
			LOS 12/0255		
12 MARCH	MIL	Station Problem	AOS 12/0257	ALL	02m
			LOS 12/1801		
12 MARCH	ACN/MAD	Schedule	AOS 12/1804	ALL	03m
			LOS 13/0343		
13 MARCH	ACN/MIL	Higher Priority	AOS 13/0350	ALL	07m
			LOS 14/1728		
14 MARCH	ORR/MAD	Higher Priority	AOS 14/1805	ALL	37m
			LOS 14/1805		
14 MARCH	MAD	Station Problem	AOS 14/1817	A15	12m
		LOSS OF	LOS *17/0146:55*		
17 MARCH	*ACN*	*DOWNLINK SIGNAL*	AOS	*A14*	---
			LOS		
			AOS		
			LOS		
			AOS		
			LOS		
			AOS		
			LOS		
			AOS		
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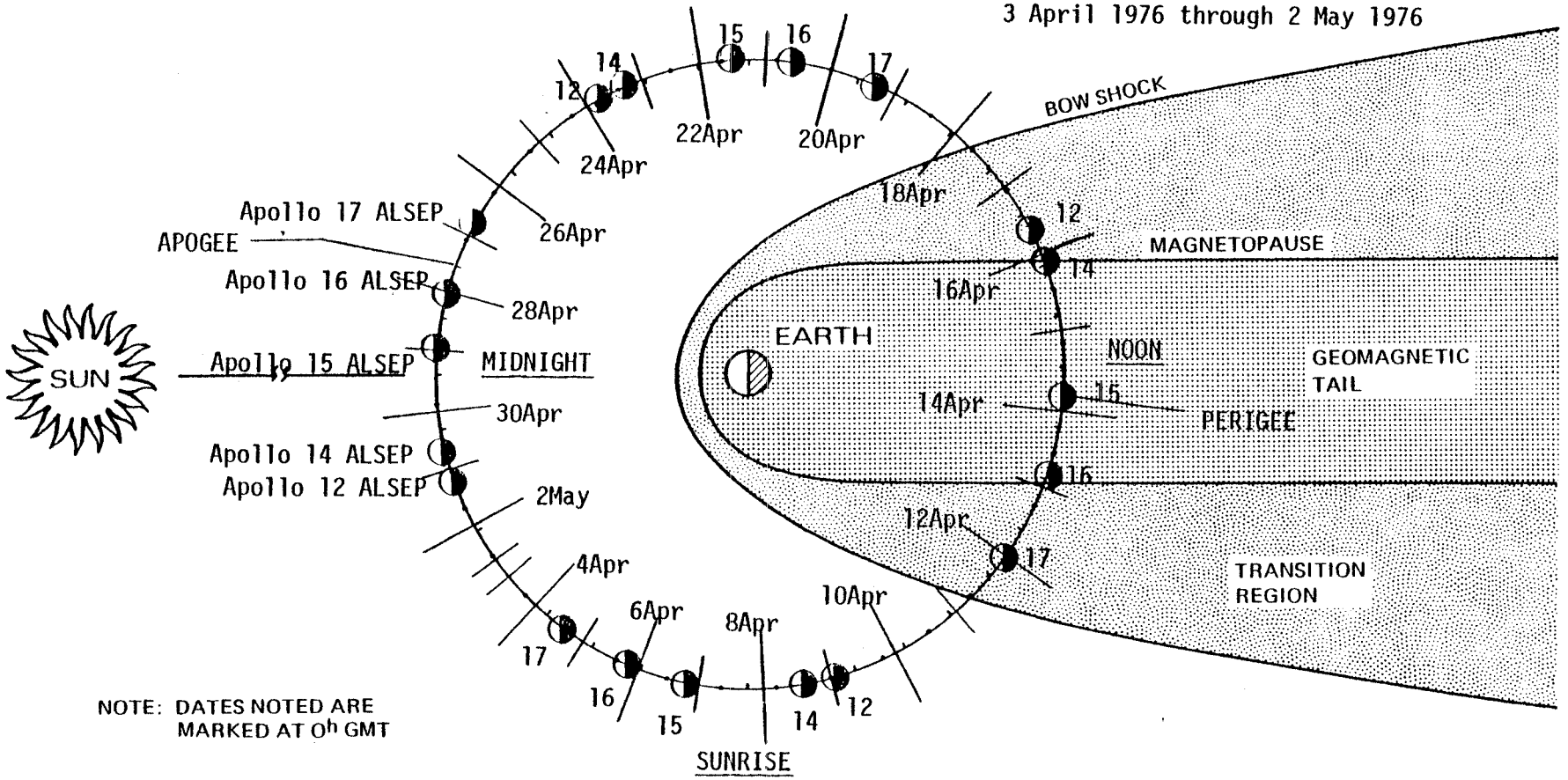
			LOS		
			AOS		

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

3 April 1976 through 2 May 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	28Mar/0552	04Apr/1439	(42)11Apr/2353	19Apr/0923	26Apr/1817
16	29Mar/1147	05Apr/2036	(50)13Apr/0556	20Apr/1521	28Apr/0010
15	30Mar/1104	06Apr/1956	(59)14Apr/0519	21Apr/1442	28Apr/2326
14	01Apr/0436	08Apr/1333	(65)15Apr/2302	23Apr/0815	30Apr/1654
12	01Apr/1616	09Apr/0132	(80)16Apr/1046	23Apr/1857	01May/0434

ALSEP PERFORMANCE SUMMARY REPORT

25 March 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 41st lunation will occur on 28 March at the Taurus Littrow site. Downlink signal strength was reported between -135.0 and -141.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 25 March the lunar surface temperature, as measured by the HFE thermocouples was 112 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to insure that the instrument will not go into an out of limits condition thereby losing the seismic data.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 18 March 1976, to 1800 G.m.t., 25 March 1976

Central station	Sunset at the Descartes Site occurred on 22 March for the 49th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -135.5 $\pm$ 2.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature returned onscale 21 March (DL-07 = 140.6°F at 176.0° sun angle). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1130 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 18 March 1976, to 1800 G.m.t., 25 March 1976

Central station	Sunset of the 58th lunation occurred at the Hadley Rille Site on 23 March. Transmitter A downlink signal strength was reported between -136.0 ± 3.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale 19 March (DL-07 = 138.2°F at 138.0° sun angle). No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 99.5°K on 25 March as measured by the cable thermocouples. The subsurface temperature was 250.8°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.4°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 18 March 1976, to 1800 G.m.t., 25 March 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. It was hoped that the signal would return when the central station (C/S) cooled down as lunar night approached. However, sunset (64th lunation) occurred on 24 March at 1944 G.m.t. (1444 EST) with no reacquisition of signal. Attempts to uplink commands have resulted in spacecraft rejects. As observed in the two previous LOS's on ALSEP 4, the data stopped at Word 26 in the mainframe and appeared normal prior to that time.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 18 March 1976, to 1800 G.m.t., 25 March 1976

Central station	Sunset of the 79th lunation occurred today. A signal strength between -136.0 and -141.0 dbm from transmitter B was reported by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *Between real time support periods of 23 and 24 March a spurious change occurred, Long Period Calibration (octal 066) went from OFF to ON. During the support period on 24 March, the cal mode was commanded back to OFF (octal 066). No CVW was reported in the ALSEP 12 downlink for this functional change.* The Z-axis leveling motor is ON to maximize internal heating in the instrument for lunar night operation. The instrument assembly temperature returned onscale 24 March (DL-07 = 136.0°F at 171.6° sun angle). No significant seismic events were noted during the real time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON in the normal range mode. *The instrument was operated in the extended range mode to observe an increase in the solar wind activity from 1527 G.m.t., 18 March, to 2235 G.m.t., 20 March.*
Suprathermal ion detector experiment	The SIDE is ON and in the full automatic stepping sequence with the Channeltron high voltages ON. *On 18, 19, and 21 March during real time support (T2 = 86.8°C, 85.5°C, and 75.6°C respectively) the -3.5 K vdc was commanded ON, and each time the high voltage would arc off. During the HV ON commanding 21 March, the experiment would not respond to the HV OFF command. The experiment was turned OFF for an 8 hour cool down period (2003 G.m.t., 21 March until 0408 G.m.t., 22 March) to insure the -3.5 K vdc voltage could be commanded OFF. At 0410 G.m.t., 22 March, (T2 = 49.2°C) the high voltage was commanded OFF. The -3.5 K vdc high voltage was turned on again during real time support at 1623 G.m.t., 22 March while in the daytime bakeout mode. The SIDE temperature (T2) was 63.48°C and arcing occurred, however the high voltage was left on.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1300 G.m.t., 25 March 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2318	1841	1699	1434
Total Commands to Date	28896	15878	33776	20307
Sun Angle	182.8°	188.8°	209.9°	221.8°
Input Power	54.2w		58.3w	64.8w
Heater and Power Dumps	DSS-1 (10w) ON		All OFF	DSS-1 (10w) ON
Experiment Status	LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	12.8°F	*NOTE: LOS 3/17/76*	-5.2°F	31.1°F
PSE Sensor Temp (DL-07)	126.3°F	*SUN ANGLE 85.6°*	124.8°F	125.9°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	17.0°C		OFF	N/A
SIDE Temp (DI-05)	18.2°C		7.8°K	N/A
CCGE Temp (DI-04)	HIGH		116.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.7°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1199
Total Commands to Date	32612
Sun Angle	237.0°
Input Power	68.5w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	9.4°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.3°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	11.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 03/25/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
17 MARCH	HAW/GWM	Higher Priority	LOS 17/1743 AOS 17/1812	ALL	29^{m}
18 MARCH	MIL/HAW	Schedule	LOS 18/0814 AOS 18/0828	ALL	14^{m}
18 MARCH	HAW/GWM	Schedule	LOS 18/1841 AOS 18/1910	ALL	29^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

MAR 14/074	15/075	16/076	17/077	18/078	19/079	20/080
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON ALSEP 17 LEAM ON	0900-1100 HFE RBS LSM FLIP CAL	0500-0600 1600-1700 ALSEP 17
MAR 21/081	22/082	23/083	24/084	25/085	26/086	27/087
0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	0900-1100 ALSEP 15 HFE RBS	0900-1100 ALSEP 12 SIDE HV ON	0900-1100 ALSEP 14 CPLEE ON HFE RBS	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	0900-1100 HFE RBS	0900-1100 ALSEP 12 SIDE STBY
MAR 28/088	29/089	30/090	31/091	APR 01/092	02/093	03/094
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 12 SWS STBY HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

1 April 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 41st lunation occurred on 28 March at the Taurus Littrow site. Downlink signal strength is reported at -137.0 ± 2.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 31 March the lunar surface temperature, as measured by the HFE thermocouples, was 107 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to insure that the instrument will not go into an out of limits condition thereby losing the seismic data.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 25 March 1976, to 1800 G.m.t., 1 April 1976

Central station	Midnight at the Descartes Site occurred on 29 March for the 49th lunation. The DSS-1 heater (10 watts) is ON for lunar night operation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B was reported at -136.0 ± 2.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis continues to be static. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 25 March 1976, to 1800 G.m.t., 1 April 1976

Central station	Midnight of the 58th lunation occurred at the Hadley Rille Site on 30 March. Transmitter A downlink signal strength is reported at -136.0 $\pm$ 3.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were noted during real-time support this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode with all sensors being sampled in full sequence. The lunar surface temperature was 99.8°K on 31 March as indicated by the cable thermocouples. The subsurface temperature was 250.8°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.2°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 25 March 1976, to 1800 G.m.t., 1 April 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Midnight at the Apollo 14 site occurred today 1 April, for the 64th lunation.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 25 March 1976, to 1800 G.m.t., 1 April 1976

Central station	Midnight of the 79th lunation occurred today, 1 April. A signal strength of -139.0 ± 1.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor is ON to maximize heating in the instrument. The sensor temperature (DL-07) has been offscale LOW since 26 March. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument was commanded to STANDBY on 27 March in an attempt to avoid the PSE A/D converter problem due to low temperatures in the PSE electronics (Ref. Apollo 12 ALSEP SMEAR 84).
Suprathermal ion detector experiment	The SIDE is in STANDBY. (Ref. Performance Summary Report, 16 January 1976, and Apollo 12 ALSEP SMEAR 84).
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 31 March 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2324	1841	1705	1440
Total Commands to Date	28957	15878	33907	20348
Sun Angle	257.6°	263.6°	284.6°	297.0°
Input Power	53.4w *(54.1w)*		57.8w *(58.6w)*	64.8w *(64.8w)*
Heater and Power Dumps	DSS-1 (10w) ON		All OFF	DSS-1 (10w) ON
Experiment Status	SIDE/SWS STBY & LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	4.7°F	*NOTE: LOS 3/17/76*	-7.9°F	30.1°F
PSE Sensor Temp (DL-07)	Offscale LOW	*SUN ANGLE 85.6°*	124.6°F	125.8°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	STBY		OFF	N/A
SIDE Temp (DI-05)	STBY		7.2°K	N/A
CCGE Temp (DI-04)	STBY		108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.4°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1205
Total Commands to Date	32731
Sun Angle	311.7°
Input Power	67.8w *(68.5w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	17.9°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.5°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	20.1°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 04/01/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
04 FEBRUARY	*ORR*	*Station Problem*	LOS *04/1807* AOS *04/2258*	*A12*	4^h51^m
14 FEBRUARY	*MAD*	*Station Problem*	LOS *14/0053* AOS *14/1024*	*A12*	9^h21^m
26 MARCH	AGO	Higher Priority	LOS 26/1939 AOS 26/2400	ALL	4^h21^m
27 MARCH	ORR	Higher Priority	LOS 27/0000 AOS 27/0400	ALL	4^h00^m
28 MARCH	HAW/ORR	Higher Priority	LOS 28/0237 AOS 28/0357	ALL	1^h20^m
28 MARCH	ORR/MAD	Higher Priority	LOS 28/0451 AOS 28/0537	ALL	46^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

MAR 14/074	15/075	16/076	17/077	18/078	19/079	20/080
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON ALSEP 17 LEAM ON	0900-1100 HFE RBS LSM FLIP CAL	0500-0600 1600-1700 ALSEP 17
MAR 21/081	22/082	23/083	24/084	25/085	26/086	27/087
0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	0900-1100 ALSEP 15 HFE RBS	0900-1100 ALSEP 12 SIDE HV ON	0900-1100 ALSEP 14 CPLEE ON HFE RBS	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100 ALSEP 12 SWS STBY
MAR 28/088	29/089	30/090	31/091	APR 01/092	02/093	03/094
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 12 HFE RBS	NO SUPPORT

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 04/095	05/096	06/097	07/098	08/099	09/100	10/101
NO SUPPORT ALSEP 17	0900-1100 ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON ALSEP 14	0000-0200 HFE RBS LSM FLIP CAL 1400-1600	0900-1100 ALSEP 12 SIDE OFF
APR 11/102	12/103	13/104	14/105	15/106	16/107	17/108
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON
APR 18/109	19/110	20/111	21/112	22/113	23/114	24/115
1300-1500	0400-0500 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	0900-1100 ALSEP 15 ALSEP 12 CYCLE SIDE HFE RBS	0900-1100	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0900-1100

ALSEP PERFORMANCE SUMMARY REPORT

8 April 1976
G.m.t.: 1800

Sunrise of the 42nd lunation occurred on 4 April, at the Taurus Littrow site. Downlink signal strength is reported at -140.5 ± 4.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 8 April the lunar surface temperature, as measured by the HFE thermocouples was 307 ± 8°K. At a depth of 230 dm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range and to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded OFF on 7 April for the remainder of the lunar day.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 1 April 1976, to 1800 G.m.t., 8 April 1976

Central station	Sunrise at the Descartes Site occurred on 5 April for the 50th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -131.5 and -140.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 6 April for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1132 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis remained static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 1 April 1976, to 1800 G.m.t., 8 April 1976

Central station	Sunrise of the 59th lunation occurred at the Hadley Rille Site on 6 April. Transmitter A downlink signal strength is reported between -133.5 and -140.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF. *The Apollo 15 ALSEP Suprathermal Ion Detector Experiment was in STANDBY from 5-6 April. This operation was to test the turn ON capabilities of the instrument after cold soaking. On 6 April the instrument was commanded ON (T2 = -10.5°C) without any difficulty. The test was agreed upon by FOD, S&AD, and the PI as a result of the difficulties experienced in turning Apollo 12 SIDE ON and the expected future operation of the Apollo 15 SIDE and HFE, alternately in STANDBY, during lunar night.*
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 304.1°K on 8 April as measured by the cable thermocouples. The subsurface temperature was 250.2°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.1°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 1 April 1976, to 1800 G.m.t., 8 April 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Sunrise of the 65th lunation occurred today.

At 0035 G.m.t., 2 April, the Goldstone Tracking Station acquired the ALSEP 4 signal for approximately 20 minutes. Signal strength at acquisition was -138.0 dbm and the lock frequency was 2279.5 MHz. The signal was erratic and lock could not be maintained. The signal appeared to be noise modulated and the telemetry output monitor showed constant oscillation about zero at a low rate. At approximately 0055 G.m.t. the signal dropped below threshold. Mode I commanding was attempted (Transmitter A & B select and normal bit rate reset) without response.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 1 April 1976, to 1800 G.m.t., 8 April 1976

Central station	Sunrise of the 80th lunation will occur on 9 April. A signal strength between -135.5 and -141.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater will be commanded OFF on 9 April for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The SIDE & SWS were again placed in STANDBY to increase Central Station temperature to avoid the noise spike anomaly in the PSE seismic data during the lunar night. The Z-motor will be commanded OFF for lunar day operation on 9 April. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The experiment is currently in STANDBY. (Ref. Apollo 12 ALSEP SMEAR 84).
Suprathermal ion detector experiment	The SIDE is currently in STANDBY. (Ref. Apollo 12 ALSEP SMEAR 84).
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 8 April 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2332	1834	1713	1448
Total Commands to Date	28967	15878	34058	20397
Sun Angle	355.3°	1.3°	22.4°	34.3°
Input Power	53.1w		58.3w	64.1w
Heater and Power Dumps	DSS-1 (10w) ON		All OFF	All OFF
Experiment Status	LSM OFF/SWS-SIDE STBY		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	3.0°F		65.4°F	78.0°F
PSE Sensor Temp (DL-07)	Offscale LOW	NOTE:	126.0°F	127.0°F
LSM Internal Temp (DM-05)	OFF	LOS 3/17/76	OFF	37.3°C
SWS Module 300 Temp (DW-13)	STBY		OFF	N/A
SIDE Temp (DI-05)	STBY		51.8°C	N/A
CCGE Temp (DI-04)	STBY		331.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		299.6°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1213
Total Commands to Date	32856
Sun Angle	49.5°
Input Power	66.6w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY/LEAM OFF
Avg Thermal Plate Temp	74.3°F
LACE Temp (AM-41)	131.2°F
LEAM Temp (AJ-11)	177.5°F
HFE Temp Ref 1 (DH-13)	318.5°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	74.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 04/08/76

*NOTE: *In error Report 04/01/76*

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
*04 FEBRUARY	ORR	Station Problem	LOS 04/0053 AOS 04/1024	A12	$9^h 31^m$
*14 FEBRUARY	MAD	Station Problem	LOS 14/1807 AOS 14/2258	A12	$4^h 51^m$
31 MARCH	ORR/ACN	Schedule	LOS 31/0730 AOS 31/0733	ALL	03^m
31 MARCH	ACN	Station Problem	LOS 31/1312 AOS 31/1323	ALL	11^m
31 MARCH	BDA/HAW	Higher Priority	LOS 31/2100 AOS 31/2119	ALL	19^m
01 APRIL	ORR/ACN	Higher Priority	LOS 01/0809 AOS 01/0820	ALL	11^m
01 APRIL	ACN	Higher Priority	LOS 01/0930 AOS 01/1033	ALL	$1^h 03^m$
01 APRIL	ACN/MIL	Higher Priority	LOS 01/1145 AOS 01/1221	ALL	36^m
02 APRIL	HAW/GWM	Higher Priority	LOS 02/0555 AOS 02/0623	ALL	28^m
02 APRIL	ACN/MAD	Higher Priority	LOS 02/0952 AOS 02/1010	ALL	18^m
03 APRIL	MAD	Higher Priority	LOS 03/0950 AOS 03/1043	ALL	53^m
07 APRIL	ORR/HAW	Higher Priority	LOS 07/0810 AOS 07/0822	ALL	12^m
07 APRIL	GWM	Higher Priority	LOS 07/1210 AOS 07/1247	ALL	37^m
07 APRIL	ACN/BDA	Higher Priority	LOS 07/1505 AOS 07/1549	ALL	44^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

MAR 14/074	15/075	16/076	17/077	18/078	19/079	20/080
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON ALSEP 17 LEAM ON	0900-1100 HFE RBS LSM FLIP CAL	0500-0600 1600-1700 ALSEP 17
MAR 21/081	22/082	23/083	24/084	25/085	26/086	27/087
0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	0900-1100 ALSEP 15 HFE RBS	0900-1100 ALSEP 12 SIDE HV ON	0900-1100 ALSEP 14 CPLEE ON HFE RBS	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	0900-1100 ALSEP 12 SIDE STBY HFE RBS	0900-1100 ALSEP 12 SWS STBY
MAR 28/088	29/089	30/090	31/091	APR 01/092	02/093	03/094
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 12 HFE RBS	NO SUPPORT

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 04/095	05/096	06/097	07/098	08/099	09/100	10/101
NO SUPPORT ALSEP 17	0900-1100 ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 ALSEP 14	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL 1400-1600	0900-1100 ALSEP 12 SIDE OFF
APR 11/102	12/103	13/104	14/105	15/106	16/107	17/108
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON
APR 18/109	19/110	20/111	21/112	22/113	23/114	24/115
1300-1500	0400-0500 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	0900-1100 ALSEP 15 ALSEP 12 CYCLE SIDE HFE RBS	0900-1100	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0900-1100

ALSEP PERFORMANCE SUMMARY REPORT

15 April 1976
G.m.t.: 1800

Apollo 17 ALSEP

Noon of the 42nd lunation occurred on 11 April at the Taurus Littrow site. Downlink signal strength is reported between -136.5 and -145.0 dbm from transmitter A. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 15 April the lunar surface temperature, as measured by the HFE thermocouples, was 344 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is OFF.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 8 April 1976, to 1800 G.m.t., 15 April 1976

Central station	Noon at the Descartes Site occurred on 13 April for the 50th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -138.0 $\pm$ 2.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) has been offscale HIGH since 11 April but is expected to return onscale 20 April. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1138 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 8 April 1976, to 1800 G.m.t., 15 April 1976

Central station	Noon of the 59th lunation occurred at the Hadley Rille Site on 14 April. Transmitter A downlink signal strength is reported at -136.5 $\pm$ 1.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH on 13 April and is expected to return onscale 19 April. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. The experiment is presently being cycled from ON to STANDBY during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 324.1°K on 15 April as measured by the cable thermocouples. The subsurface temperature was 245.5°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 246.2°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 8 April 1976, to 1800 G.m.t., 15 April 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Commands to turn transmitters ON continue to be unsuccessful since the latest LOS. Sunrise at the Apollo 14 site occurred on 8 April for the 65th lunation.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 8 April 1976, to 1800 G.m.t., 15 April 1976

Central station	Sunrise of the 80th lunation occurred on 9 April. A signal strength of -139.0 ± 2.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON in the normal range mode. The experiment was commanded to ON, 9 April, after lunar sunrise.
Suprathermal ion detector experiment	The SIDE is currently OFF. Cyclic commanding of the instrument in the full automatic stepping sequence with Channeltron high voltages ON to experiment power OFF is in effect for this lunar day.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 15 April 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2339	1834	1720	1455
Total Commands to Date	29105	15878	34253	20514
Sun Angle	80.5°	86.4°	107.6°	119.4°
Input Power	54.5w		58.9w	64.1w
Heater and Power Dumps	All OFF		All OFF	All OFF
Experiment Status	SIDE/LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	92.4°F		113.1°F	99.5°F
PSE Sensor Temp (DL-07)	138.6°F		Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	NOTE:	OFF	42.4°C
SWS Module 300 Temp (DW-13)	65.2°C	LOS 3/17/76	OFF	N/A
SIDE Temp (DI-05)	OFF		STBY	N/A
CCGE Temp (DI-04)	OFF		STBY	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		324.1°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1230
Total Commands to Date	33020
Sun Angle	134.7°
Input Power	66.6w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY/LEAM OFF
Avg Thermal Plate Temp	78.3°F
LACE Temp (AM-41)	139.7°F
LEAM Temp (AJ-11)	188.0°F
HFE Temp Ref 1 (DH-13)	317.8°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	78.8°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 04/15/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
11 APRIL	MAD/MIL	Higher Priority	LOS 11/2055 AOS 11/2111	ALL	16^{m}
12 APRIL	MAD	Higher Priority	LOS 12/2047 AOS 12/2134	ALL	47^{m}
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			LOS AOS		
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			LOS AOS		

APR 04/095	05/096	06/097	07/098	08/099	09/100	10/101
NO SUPPORT ALSEP 17	0900-1100 ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 ALSEP 14	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL 1400-1600	0900-1100 ALSEP 12 SIDE OFF
APR 11/102	12/103	13/104	14/105	15/106	16/107	17/108
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	0930-1130 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0930-1130 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON
APR 18/109	19/110	20/111	21/112	22/113	23/114	24/115
1300-1500	0400-0500 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	0900-1100 ALSEP 15 ALSEP 12 CYCLE SIDE HFE RBS	0900-1100	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0900-1100

ALSEP PERFORMANCE SUMMARY REPORT

22 April 1976
G.m.t.: 1800

Apollo 17 ALSEP

Sunset of the 42nd lunation occurred on 19 April at the Taurus Littrow site. Downlink signal strength is reported at -137.5 ± 2.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 22 April the lunar surface temperature, as measured by the HFE thermocouples was 117 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF to attempt to keep the sensor temperature (DG-04) below the high temperature range to avoid seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 16 April, and is configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 15 April 1976, to 1800 G.m.t., 22 April 1976

Central station	Sunset at the Descartes Site occurred on 20 April for the 50th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -138.5 $\pm$ 3.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature returned onscale 20 April (DL-07 = 133.6°F at 178.8° sun angle). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1140 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 15 April 1976, to 1800 G.m.t., 22 April 1976

Central station	Sunset of the 59th lunation occurred at the Hadley Rille Site on 21 April. Transmitter A downlink signal strength was reported between -137.0 ± 3.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale 17 April (DL-07 = 139.2°F at 131.6° sun angle). No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 111.2°K on 22 April as measured by the cable thermocouples. The subsurface temperature was 249.3°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 249.2°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 15 April 1976, to 1800 G.m.t., 22 April 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. It was hoped that the signal would return when the central station (C/S) cooled down as lunar night approached. However, sunset (65th lunation) will occur tomorrow and there has been no reacquisition of signal. Attempts to uplink commands have resulted in spacecraft rejects.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 15 April 1976, to 1800 G.m.t., 22 April 1976

Central station	Noon of the 80th lunation occurred on 16 April. A signal strength between -138.0 and -142.0 dbm from transmitter B was reported by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature returned onscale 22 April (DL-07 = 139.6°F at 164.7° sun angle). No significant seismic events were noted during the real time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON in the normal range mode. *On 16 & 17 April, it was noted that the data output of the sum cups Levels 1 through 14 during the instrument's calibrate measurements (Sequence 14 and 15) were giving an invalid indication. This anomaly has previously been observed.*
Suprathermal ion detector experiment	The SIDE is ON and in the full automatic stepping sequence with the Channeltron high voltages ON. *During real time support on 17 April, the SIDE experienced a spurious mode change to X10 at a temperature of 54.61°C. The mode change was cleared by commanding the instrument to OFF for cool down prior to turn on during the next support period.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 22 April 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2346	1834	1727	1462
Total Commands to Date	29151	15878	34491	20669
Sun Angle	165.3°	171.2°	192.4°	204.2°
Input Power	54.5w		58.6w	64.8w
Heater and Power Dumps	All OFF		All OFF	DSS-1 (10w) ON
Experiment Status	LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	57.3°F	NOTE: LOS 3/17/76	0.2°F	31.9°F
PSE Sensor Temp (DL-07)	139.6°F	SUN ANGLE 85.6°	124.8°F	125.9°F
LSM Internal Temp (DM-05)	OFF		OFF	-7.7°C
SWS Module 300 Temp (DW-13)	40.0°C		OFF	N/A
SIDE Temp (DI-05)	49.2°C		7.8°K	N/A
CCGE Temp (DI-04)	HIGH		125.9°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		284.2°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1227
Total Commands to Date	33180
Sun Angle	219.5°
Input Power	67.8w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	6.3°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	284.7°K
LSG Temp (DG-04)	49.5°C
LSP Temp (AP-01)	7.8°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 04/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
15 APRIL	ORR/MAD	Higher Priority	LOS 15/2100 AOS 15/2116	ALL	16m
18 APRIL	ACN/GDS	Scheduling	LOS 18/0700 AOS 18/0713	A12,15,17	13m
18 APRIL	ACN/GDS	Scheduling	LOS 18/0700 AOS 18/0714	A16	14m
19 APRIL	ORR/MAD	Higher Priority	LOS 19/0008 AOS 19/0015	ALL	07m
20 APRIL	MAD/ACN	Higher Priority	LOS 20/0235 AOS 20/0254	ALL	19m
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 04/095	05/096	06/097	07/098	08/099	09/100	10/101
NO SUPPORT ALSEP 17	0900-1100 ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 ALSEP 14	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL 1400-1600	0900-1100 ALSEP 12 SIDE OFF
APR 11/102	12/103	13/104	14/105	15/106	16/107	17/108
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	0930-1130 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0930-1130 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE
APR 18/109	19/110	20/111	21/112	22/113	23/114	24/115
1300-1500 ALSEP 12 CYCLE SIDE	0400-0500 ALSEP 17 1600-1700	0000-0100 0700-0900 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	0830-1030 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	0700-0900	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0900-1100

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

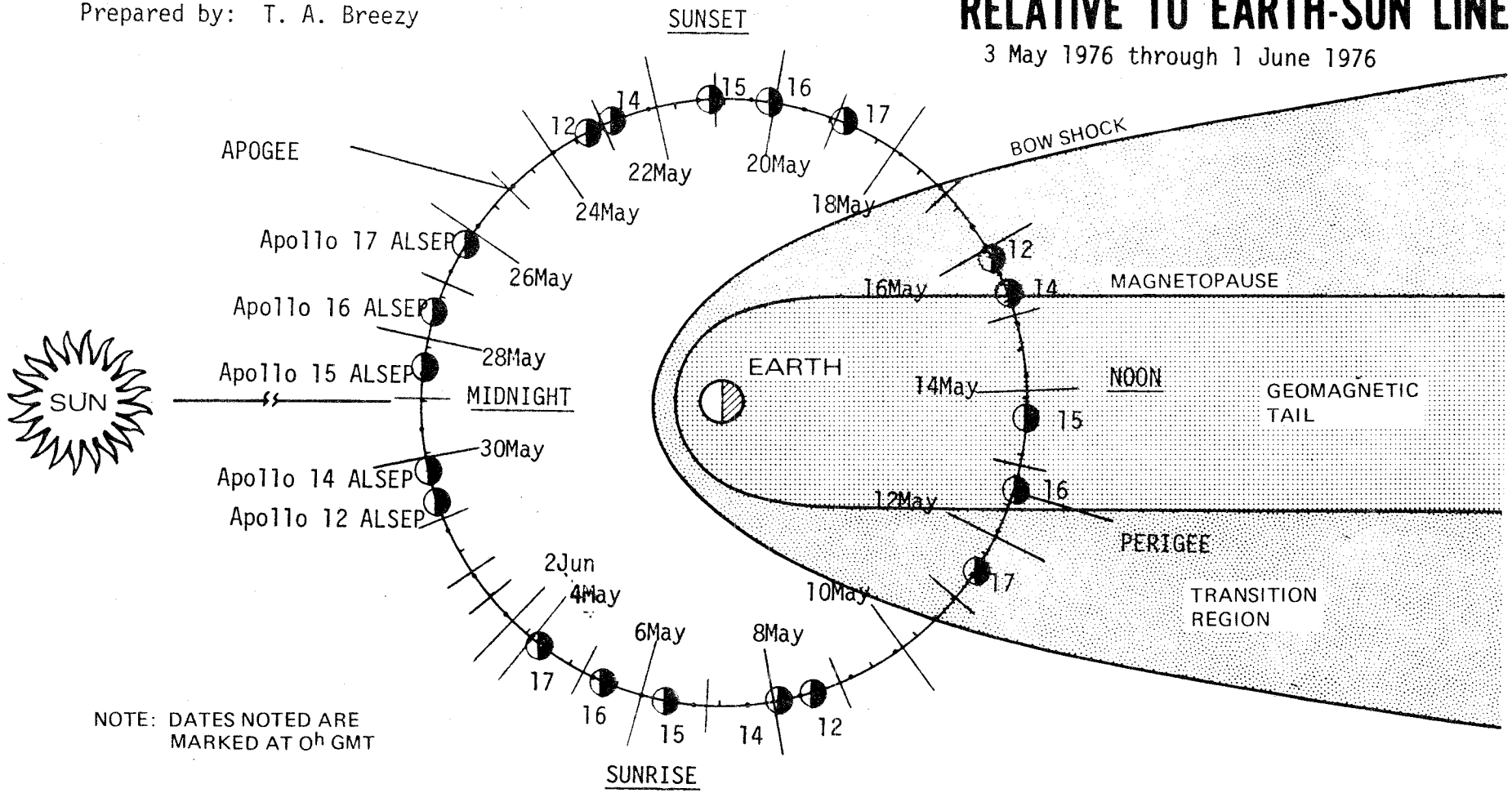
APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT
MAY 02/123	03/124	04/125	05/126	06/127	07/128	08/129
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15	0800-1000 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0800-1000 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON 2000-2100
MAY 09/130	10/131	11/132	12/133	13/134	14/135	15/136
1000-1200	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0700-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE SUPT HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

3 May 1976 through 1 June 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	26Apr/1817	04May/0253	(43)11May/1153	18May/2108	26May/0543
16	28Apr/0010	05May/0847	(51)12May/1753	20May/0306	27May/1144
15	28Apr/2326	06May/0804	(60)13May/1714	21May/0225	28May/1059
14	30Apr/1654	08May/0138	(66)15May/1055	22May/1956	30May/0424
12	01May/0434	08May/1332	(81)15May/2237	23May/0642	30May/1601

ALSEP PERFORMANCE SUMMARY REPORT

29 April 1976
G.m.t.: 1800

Apollo 17 ALSEP

Midnight of the 42nd lunation occurred on 26 April at the Taurus Littrow site. Downlink signal strength is reported at -137.5 ± 2.5 dbm from transmitter A. Transmission of command octal 174 (delay uplink switch-over), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 28 April the lunar surface temperature, as measured by the HFE thermocouples, was 107 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize losing seismic data when the temperature reaches an out of limits condition in the high range. *Seismic data was invalid from 1200 to 1520 G.m.t. on 28 April.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 22 April 1976, to 1800 G.m.t., 29 April 1976

Central station	Midnight at the Descartes Site occurred on 28 April for the 50th lunation. The DSS-1 heater (10 watts) is ON for lunar night operation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B was reported between -134.0 and -137.5 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis continues to be static. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 22 April 1976, to 1800 G.m.t., 29 April 1976

Central station	Midnight of the 59th lunation occurred at the Hadley Rille Site on 28 April. Transmitter A downlink signal strength is reported at -136.0 $\pm$ 4.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were noted during real-time support this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. This is a special operational test of the SIDE which is continuing at the request of the Principal Investigator. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	*The instrument was commanded to STANDBY at 1619 G.m.t., 28 April, to conduct a trouble-shooting test. This operation is to determine if proper operation of the amplifier can be regained by a cool-down period during lunar night. The HFE will be commanded ON by Mode I on 30 April prior to a real time support period. The test is being accomplished with the approval of the Flight Operations and Science and Applications Directorates.* The lunar surface temperature was 110.8°K on 28 April as indicated by the cable thermocouples. The subsurface temperature was 249.4°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 249.3°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 22 April 1976, to 1800 G.m.t., 29 April 1976

The Apollo 14 ALSEP 4 downlink signal remains silent. Sunset at the Apollo 14 site occurred on 23 April for the 65th lunation.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 22 April 1976, to 1800 G.m.t., 29 April 1976

Central station	Sunset of the 80th lunation occurred on 23 April. A signal strength of -139.0 ± 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor is ON to maximize heating in the instrument. The sensor temperature (DL-07) has been offscale LOW since 26 April. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	*The instrument was commanded to STANDBY on 24 April. This operation is to add heat to the central station to avoid the PSE A/D converter problem due to low temperatures in the PSE electronics.*
Suprathermal ion detector experiment	*The SIDE is in STANDBY for the same requirement as the SWS.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 28 April 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2352	1834	1733	1468
Total Commands to Date	29229	15878	34600	20710
Sun Angle	238.6°	244.6°	265.7°	277.6°
Input Power	53.0w *(53.7w)*		58.1w *(57.8w)*	64.5w *(64.5w)*
Heater and Power Dumps	DSS-1 (10w) ON		All OFF	DSS-1 (10w) ON
Experiment Status	SIDE/SWS STBY & LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	5.1°F		-6.6°F	30.1°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.6°F	125.8°F
LSM Internal Temp (DM-05)	OFF	*NOTE: LOS 3/17/76*	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	STBY	*SUN ANGLE 85.6°*	OFF	N/A
SIDE Temp (DI-05)	STBY		7.7°K	N/A
CCGE Temp (DI-04)	STBY		110.2°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.4°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1233
Total Commands to Date	33285
Sun Angle	292.8°
Input Power	67.7w *(68.1w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	-0.9°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.4°K
LSG Temp (DG-04)	52.9°C
LSP Temp (AP-01)	0.3°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 04/29/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
22 APRIL	ACN/GDS	Higher Priority	LOS 22/0912 AOS 22/0949	ALL	37^{m}
22 APRIL	GDS/ORR	Higher Priority	LOS 22/1500 AOS 22/1720	ALL	$2^{h}20^{m}$
22 APRIL	ORR/GWM	Higher Priority	LOS 22/2200 AOS 22/2226	ALL	26^{m}
23 APRIL	ACN/MAD	Higher Priority	LOS 23/0530 AOS 23/0533	ALL	03^{m}
23 APRIL	MAD/ACN	Higher Priority	LOS 23/0930 AOS 23/1013	ALL	43^{m}
23 APRIL	HAW	Station Problem	LOS 23/1527 AOS 23/1532	A12	05^{m}
23 APRIL	HAW	Station Problem	LOS 23/1532 AOS 23/1535	A17	03^{m}
24 APRIL	ACN	Higher Priority	LOS 24/0530 AOS 24/0601	ALL	31^{m}
26 APRIL	ORR	Station Problem	LOS 26/2055 AOS 26/2156	ALL	$1^{h}01^{m}$
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 04/095	05/096	06/097	07/098	08/099	09/100	10/101
NO SUPPORT ALSEP 17	0900-1100 ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 ALSEP 14	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL 1400-1600	0900-1100 ALSEP 12 SIDE OFF
APR 11/102	12/103	13/104	14/105	15/106	16/107	17/108
0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	0930-1130 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0930-1130 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE
APR 18/109	19/110	20/111	21/112	22/113	23/114	24/115
1300-1500 ALSEP 12 CYCLE SIDE	0400-0500 ALSEP 17 1600-1700	0000-0100 0700-0900 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	0830-1030 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	0700-0900	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0900-1100 ALSEP 12 SIDE STBY SWS STBY

NASA-JSC

APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON HFE RBS	NO SUPPORT
MAY 02/123	**03/124**	**04/125**	**05/126**	**06/127**	**07/128**	**08/129**
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15	0800-1000 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL ALSEP 14	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON 2300-2400
MAY 09/130	**10/131**	**11/132**	**12/133**	**13/134**	**14/135**	**15/136**
1000-1200	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0700-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE SUPT HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON ALSEP 17 LEAM ON

ALSEP PERFORMANCE SUMMARY REPORT

6 May 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 43rd lunation occurred on 4 May, at the Taurus Littrow site. Downlink signal strength is reported between -136.0 and -145.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 6 May the lunar surface temperature, as measured by the HFE thermocouples was 204 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1800 G.m.t., 29 April 1976, to 1700 G.m.t., 6 May 1976

Central station	Sunrise at the Descartes Site occurred on 5 May for the 51st lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -134.0 and -138.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 5 May for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1800 G.m.t., 29 April, to 1700 G.m.t., 6 May 1976

Central station	Sunrise of the 60th lunation occurred at the Hadley Rille Site today. Transmitter A downlink signal strength is reported between -134.0 and -139.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 k vdc) remains OFF.
Heat flow experiment	*The HFE absolute temperature data is no longer valid. This anomaly first appeared shortly after lunar sunrise last December 1975, but recovered. Since then, the temperatures have drifted progressively lower each lunation and have not recovered. The details of this anomaly are covered in Dr. Mark Langseth's letter of 26 April to NASA. The HFE was commanded to STANDBY at 1619 G.m.t., 28 April, then back to ON at 1201 G.m.t., 30 April, for an electronics cool down of the instrument during lunar night. This test was accomplished in an attempt to regain proper operation of the experiment, however, this was unsuccessful. Analysis of this problem is continuing.* *The following data is provided for information.* The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 111.6°K on 6 May as measured by the cable thermocouples. The subsurface temperature was 249.4°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 249.3°K at its lowermost point. Ring bridge surveys are obtained periodically.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1800 G.m.t., 29 April 1976, to 1700 G.m.t., 6 May 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Midnight of the 65th lunation occurred on 30 April.

Apollo 12 ALSEP

Operational status from 1800 G.m.t., 29 April 1976, to 1700 G.m.t., 6 May 1976

Central station	Midnight of the 80th lunation occurred on 1 May. A signal strength between -136.0 and -141.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation. *The Apollo 12 ALSEP 1 SIDE was commanded OFF on 3 May. The RTG power output had dropped to 52.7 watts and the Central Station (C/S) average thermal plate temperature had cooled to 2.3°F with the SIDE and SWS in STANDBY since 24 April. This action permanently terminates the 6 1/2 years of ALSEP 1 SIDE operation on the lunar surface and was required to avoid the C/S PSE A/D converter anomaly at low temperature. On 6 May the average thermal plate temperature was 8.5°F*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The sensor temperature (DL-07) has been offscale LOW since 26 April. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	*The experiment was commanded ON 1437 G.m.t., 3 May, after having been in STANDBY since 24 April 1976.*
Suprathermal ion detector experiment	*The SIDE was commanded OFF permanently at 1435 G.m.t., 3 May 1976.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 6 May 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2360	1834	1741	1476
Total Commands to Date	29239	15878	34714	20748
Sun Angle	336.9°	342.9°	4.0°	15.9°
Input Power	52.7w		57.4w	64.1w
Heater and Power Dumps	DSS-1 (10w) ON		All OFF	All OFF
Experiment Status	SIDE & LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	8.5°F		-8.9°F	50.2°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.2°F	126.3°F
LSM Internal Temp (DM-05)	OFF	NOTE: LOS 3/17/76	OFF	28.0°C
SWS Module 300 Temp (DW-13)	-15.6°C		OFF	N/A
SIDE Temp (DI-05)	OFF		7.8°C	N/A
CCGE Temp (DI-04)	OFF		106.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.5°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1241
Total Commands to Date	33398
Sun Angle	31.1°
Input Power	66.2w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	64.7°F
LACE Temp (AM-41)	104.5°F
LEAM Temp (AJ-11)	173.8°F
HFE Temp Ref 1 (DH-13)	303.7°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	64.9°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 05/06/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
28 APRIL	MIL/GWM	Higher Priority	LOS 28/2100 AOS 28/2220	ALL	$1^h 20^m$
30 APRIL	GWM	Higher Priority	LOS 30/0500 AOS 30/0533	ALL	33^m
06 MAY	ORR	Station Problem	LOS 06/0329 AOS 06/0333	ALL	04^m
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON HFE RBS	NO SUPPORT
MAY 02/123	**03/124**	**04/125**	**05/126**	**06/127**	**07/128**	**08/129**
NO SUPPORT	0900-1100 ALSEP 17 ALSEP 12 SIDE OFF SWS ON HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15	0930-1130 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL ALSEP 14	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 2300-2400
MAY 09/130	**10/131**	**11/132**	**12/133**	**13/134**	**14/135**	**15/136**
0000-0030 1000-1200	0900-1100 ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0700-1100 ALSEP 15 SIDE SUPT HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 15 SIDE ON ALSEP 17 LEAM ON

ALSEP PERFORMANCE SUMMARY REPORT

13 May 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 43rd lunation occurred on 11 May at the Taurus Littrow site. Downlink signal strength is reported between -137.0 and -145.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 13 May the lunar surface temperature, as measured by the HFE thermocouples, was 368 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses. *At 1540 G.m.t., 9 May a seismic event lasting approximately 45 minutes was observed by this instrument as well as the Passive Seismometers at the Apollo 16, 15, and 12 ALSEP sites.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded OFF 7 May for the lunar day high temperatures operation.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 6 May 1976, to 1700 G.m.t., 13 May 1976

Central station	Noon at the Descartes Site occurred on 12 May for the 51st lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -137.0 ± 1.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) has been offscale HIGH since 11 May but is expected to return onscale 20 May. *A significant seismic event was observed during real-time support at 1540 G.m.t., 9 May, lasting approximately 45 minutes.*
Lunar surface magnetometer experiment	The LSM in ON and recording data. 1146 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 6 May 1976, to 1700 G.m.t., 13 May 1976

Central station

Noon of the 60th lunation will occur today at the Hadley Rille Site. Transmitter A downlink signal strength is reported between -135.5 and -139.0 dbm by the tracking stations with 30-foot antennas.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH on 13 May and is expected to return onscale 19 May. *A significant seismic event was observed at 1540 G.m.t., 9 May, lasting approximately 45 minutes.*

Suprathermal ion detector/cold cathode gauge experiments

The instrument is in STANDBY. *The experiment was to be continuously operated during the lunar day (Apollo 15 ALSEP, SMEAR 50). However at 1325 G.m.t., 12 May, when the internal temperature (T2) was at 89.5°C, the -3.5 K volt High voltage arced off. The experiment was commanded to STANDBY at 1337 G.m.t., 12 May, for cool down until the next real time support period.* The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.

Heat flow experiment

The instrument is presently OFF. Due to the absolute temperature measurement anomaly, ring bridge surveys have been suspended indefinitely. At 1533 G.m.t., 13 May, the experiment was commanded OFF for cool down. One day prior to lunar sunset (20 May 1976) it will be turned ON for data analysis of the temperature anomaly.

The following data is provided for information. The lunar surface temperature was 359.2°K on 13 May as measured by the cable thermocouples. The subsurface temperature was 244.5°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 245.6°K at its lowermost point.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 6 May 1976, to 1700 G.m.t., 13 May 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Commands to turn transmitters ON continue to be unsuccessful since the latest LOS. Sunrise at the Apollo 14 site occurred on 8 May for the 66th lunation.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 6 May 1976, to 1700 G.m.t., 13 May 1976

Central station	Sunrise of the 81st lunation occurred on 8 May. A signal strength between -137.0 and -141.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *A significant seismic event was noted at 1540 G.m.t., 9 May, lasting approximately 45 minutes.*
Solar wind spectrometer experiment	The instrument is ON in the normal gain mode and is recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 13 May 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2367	1834	1748	1483
Total Commands to Date	29321	15878	34878	20866
Sun Angle	62.3°	68.2°	89.4°	101.2°
Input Power	53.5w		58.2w	64.1w
Heater and Power Dumps	All OFF		All OFF	All OFF
Experiment Status	SIDE & LSM OFF		LSM/SWS OFF, SIDE STBY	ASE OFF
Avg Thermal Plate Temp	90.6°F		110.3°F	102.8°F
PSE Sensor Temp (DL-07)	129.8°F		Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	NOTE: LOS 3/17/76	OFF	44.7°C
SWS Module 300 Temp (DW-13)	63.5°C		OFF	N/A
SIDE Temp (DI-05)	OFF		STBY	N/A
CCGE Temp (DI-04)	OFF		STBY	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		322.9°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1248
Total Commands to Date	33531
Sun Angle	116.5°
Input Power	66.2w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY, LEAM OFF
Avg Thermal Plate Temp	84.1°F
LACE Temp (AM-41)	149.7°F
LEAM Temp (AJ-11)	194.0°F
HFE Temp Ref 1 (DH-13)	324.3°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	85.0°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 05/13/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
06 MAY	ORR/MAD	Higher Priority	LOS 06/1200 AOS 06/1219	ALL	19^{m}
11 MAY	ORR/GWM	Higher Priority	LOS 11/1615 AOS 11/1620	ALL	05^{m}
12 MAY	HAW/GWM	Higher Priority	LOS 12/1457 AOS 12/1541	ALL	44^{m}
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON HFE RBS	NO SUPPORT
MAY 02/123	**03/124**	**04/125**	**05/126**	**06/127**	**07/128**	**08/129**
NO SUPPORT	0900-1100 ALSEP 17 ALSEP 12 SIDE OFF SWS ON HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15	0930-1130 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL ALSEP 14	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 2300-2400
MAY 09/130	**10/131**	**11/132**	**12/133**	**13/134**	**14/135**	**15/136**
0000-0030 1000-1200	1100-1300 HFE RBS LSM FLIP CAL	0900-1100	0730-0930 ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE HFE OFF	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM ON

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

MAY 16/137	17/138	18/139	19/140	20/141	21/142	22/143
0900-1100 ALSEP 15 SIDE ON	0900-1100 HFE RBS LSM FLIP CAL 2300-2400	1100-1300 ALSEP 17 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15	0900-1100 HFE RBS	0900-1100
MAY 23/144	24/145	25/146	26/147	27/148	28/149	29/150
0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	0900-1100 HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT
MAY 30/151	31/152	JUN 01/153	02/154	03/155	04/156	05/157
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST HFE RBS LSM FLIP CAL	0900-1100 ALSEP 17 LEAM OFF

ALSEP PERFORMANCE SUMMARY REPORT

20 May 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunset of the 43rd lunation occurred on 18 May at the Taurus Littrow site. Downlink signal strength is reported between -133.5 and -141.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 20 May the lunar surface temperature, as measured by the HFE thermocouples was 118 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.5°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses. *During the support period on 18 May when the slave heater was commanded ON, it was observed that the power input was intermittently fluctuating excessively. This was also noted (with the heater ON) during the 1st support period on 19 May, however it did not occur during the 2nd support period that day. Investigation and analysis of this possible anomaly is in progress.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 15 May, and is configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 13 May 1976, to 1700 G.m.t., 20 May 1976

Central station	Sunset at the Descartes Site occurred on 20 May for the 51st lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -133.0 and -138.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature returned onscale 19 May (DL-07 = 136.7°F at 177.7 sun angle). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1152 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 13 May 1976, to 1700 G.m.t., 20 May 1976

Central station	Sunset of the 60th lunation will occur at the Hadley Rille Site on 21 May. Transmitter A downlink signal strength was reported between -132.5 and -138.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale 16 May (DL-07 = 139.3°F at 125.2° sun angle). No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	*The instrument was commanded back ON 2254 G.m.t., 19 May, after having been OFF since 1533 G.m.t., 13 May, for a cool down period. Stabilization of the HFE electronics and monitoring the anomalous absolute temperature measurements is presently in progress for analysis of the problem. If no improvement is obtained another cool down period during this lunar night will be conducted for further evaluation.* *The following data is provided for information.* The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 261.6°K on 20 May as measured by the cable thermocouples. The subsurface temperature was 251.8°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.9°K at its lowermost point.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 13 May 1976, to 1700 G.m.t., 20 May 1976

The Apollo 14 ALSEP 4 downlink signal remains silent as reported by the remote site tracking stations. Noon of the 66th lunation occurred on 15 May. Attempts to uplink commands have resulted in spacecraft rejects.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 13 May 1976, to 1700 G.m.t., 20 May 1976

Central station	Noon of the 81st lunation occurred on 15 May. A signal strength between -135.0 and -141.5 dbm from transmitter B was reported by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature (DL-07) is offscale high and is expected to return onscale 22 May. No significant seismic events were noted during the real time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON in the normal gain mode and is recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 20 May 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2373	1834	1755	1490
Total Commands to Date	29345	15878	35040	21017
Sun Angle	147.6°	153.6°	174.7°	186.6°
Input Power	53.8w		58.6w	64.8w
Heater and Power Dumps	All OFF		All OFF	DSS-1 (10w) ON
Experiment Status	SIDE/LSM OFF		LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	77.9°F	NOTE: LOS 3/17/76	55.4°F	36.9°F
PSE Sensor Temp (DL-07)	Offscale HIGH		125.2°F	126.2°F
LSM Internal Temp (DM-05)	OFF		OFF	3.8°C
SWS Module 300 Temp (DW-13)	54.3°C		OFF	N/A
SIDE Temp (DI-05)	OFF		48.3°C	N/A
CCGE Temp (DI-04)	OFF		287.6°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		296.5°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1255
Total Commands to Date	33715
Sun Angle	201.8°
Input Power	67.8w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	11.4°F
LACE Temp (AM-41)	-14.0°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	284.7°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	12.7°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 05/20/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
13 MAY	GWM/MAD	Higher Priority	LOS 13/1830 AOS 13/1944	ALL	1^h14^m
13 MAY	MAD	Higher Priority	LOS 13/2210 AOS 13/2252	ALL	40^m
16 MAY	MIL	Station Problem	LOS 16/1021 AOS 16/1026	ALL	05^m
16 MAY	GWM/MAD	Higher Priority	LOS 16/2246 AOS 16/2251	ALL	05^m
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON HFE RBS	NO SUPPORT
MAY 02/123	**03/124**	**04/125**	**05/126**	**06/127**	**07/128**	**08/129**
NO SUPPORT	0900-1100 ALSEP 17 ALSEP 12 SIDE OFF SWS ON HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST HFE RBS	0900-1100 ALSEP 15	0930-1130 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL ALSEP 14	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 2300-2400
MAY 09/130	**10/131**	**11/132**	**12/133**	**13/134**	**14/135**	**15/136**
0000-0030 1000-1200	1100-1300 HFE RBS LSM FLIP CAL	0900-1100	0730-0930 ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE HFE OFF	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM ON

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

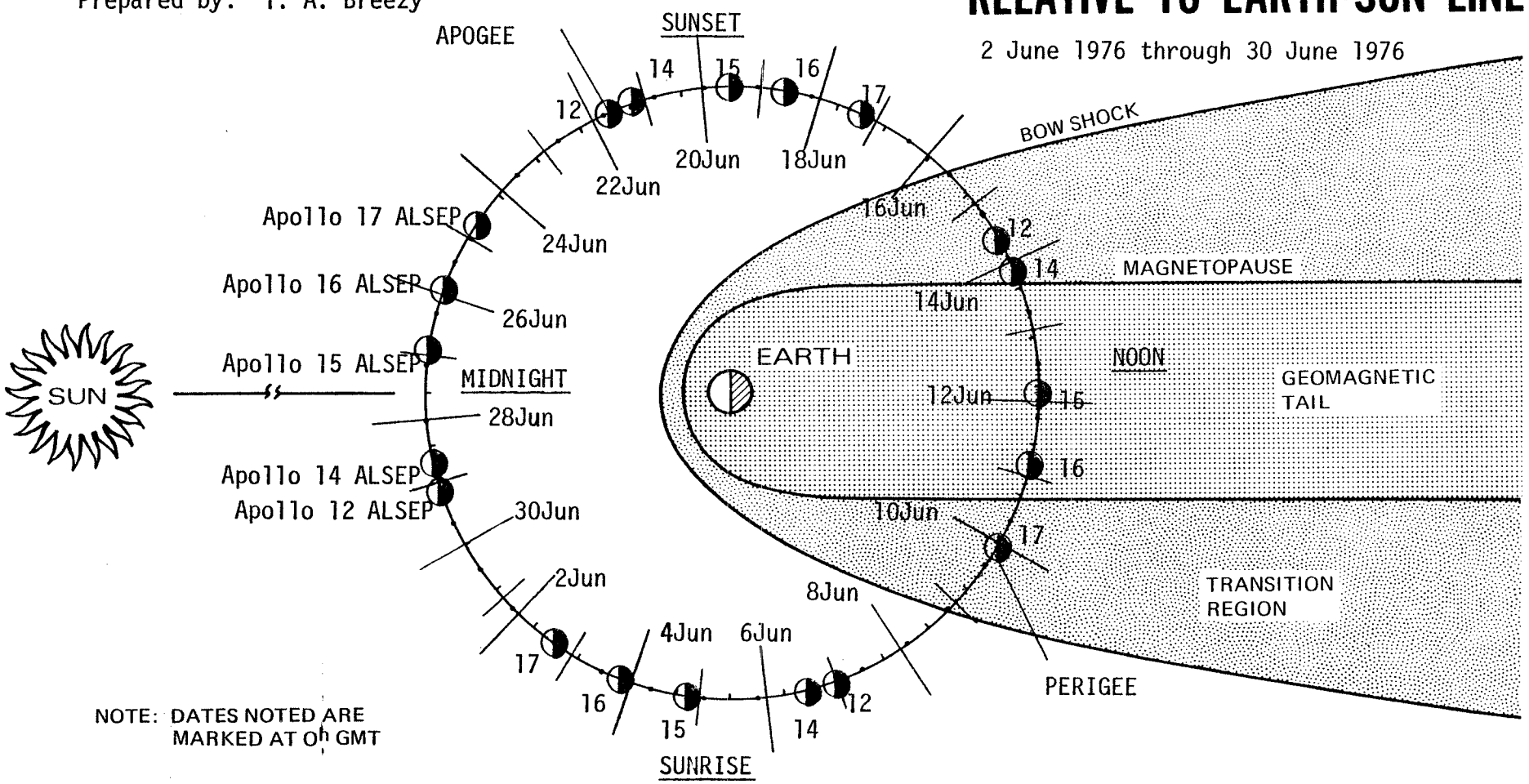
MAY 16/137	17/138	18/139	19/140	20/141	21/142	22/143
0900-1100 ALSEP 15 SIDE ON	0900-1100 HFE RBS LSM FLIP CAL 2300-2400	1100-1300 ALSEP 17 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON HFE RBS LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15	0900-1100 HFE RBS	0900-1100
MAY 23/144	**24/145**	**25/146**	**26/147**	**27/148**	**28/149**	**29/150**
0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	0900-1100 HFE RBS	0900-1100	0900-1100 HFE RBS	NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT
MAY 30/151	**31/152**	**JUN 01/153**	**02/154**	**03/155**	**04/156**	**05/157**
NO SUPPORT	0900-1100 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST HFE RBS LSM FLIP CAL	0900-1100 ALSEP 17 LEAM OFF

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

2 June 1976 through 30 June 1976



NOTE: DATES NOTED ARE MARKED AT 0h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	26May/0543	02Jun/1417	(44)09Jun/2308	17Jun/0818	24Jun/1656
16	27May/1144	03Jun/2010	(52)11Jun/0508	18Jun/1413	25Jun/2247
15	28May/1059	04Jun/1926	(61)12Jun/0430	19Jun/1331	26Jun/2159
14	30May/0424	06Jun/1259	(67)13Jun/2207	21Jun/0701	28Jun/1524
12	30May/1601	07Jun/0047	(82)14Jun/0949	21Jun/1752	29Jun/0302

ALSEP PERFORMANCE SUMMARY REPORT

27 May 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 43rd lunation occurred on 26 May at the Taurus Littrow site. Downlink signal strength is reported between -132.5 and -139.0 dbm from transmitter A by the tracking stations with 30-foot antennas. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 26 May the lunar surface temperature, as measured by the HFE thermocouples was 108 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize losing seismic data when the temperature reaches an out of limits condition in the high range.

The Lunar Surface Profiling Experiment is in STANDBY. *The experiment was commanded ON at 1451 G.m.t., 26 May, and to LSPE data format processing (high bit rate) at 1500 G.m.t. One geophone calibration pulse was sent during the listening period. LSPE processing was terminated at 1520 G.m.t., and the instrument was commanded to STANDBY at 1526 G.m.t. This was the first operation of the LSP since the 25 May 1975 eclipse and the instrument operated nominally during the 20 minute test. No activity or events were observed. The operation was conducted at the request of the Galveston ALSEP tape data processing center.*

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 20 May 1976, to 1700 G.m.t., 27 May 1976

Central station	Midnight at the Descartes Site occurred today, 27 May, for the 51st lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -131.5 and -138.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 20 May 1976, to 1700 G.m.t., 27 May 1976

Central station	Sunset of the 60th lunation occurred at the Hadley Rille Site on 21 May. Transmitter A downlink signal strength was reported between -136.0 ± 4.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	*Attempts to regain proper operation of the instrument through cool down periods have shown promise. Some improvement in the operation has been indicated in that the absolute and thermocouple temperature measurements have been indicating near the measurements prior to December 1975. Cool down periods were conducted from 22 to 23 May, when the instrument was OFF. The experiment was ON from 0910 to 1250 G.m.t., 23 May. Another cool down was conducted in STANDBY from 1250 G.m.t., 23 May, to 1348 G.m.t., 24 May, at which time the instrument was commanded ON. Slightly improved measurements were observed on 25 and 26 May and the instrument has been left ON.* *The following data is provided for information.* The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 98.1°K on 26 May as measured by the cable thermocouples. The subsurface temperature was 251.1°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.5°K at its lowermost point. *Ring bridge surveys have been suspended temporarily pending further analysis of the aforementioned anomaly.*
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 20 May 1976, to 1700 G.m.t., 27 May 1976

The Orroral Valley Tracking Station in Australia reported that the Apollo 14 ALSEP downlink signal was reacquired at 2050 G.m.t., 20 May. After reconfiguration for ALSEP 14, valid data was observed at 2054 G.m.t. An emergency real-time support period was activated. The configuration of the ALSEP 14 central station at AOS was Transmitter A, Power Conditioner Unit 2, Processor Y, and Receiver Crystal B. The downlink signal strength was reported at -140.0 dbm by Orroral Valley. The Passive Seismic and Charged Particle Lunar Environmental Experiments were ON, the Active Seismic Experiment in STANDBY, the Dust Detector Experiment OFF, and the Suprathermal Ion Detector Experiment status unknown. Restoral of uplink was verified upon execution of commands beginning at 2333 G.m.t. to reconfigure the experiments and central station (PCU 1 Processor X, Transmitter B, CPLEE -35 vdc, PSE 0 db gains, PSE arm/fire circuit ON, PSE LP CAL OFF, PSE SP CAL OFF, DTREM ON, and SIDE OFF).

Central station

Sunset at the Apollo 14 site (66th lunation) occurred on 22 May. The DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength between -135.5 and -145.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.

Passive seismic experiment

The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain 0 db. The internal temperature (DL-07) was reading offscale LOW and had increased to 124.6°F on 21 May with the heater in the Auto ON mode. *On 24 May successful levelling of the long period y-axis occurred for the first time since loss of downlink on 1 Mar 75. At AOS the instrument component gains were LP XY - 30 db, LP Z -20 db, and SP Z -20 db. The cal status was LP ON and SP OFF and the arm/fire circuit status was UNCAGED.* No significant seismic events were noted during the real-time period.

Active seismic experiment

The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).

Suprathermal ion detector/cold cathode gauge experiments

The instrument was commanded to OFF on 21 May 1976.

Operational status from 1700 G.m.t., 20 May 1976, to 1700 G.m.t., 27 May 1976

Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. *At AOS, 20 May, the instrument was in the calibrate mode, -0 vdc, and automatic thermal control mode.*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 20 May 1976, to 1700 G.m.t., 27 May 1976

Central station	Sunset of the 81st lunation occurred on 23 May. A signal strength of -138.0 ± 3.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The Z-motor is ON to maximize heating in the instrument. The sensor temperature (DL-07 = 141.0°F, sun angle = 159.0°) returned onscale, 21 May. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 26 May 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2280	1840	1761	1496
Total Commands to Date	29439	15989	35156	21073
Sun Angle	221.0°	226.9°	248.1°	259.9°
Input Power	52.7w *(53.1w)*	62.3w *(N/A)*	57.4w *(58.2w)*	64.1w *(64.5w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w))N	All OFF	DSS-1 (10w) ON
Experiment Status	SIDE/LSM OFF	SIDE OFF/ASE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	9.4°F	28.6°F	-7.9°F	30.1°F
PSE Sensor Temp (DL-07)	126.2°F	124.1°F	124.5°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.2°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.2°C	N/A
CCGE Temp (DI-04)	OFF	OFF	112.2°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-69.9°F	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.8°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1261
Total Commands to Date	33846
Sun Angle	275.2°
Input Power	67.7w *(68.1w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	3.7°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.6°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	4.6°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 05/27/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
20 MAY	HAW	Station Problem	LOS 20/1901 AOS 20/1903	A12	02^m
21 MAY	ORR	Higher Priority	LOS 21/2347 AOS 21/2400	ALL	13^m
22 MAY	ORR	Higher Priority	LOS 22/0000 AOS 22/0110	ALL	1^h10^m
24 MAY	ORR/ACN	Scheduling	LOS 24/0325 AOS 24/0333	ALL	08^m
25 MAY	GDS/ORR	Scheduling	LOS 25/2251 AOS 25/2255	ALL	04^m
26 MAY	MAD/ACN	Higher Priority	LOS 26/0525 AOS 26/0537	ALL	12^m
27 MAY	ORR	Station Problem	LOS 27/0350 AOS 27/0354	ALL	04^m
27 MAY	ORR/MAD	Higher Priority	LOS 27/0524 AOS 27/0554	ALL	30^m
27 MAY	MAD/ACN	Higher Priority	LOS 27/0830 AOS 27/0850	ALL	20^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

May 16/137	17/138	18/139	19/140	20/141	21/142	22/143
0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2300-2400	1100-1300 ALSEP 17 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15 1700-2200 ALSEP 14 AOS, 1550	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 14 ALSEP 15 HFE OFF
May 23/144	**24/145**	**25/146**	**26/147**	**27/148**	**28/149**	**29/150**
0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 15 HFE ON/STBY 1600-1700	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE ON	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
May 30/151	**31/152**	**Jun 01/153**	**02/154**	**03/155**	**04/156**	**05/157**
0900-1100	NO SUPPORT	NO SUPPORT	1400-1600 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 16	1400-1600 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST LSM FLIP CAL ALSEP 17 HFE RBS	1400-1600 ALSEP 17 LEAM OFF

NASA-JSC

ALSEP PERFORMANCE SUMMARY REPORT

3 June 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 44th lunation occurred on 2 June, at the Taurus Littrow site. Downlink signal strength is reported between -137.0 and -146.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 2 June the lunar surface temperature, as measured by the HFE thermocouples was 105 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 27 May 1976, to 1700 G.m.t., 3 June 1976

Central station	Sunrise at the Descartes Site occurred on 3 June for the 52nd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -134.5 and -138.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON but will be commanded OFF on 5 June for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 27 May, to 1700 G.m.t., 3 June 1976

Central station	Sunrise of the 61st lunation will occur tomorrow at the Hadley Rille Site. Transmitter A downlink signal strength is reported between -135.0 and -139.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 k vdc) remains OFF.
Heat flow experiment	*The HFE was commanded to STANDBY at 1405 G.m.t., 30 May until sunrise, when it will be commanded OFF. It will remain OFF until just prior to sunset when it will be turned back ON. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.*
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 27 May 1976, to 1700 G.m.t., 3 June 1976

Central station	Midnight at the Apollo 14 site (66th lunation) occurred on 30 May. The DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength between -135.0 and -139.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 27 May 1976, to 1700 G.m.t., 3 June 1976

Central station	Midnight of the 81st lunation occured on 30 May. A signal strength between -136.0 and -143.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain at -20 dbm. The sensor temperature (DL-07) has been offscale LOW since 28 May. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1900 G.m.t., 2 June 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2287	1847	1768	1503
Total Commands to Date	29445	16003	35196	21089
Sun Angle	308.2°	314.2°	335.3°	347.2°
Input Power	52.4w	61.9w	56.7w	64.1w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	All OFF	DSS-1 (10w) ON
Experiment Status	SIDE/LSM OFF	SIDE OFF/ASE STBY	LSM/SWS OFF-HFE/STBY	ASE OFF
Avg Thermal Plate Temp	8.1°F	27.5°F	2.5°F	28.9°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.5°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.2°C	N/A
CCGE Temp (DI-04)	OFF	OFF	106.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	Offscale LOW	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1268
Total Commands to Date	33924
Sun Angle	2.4°
Input Power	67.3w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	-5.5°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.9°K
LSG Temp (DG-04)	52.9°C
LSP Temp (AP-01)	-5.0°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 06/03/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
27 MAY	GDS	Station Problem	LOS 27/2009 AOS 27/2012	A12	03^m
28 MAY	MAD/ACN	Higher Priority	LOS 28/0826 AOS 28/0904	ALL	38^m
28 MAY	MAD/ACN	Higher Priority	LOS 28/0949 AOS 28/1034	ALL	45^m
31 MAY	GWM/ACN	Higher Priority	LOS 31/0943 AOS 31/1026	ALL	43^m
01 JUNE	GWM/ACN	Higher Priority	LOS 01/1110 AOS 01/1209	ALL	59^m
01 JUNE	GDS	Station Problem	LOS 01/2253 AOS 01/2303	ALL	10^m
02 JUNE	ACN/BDA	Higher Priority	LOS 02/1257 AOS 02/1337	ALL	40^m
02 JUNE	BDA	Higher Priority	LOS 02/1425 AOS 02/1536	ALL	1^h11^m
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			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

May 16/137	17/138	18/139	19/140	20/141	21/142	22/143
0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2300-2400	1100-1300 ALSEP 17 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15 1700-2200 ALSEP 14 AOS, 1550	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 14 ALSEP 15 HFE OFF
May 23/144	**24/145**	**25/146**	**26/147**	**27/148**	**28/149**	**29/150**
0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 15 HFE ON/STBY 1600-1700	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE ON	0900-1100	0900-1100 ALSEP 17 HFE RBS 1000-1020 LSPE HBR	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
May 30/151	**31/152**	**Jun 01/153**	**02/154**	**03/155**	**04/156**	**05/157**
0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	NO SUPPORT	1200-1400 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 16	1400-1600 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST LSM FLIP CAL ALSEP 17 HFE RBS	1400-1600 ALSEP 17 LEAM OFF

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 06/158	07/159	08/160	09/161	10/162	11/163	12/164
0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	1400-1600	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	1800-2200 ALSEP 15 CYCLE SIDE	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE ALSEP 17 HFE RBS	1400-1600 ALSEP 15 CYCLE SIDE
JUN 13/165	**14/166**	**15/167**	**16/168**	**17/169**	**18/170**	**19/171**
1400-1600 ALSEP 15 CYCLE SIDE	1400-1600 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	1400-1600 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600-0700 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL	1400-1600 ALSEP 15
JUN 20/172	**21/173**	**22/174**	**23/175**	**24/176**	**25/177**	**26/178**
1400-1600	1600-2000 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	1400-1600	1400-1600 ALSEP 17 HFE RBS	NO SUPPORT	1400-1600 ALSEP 17 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

10 June 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 44th lunation occurred on 9 June at the Taurus Littrow site. A downlink signal strength of -141.0 ± 3.0 dbm is reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 9 June the lunar surface temperature, as measured by the HFE thermocouples, was 367 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.9°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize loss of seismic data when the sensor temperature (DG-04) reaches out of limits condition in the high range.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded OFF for the lunar day high temperatures operation.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 3 June 1976, to 1700 G.m.t., 10 June 1976

Central station	Sunrise at the Descartes Site occurred on 3 June for the 52nd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -136.5 $\pm$ 2.5 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 5 June for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been resumed for this lunar day and a total of 1158 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 3 June, to 1700 G.m.t., 10 June 1976

Central station	Sunrise of the 61st lunation occurred on 4 June at the Hadley Rille Site. Transmitter A downlink signal strength of -136.5 $\pm$ 2.5 dbm is reported from transmitter A by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiment	The instrument is in STANDBY. The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	*The HFE was commanded to OFF at 1934 G.m.t., 7 June. It will remain OFF until just prior to sunset on 19 June when it will be turned back ON. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.*
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 3 June 1976, to 1700 G.m.t., 10 June 1976

The Guam Tracking Station reported an abrupt loss of the downlink telemetry signal at 105402 G.m.t., 8 June. Commands, to turn transmitters ON, were sent Mode I through Guam, but all resulted in spacecraft rejects. Subsequent commanding also resulted in spacecraft rejects. Again, playback of the data just prior to LOS showed no abnormalities of the housekeeping paramaters which would indicate cause for the drop. The LOS again occurred on Word 26 in the main frame. The downlink signal strength from transmitter B was -138.0 dbm at the time of LOS. The cause is believed similar to the previous shutdowns. This is the fourth LOS for the Apollo 14 ALSEP.

APOLLO 14 ALSEP STATUS AT AOS-LOS

	LOS	AOS	LOS	AOS	LOS	AOS	*LOS*	*AOS*
Date	1 Mar 75	5 Mar 75	18 Jan 76	19 Feb 76	17 Mar 76	20 May 76	*8 Jun 76*	*10 Jun 76*
Sun Angle	108.1°	159.3°	95.2°	117.5°	85.6°	156.1°	*23.4°*	*45.8°*
Avg Therm. Plate	115.8°F	62.9°F	119.6°	95.7°F	116.5°F	58.5°F	*71.5°F*	*77.3°F*
RTG Power	63.63w	64.15w	61.74w	62.12w	61.94w	61.61w	*61.86w*	*59.16w*
Res. Power	39.11w	40.88w	36.51w	30.49w	36.94w	31.31w	*33.04w*	*27.71w*
Transmitter	A	A	A	A	A	A	*B*	*B*
Receiver	ON-Xtal A	OFF	OFF	ON-Xtal B	ON-Xtal B	ON-Xtal B	*ON-Xtal B*	*ON-Xtal B*
PCU	1	2	2	2	1	2	*1*	*2*
PSE	ON	ON	ON	ON	ON	ON	*ON*	*ON*
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	Forced OFF	Auto ON	*Auto ON*	*Auto ON*
CPLEE	STBY	STBY	STBY	ON	STBY	ON	*ON*	*ON*
SIDE	UNK	UNK	UNK	UNK	OFF	UNK	*OFF*	*OFF*
ASE	STBY	STBY	STBY	STBY	STBY	STBY	*STBY*	*STBY*
DTREM	ON	ON	ON	OFF	ON	OFF	*ON*	*ON*

Central Station — Sunrise at the Apollo 14 site (67th lunation) occurred on 6 June. The DSS-1 (10 watt) heater was OFF for lunar day operation. A signal strength between -135.0 and -140.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations prior to LOS.

Operational status from 1700 G.m.t., 3 June 1976, to 1700 G.m.t., 10 June 1976

Passive seismic experiment	The instrument was ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater was in AUTO ON at LOS. No significant seismic events were noted during the real time support periods prior to LOS.
Active seismic experiment	The experiment was in STANDBY (Apollo 14 ALSEP, SMEAR 86) at LOS.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment was ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode at LOS.

The Goldstone Tracking Station reported that the Apollo 14 ALSEP downlink signal with full modulation was reqcquired at 0706 G.m.t., 10 June. After reconfiguration for ALSEP 14, valid data was observed at 0708 G.m.t. An emergency real-time support period was activated. The configuration of the ALSEP 14 central station at AOS was Transmitter B, Power Conditioner Unit 2, Processor X, and Receiver Crystal B. The downlink signal strength was reported at -132.0 dbm by Goldstone (85-foot antenna). The Passive Seismic and Charged Particle Lunar Environmental Experiments were ON, the Active Seismic Experiment in STANDBY, the Dust Detector Experiment ON, and the Suprathermal Ion Detector Experiment OFF. Restoral of uplink was verified upon execution of commands beginning at 0822 G.m.t. to configure the CPLEE to STANDBY, PSE arm/fire circuit to OT, PCU 2 to PCU 1, check Processor X and Y, level the PSE long period X-axis, and check PSE feedback loop filter OUT.

Central station

While commanding PCU 2 to PCU 1, the Receiver switched from Crystal B to Crystal A. Four more attempts were made by changing PCUs but the receiver remained in Crystal A. The DSS-1 (10 watt) heater was OFF at AOS and left OFF for lunar day.

Operational status from 1700 G.m.t., 3 June 1976, to G.m.t., 10 June 1976

Passive seismic experiment	The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain 0 db. *The internal temperature (DL-07) was reading offscale LOW and had increased to 119.7°F after five (5) hours with the heater in the Auto ON mode. At AOS the instrument component gains were LP XY 0 db, LP Z 0 db, and SP Z 0 db. The cal status was LP OFF and SP OFF and the arm/fire circuit status was UNCAGED.* No significant seismic events were noted during the real-time period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	*The experiment was ON and operating in the calibrate mode at the -0 vdc range and automatic thermal control mode at AOS. The instrument was commanded to STANDBY at 0822 G.m.t., 10 June, with the degradation of AC-03, analyzer A voltage and the experiment had switched from -0 vdc to the + 350 vdc manual mode.*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 3 June 1976, to 1700 G.m.t., 10 June 1976

Central station	Sunrise of the 82nd lunation occurred on 7 June. The DSS-1 (10 watt) heater was commanded OFF on 7 June for lunar day operation. A signal strength of -139.0 ± 4.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The long period Z-axis drive motor was commanded OFF on 7 June for lunar day operations. No significant seismic events were noted during real-time support during this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 9 June 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	*APOLLO 14 ALSEP* *	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2394	*1853*	1775	1510
Total Commands to Date	29511	*16054*	35342	21204
Sun Angle	32.7°	*45.8°*	59.8°	71.7°
Input Power	53.1w	*59.2w*	57.8w	64.1w
Heater and Power Dumps	All OFF	*All OFF*	All OFF	All OFF
Experiment Status	SIDE/LSM OFF	*SIDE OFF/ASE STBY*	LSM/SWS/HFE OFF -	ASE OFF
Avg Thermal Plate Temp	78.0°F	*77.3°F*	99.7°F SIDE STBY	100.0°F
PSE Sensor Temp (DL-07)	126.5°F	*Offscale LOW*	133.4°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	*N/A*	OFF	41.4°C
SWS Module 300 Temp (DW-13)	51.1°C	*N/A*	OFF	N/A
SIDE Temp (DI-05)	OFF	*OFF*	STBY	N/A
CCGE Temp (DI-04)	OFF	*OFF*	STBY	N/A
CPLEE Elect Temp (AC-06)	N/A	*51.9°C*	N/A	N/A
ASE GLA Temp (AS-03)	N/A	*54.3°C*	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	*N/A*	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1275
Total Commands to Date	34050
Sun Angle	86.9°
Input Power	65.7w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY - LEAM OFF
Avg Thermal Plate Temp	84.0°F
LACE Temp (AM-41)	152.3°F
LEAM Temp (AJ-11)	172.8°F
HFE Temp Ref 1 (DH-13)	326.3°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	84.3°F

**Data from AOS at 070625 G.m.t., 10 June 1976.*

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 06/10/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
02 JUNE	BDA	Higher Priority	LOS 02/1425 AOS 02/1541	ALL	1^h16^m
07 JUNE	ACN/BDA	Higher Priority	LOS 07/1758 AOS 07/1850	ALL	52^m
08 JUNE	ACN	Higher Priority	LOS 08/1745 AOS 08/1851	ALL	1^h06^m
08 JUNE	ACN	Higher Priority	LOS 08/2030 AOS 08/2118	ALL	48^m
09 JUNE	GWM/AGO	Higher Priority	LOS 09/1730 AOS 09/2106	ALL	3^h36^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

May 16/137	17/138	18/139	19/140	20/141	21/142	22/143
0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2300-2400	1100-1300 ALSEP 17 2300-2400	0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15 1700-2200 ALSEP 14 AOS, 1550	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 14 ALSEP 15 HFE OFF
May 23/144	**24/145**	**25/146**	**26/147**	**27/148**	**28/149**	**29/150**
0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 15 HFE ON/STBY 1600-1700	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE ON	0900-1100	0900-1100 ALSEP 17 HFE RBS 1000-1020 LSPE HBR	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
May 30/151	**31/152**	**Jun 01/153**	**02/154**	**03/155**	**04/156**	**05/157**
0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	NO SUPPORT	1200-1400 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 16	1400-1600 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST LSM FLIP CAL ALSEP 17 HFE RBS	1400-1600 ALSEP 17 LEAM OFF

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 06/158	07/159	08/160	09/161	10/162	11/163	12/164
0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0554 ALSEP 14 LOSS OF SIGNAL 1400-1600	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY ALSEP 15 SIDE SUPT	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE ALSEP 17 HFE RBS	1400-1600 ALSEP 15 CYCLE SIDE
JUN 13/165	**14/166**	**15/167**	**16/168**	**17/169**	**18/170**	**19/171**
1400-1600 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600-0700 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15
JUN 20/172	**21/173**	**22/174**	**23/175**	**24/176**	**25/177**	**26/178**
0900-1100	1600-2000 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT

Bates

10 June 1976
*Revised 24 June 1976

4th LOS and AOS OF APOLLO 14 ALSEP 4

The Guam Tracking Station reported an abrupt loss of the downlink telemetry signal at 105402 G.m.t., 8 June. Commands, to turn transmitters ON, were sent Mode I through Guam, but all resulted in spacecraft rejects. Subsequent commanding also resulted in spacecraft rejects. Again, playback of the data just prior to LOS showed no abnormalities of the housekeeping paramaters which would indicate cause for the drop. The LOS again occurred on Word 26 in the main frame. The downlink signal strength from transmitter B was -138.0 dbm at the time of LOS. The cause is believed similar to the previous shutdowns. This was the fourth LOS for the Apollo 14 ALSEP.

The Goldstone Tracking Station reported acquisition of signal (AOS) from the Apollo 14 ALSEP 4 at 0706 G.m.t., 10 June 1976. Good data was being downlinked by 0708 G.m.t. An emergency support period was initiated and real time data from A4 was being processed in JSC ALSEP Control by 0852 G.m.t. The data appeared normal, except that the Central Station components and experiments were heating up as though they had been without sufficient power. The ALSEP receiver was operating and ground commands were transmitted and executed. This is the fourth AOS after an abrupt loss of signal (LOS).

APOLLO 14 ALSEP STATUS AT AOS - LOS

	LOS	AOS	LOS	AOS	LOS	AOS	*LOS*	*AOS*
Date	1 Mar 75	5 Mar 75	18 Jan 76	19 Feb 76	17 Mar 76	20 May 76	*8 Jun 76*	*10 Jun 76*
Sun Angle	108.1°	159.3°	95.2°	117.5°	85.6°	156.1°	*23.4°*	*45.8°*
Avg Therm P1	115.8°F	62.9°F	119.6°F	95.7°F	116.5°F	58.5°F	*71.5°F*	*77.3°F*
RTG Power	63.63w	64.15w	61.74w	62.12w	61.94w	61.61w	*61.86w*	*59.16w*
Res. Power	39.11w	40.88w	36.51w	30.49w	36.94w	31.31w	*33.04w*	*27.71w*
Transmitter	A	A	A	A	A	A	**B*	*B*
Receiver	ON-Xtal A	OFF	OFF	ON-Xtal B	ON-Xtal B	ON-Xtal B	*ON-Xtal B*	*ON-Xtal B*
PCU	1	2	2	2	1	2	*1*	*2*
PSE	ON	ON	ON	ON	ON	ON	*ON*	*ON*
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	Forced OFF	Auto ON	*Auto ON*	*Auto ON*
CPLEE	STBY	STBY	STBY	ON	STBY	ON	*ON*	*ON*
SIDE	UNK	UNK	UNK	UNK	OFF	UNK	*OFF*	*OFF*
ASE	STBY	STBY	STBY	STBY	STBY	STBY	*STBY*	*STBY*
DTREM	ON	ON	ON	OFF	ON	OFF	*ON*	*ON*

ALSEP PERFORMANCE SUMMARY REPORT

17 June 1976
G.m.t.: 1700

During real-time support, 1115 G.m.t., 17 June, the Goldstone Tracking Station reported that numerous command verification words (CVWs) were being received continuously from the Apollo 12 ALSEP. Data from Apollo 12 was lost at 1125 G.m.t., but a downlink signal without modulation was being received by Goldstone. A further check was made by Goldstone and a downlink signal with modulation was being received at 21 K hz. Later the tracking station reported numerous CVWs being received from the Apollo 14 ALSEP station. It was then determined to monitor Apollo 15 ALSEP along with the Apollo 14 ALSEP and numerous CVWs were reported on Apollo 15 ALSEP also. The results of the numerous spurious commands were: (1) the Apollo 12 ALSEP had been commanded to High Bit Rate data flow; (2) the Apollo 12 ALSEP Passive Seismic Experiment had been commanded to levelling mode, Forced, Long Period XY gain to -10 db, and X-axis levelling motor ON; (3) the Apollo 14 ALSEP Passive Seismic Experiment levelling mode was in Forced; and (4) the Apollo 15 ALSEP Passive Seismic and Lunar Surface Magnetometer Experiments were commanded to the STANDBY status. The ALSEP stations were reconfigured to normal operational modes during real-time support, 17 June. The Apollo 16 and 17 ALSEPs were not affected by the CVWs.

Apollo 17 ALSEP

Sunset of the 44th lunation occurred today at the Taurus Littrow site. Downlink signal strength is reported between -136.0 and -141.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 17 June the lunar surface temperature, as measured by the HFE thermocouples was 128 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

ALSEP PERFORMANCE SUMMARY REPORT (continued)

17 June 1976
G.m.t.: 1700

Apollo 17 ALSEP (continued)

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded ON, 14 June, and is configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 10 June 1976, to 1700 G.m.t., 17 June 1976

Central station	Sunset at the Descartes Site will occur on 18 June for the 52nd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -135.0 and -139.0 dbm by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 18 June. No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. 1164 flip calibration sequences have been executed and verified by the experiment engineering data. Science data from the Z-axis has been static this report period.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 10 June 1976, to 1700 G.m.t., 17 June 1976

Central station	Noon of the 61st lunation occurred at the Hadley Rille Site on 12 June. Transmitter A downlink signal strength was reported between -134.0 and -140.0 dbm by the tracking stations with 30 foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period. *The instrument was in STANDBY from 1115 to 1356 G.m.t., 17 June.*
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The HFE is currently OFF. It will remain OFF until just prior to sunset on 18 June when it will be turned back ON. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.
Solar wind spectrometer experiment	*The experiment is currently in STANDBY. During real time support on 17 June the experiment was commanded to STANDBY through the Orroral Valley Tracking Station for verification of its status. Due to a ground station command problem the experiment remains in STANDBY and will be commanded OFF later today, 17 June.*
Lunar surface magnetometer experiment	*Commanded OFF 1516 G.m.t., 17 June 1976, after receipt of a spurious functional command to STANDBY (octal 043) from the Goldstone Tracking Station.*

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 10 June 1976, to 1700 G.m.t., 17 June 1976

Central station	Noon at the Apollo 14 site (67th lunation) occurred on 13 June. The DSS-1 (10 watts) heater is OFF for lunar day operation. A signal strength between -139.0 and -145.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. *At 1605 G.m.t., 11 June, the ALSEP 14 downlink signal again experienced an abrupt LOS by the Guam Tracking Station. Two Mode I transmitter ON commands (octal 013) were executed by the station with spacecraft rejects being received, however after approximately 20 seconds at 1621:51 G.m.t. the downlink signal returned with normal modulation and no change in experiment status or housekeeping data. Playback data from Guam was accomplished on 12 June and it appears a spurious functional command (octal 014, Transmitter OFF) was the cause for this loss of downlink signal. The LOS occurred at Word 49 in the main frame downlink which does not correspond with the previous LOSs that have always occurred at Word 26.*
Passive seismic experiment	The instrument is ON. The instrument is being operated with the feedback loop filter OUT and the heater is Forced OFF to minimize heating during lunar day. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is in STANDBY for lunar day.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 10 June 1976, to 1700 G.m.t., 17 June 1976

Central station	Noon of the 82nd lunation occurred on 14 June. A signal strength between -135.0 and -144.5 dbm from transmitter B was reported by the 30 foot antenna tracking stations. The DSS-1 (10w) Heater is OFF for lunar day operation. *The Apollo 12 ALSEP was in High Bit Rate from 1125 G.m.t. until 1243 G.m.t., 17 June, when it was commanded to the normal bit rate.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) is offscale high and is expected to return onscale 20 June. No significant seismic events were noted during the real time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON in the normal gain mode and is recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1200 G.m.t., 17 June 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2402	1860	1783	1518
Total Commands to Date	29580	16098	35467	21316
Sun Angle	127.7°	133.7°	154.8°	166.7°
Input Power	53.4w	61.9w	57.8w	64.1w
Heater and Power Dumps	All OFF	All OFF	All OFF	All OFF
Experiment Status	SIDE/LSM OFF	CPLEE/ASE STBY-SIDE OFF	LSM/HFE OFF-SWS STBY	ASE OFF
Avg Thermal Plate Temp	89.6°F	93.7°F	85.3°F	62.2°F
PSE Sensor Temp (DL-07)	Offscale HIGH	129.9°F	125.7°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	37.3°C
SWS Module 300 Temp (DW-13)	60.9°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	71.0°C	N/A
CCGE Temp (DI-04)	OFF	OFF	323.8°K	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	82.0°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1283
Total Commands to Date	35196
Sun Angle	181.9°
Input Power	67.4w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE/LSPE STBY
Avg Thermal Plate Temp	33.7°F
LACE Temp (AM-41)	13.4°F
LEAM Temp (AJ-11)	-1.3°F
HFE Temp Ref 1 (DH-13)	284.2°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	36.0°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 06/17/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
10 JUNE	AGO/GDS	Higher Priority	LOS 10/0025 AOS 10/0113	ALL	48^{m}
10 JUNE	GWM/ACN	Higher Priority	LOS 10/1827 AOS 10/1839	ALL	12^{m}
10 JUNE	ACN	Higher Priority	LOS 10/2123 AOS 10/2219	ALL	56^{m}
11 JUNE	ACN	Higher Priority	LOS 11/2118 AOS 11/2211	ALL	53^{m}
12 JUNE	ACN	Higher Priority	LOS 12/2110 AOS 12/2201	ALL	51^{m}
13 JUNE	ACN/AGO	Higher Priority	LOS 13/0218 AOS 13/0253	ALL	35^{m}
13 JUNE	GWM/ACN	Higher Priority	LOS 13/2126 AOS 13/2156	ALL	30^{m}
17 JUNE	ACN	Higher Priority	LOS 17/0110 AOS 17/0326	ALL	$2^{h}16^{m}$
17 JUNE	GDS	Station Problem	LOS 17/1125 AOS 17/1232	A12	$1^{h}07^{m}$
			LOS AOS		
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

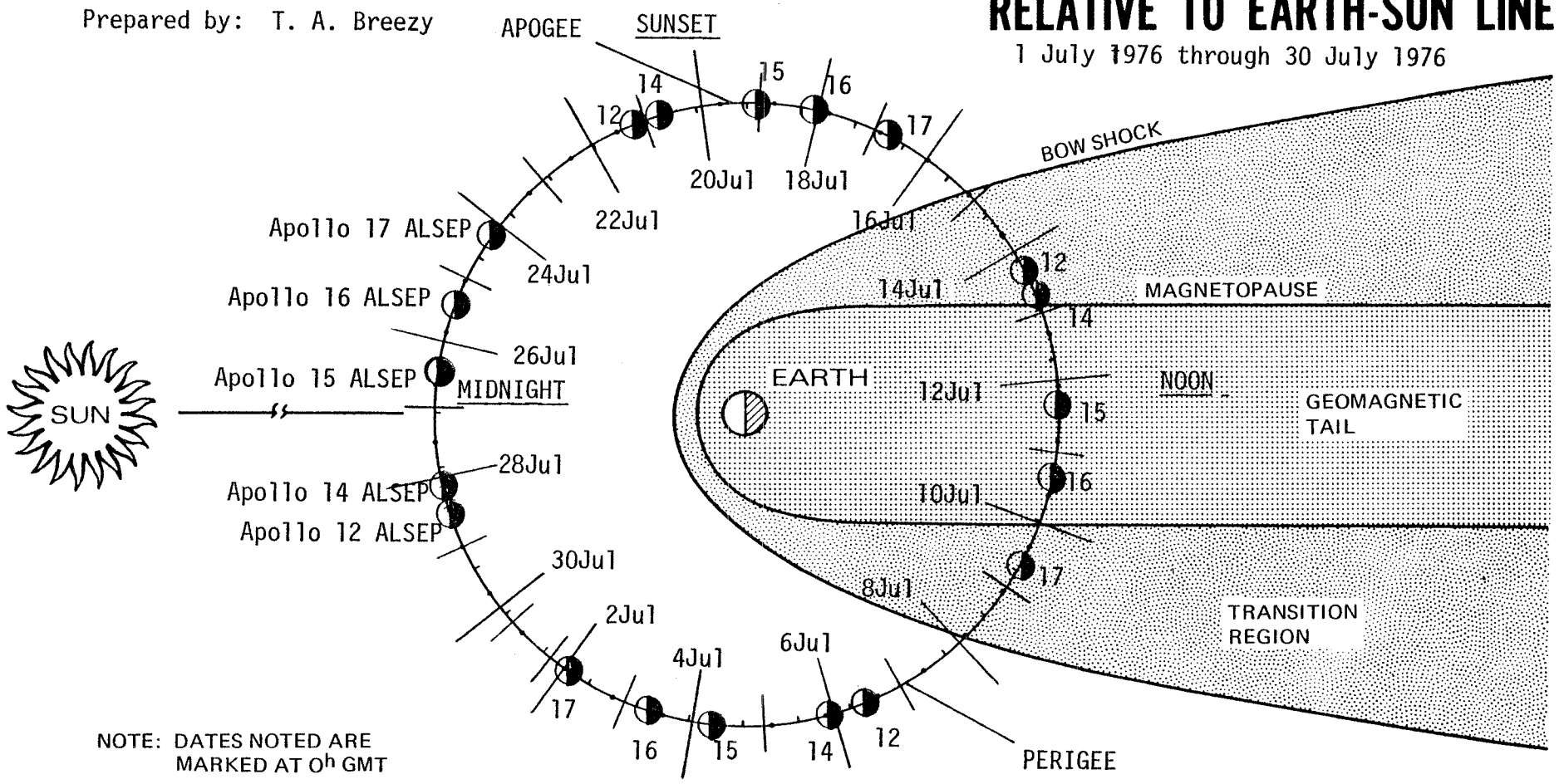
JUN 06/158	07/159	08/160	09/161	10/162	11/163	12/164
0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0554 ALSEP 14 LOSS OF SIGNAL 1400-1600	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY ALSEP 15 SIDE SUPT	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE ALSEP 17 HFE RBS	1400-1600 ALSEP 15 CYCLE SIDE
JUN 13/165	**14/166**	**15/167**	**16/168**	**17/169**	**18/170**	**19/171**
1400-1600 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600- 1100 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15
JUN 20/172	**21/173**	**22/174**	**23/175**	**24/176**	**25/177**	**26/178**
0900-1100	1600-2000 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT

Bendix Aerospace Systems Division

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

1 July 1976 through 30 July 1976

Prepared by: T. A. Breezy



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR (GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	24Jun/1656	02Jul/0116	(45)09Jul/1006	16Jul/1912	24Jul/0352
16	25Jun/2247	03Jul/0708	(53)10Jul/1604	18Jul/0108	25Jul/0942
15	26Jun/2159	04Jul/0625	(62)11Jul/1525	19Jul/0026	26Jul/0856
14	28Jun/1524	05Jul/2356	(68)13Jul/0902	20Jul/1757	28Jul/0220
12	29Jun/0302	06Jul/1140	(83)13Jul/2044	21Jul/0449	28Jul/1359

ALSEP PERFORMANCE SUMMARY REPORT

24 June 1976
G.m.t.: 1700

The barrage of spurious commands transmitted to all the ALSEP stations, reported on 17 June, have been attributed to a cracked flexible waveguide section in the USB power amplifier at Goldstone. The Tracking Station was actually operating with one (1) to 20 watts of power vice the 2 KW being monitored at the time. A low uplink power caused all the effects (numerous CVWs) that were being noted at the time. Apollo 16 and 17 ALSEP stations were not affected by any of the spurious commands. This is the first occurrence of such a failure in the nearly seven years of the ALSEP program.

Apollo 17 ALSEP

Midnight of the 44th lunation occurred on 24 June at the Taurus Littrow site. Downlink signal strength of -137.0 ± 3.0 dbm was reported from transmitter A by the tracking stations with 30-foot antennas. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 23 June the lunar surface temperature, as measured by the HFE thermocouples was 110 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize losing seismic data when the temperature reaches an out of limits condition in the high range.

The Lunar Surface Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 17 June 1976, to 1700 G.m.t., 24 June 1976

Central station	Sunset at the Descartes Site occurred on 18 June for the 52nd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -134.0 and -138.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 17 June 1976, to 1700 G.m.t., 24 June 1976

Central station

Sunset of the 61st lunation occurred at the Hadley Rille Site on 19 June. Transmitter A downlink signal strength was reported between -137.0 ± 3.0 dbm by the tracking stations with 30-foot antennas. *Prior to commanding the SWS to OFF and the HFE to STANDBY on 22 June the average thermal plate temperature was -12.4°F. On 23 June the ATP had increased to 2.5°F.*

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiments

A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.

Heat flow experiment

Attempts to regain proper operation of the instrument through cool-down periods have shown promise. Each operation after cool-down has indicated that the absolute and thermocouple temperature measurements have been near the measurements prior to December 1975. However, after a short period of near normal operation, the measurements begin to degrade again. The instrument was in OFF from 7-18 June and ON from 18-22 June. The instrument was commanded to STANDBY, (power increased to 5.5 watts) on 22 June and will remain in STANDBY until the next lunar sunrise.

The following data is provided for information. The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 91.2°K on 22 June as measured by the cable thermocouples. The subsurface temperature was 252.3°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.2°K at its lowermost point. Ring bridge surveys have been suspended temporarily pending further analysis of the aforementioned anomaly.

Operational status from 1700 G.m.t., 17 June 1976, to 1700 G.m.t., 24 June 1976

Solar wind spectrometer experiment	Commanded OFF 14 June 1974. *At 1101 G.m.t., 22 June, the Ascension Tracking Station detected a CVW (Octal 046, STANDBY, Power ON) in the downlink. Goldstone had also detected a change in octal reading of parameter AB-05 (experiment standby status). The SWS was commanded to OFF at 1402 G.m.t., 22 June, during real-time support and a 4-watt increase in reserve power, attributed to the standby heater turning off, was observed.*
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 17 June 1976, to 1700 G.m.t., 24 June 1976

Central station	Sunset of the 67th lunation at the Apollo 14 site occurred on 21 June. The DSS-1 (10 watt) heater is ON for lunar night operation. A signal strength of -141.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations
Passive seismic experiment	The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain 0 db. The heater was commanded to Auto ON, 18 June, for lunar night operation. Successful levelling of the long period y-axis has occurred each time it has been required since 24 May. No significant seismic events were noted during the real-time period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 17 June 1976, to 1700 G.m.t., 24 June 1976

Central station	Sunset of the 82nd lunation occurred on 21 June. A signal strength between -137.0 and -144.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation. *Two additional functional changes occurred during the numerous commands being sent on 17 June because of the Goldstone Tracking Station malfunction. These were; (1) the 7-watt Power Dump Resistor was commanded ON (Octal 017) and (2) the Dust Detector Experiment was commanded OFF (Octal 031). The PDR was commanded OFF (Octal 021) on 18 June and the DTREM ON (Octal 027) on 20 June during real-time support periods.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP) except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The Z-motor is ON to maximize heating in the instrument. The sensor temperature (DL-07 = 137.7°F, sun angle = 165.3°) returned onscale, 20 June. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 23 June 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2408	1866	1789	1524
Total Commands to Date	29670	16147	35596	21415
Sun Angle	202.6°	208.6°	229.7°	241.6°
Input Power	52.4w	61.8w	56.9w	64.1w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	All OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	9.7°F	28.6°F	2.4°F	29.8°F
PSE Sensor Temp (DL-07)	126.3°F	124.1°F	124.6°F	125.9°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-13.9°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	112.2°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-21.9°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-62.5°F	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1289
Total Commands to Date	34340
Sun Angle	256.8°
Input Power	66.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	6.3°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.1°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	7.8°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 06/24/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
17 JUNE	GDS	Station Problem	LOS 17/1125 AOS 17/1243	A12	1^h18^m
17-18 JUNE	GWM/ACN	Higher Priority	LOS 17/2303 AOS 18/0002	ALL	59^m
18 JUNE	ACN	Higher Priority	LOS 18/0115 AOS 18/0205	ALL	50^m
19 JUNE	GWM/ACN	Higher Priority	LOS 19/0142 AOS 19/0210	ALL	28^m
22 JUNE	ACN	Station Problem	LOS 22/0946 AOS 22/0950	A12	04^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 06/158	07/159	08/160	09/161	10/162	11/163	12/164
0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0554 ALSEP 14 LOSS OF SIGNAL 1400-1600	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY 1800-2200 ALSEP 15 SIDE SUPT	NO SUPPORT	1400-1600 ALSEP 15 CYCLE SIDE
JUN 13/165	**14/166**	**15/167**	**16/168**	**17/169**	**18/170**	**19/171**
1400-1600 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600- 1100 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON
JUN 20/172	**21/173**	**22/174**	**23/175**	**24/176**	**25/177**	**26/178**
0900-1100	1600-2000 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	0900-1100 ALSEP 15 HFE STBY	0800-1000 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 27/179	28/180	29/181	30/182	JUL 01/183	02/184	03/185
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	1700-2100 VAL TEST	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	09/191	10/192
0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL	1000-1200 ALSEP 14 C/S HTR OFF PSE Z MTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY	0000-2100 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE
JUL 11/193	12/194	13/195	14/196	15/197	16/198	17/199
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON

ALSEP PERFORMANCE SUMMARY REPORT

1 July 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 44th lunation occurred on 24 June at the Taurus Littrow site. Downlink signal strength between -134.0 and -144.5 dbm was reported from transmitter A by the tracking stations with 30-foot antennas. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 1 July the lunar surface temperature, as measured by the HFE thermocouples was 106 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize losing seismic data when the temperature reaches an out of limits condition in the high range.

The Lunar Surface Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 24 June 1976, to 1700 G.m.t., 1 July 1976

Central station	Midnight at the Descartes Site occurred on 25 June for the 52nd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength, from transmitter B, of -136.0 ± 3.0 dbm was reported by the 20-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 24 June, to 1700 G.m.t., 1 July 1976

Central station	Midnight of the 61st lunation occurred on 26 June at the Hadley Rille Site. Transmitter A downlink signal strength was reported between -134.0 and -138.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	A Special Operational Test of the SIDE is continuing at the request of the Principal Investigator. The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 k vdc) remains OFF.
Heat flow experiment	*The HFE was commanded to STANDBY on 22 June until sunrise, when it will be commanded OFF. It will remain OFF until prior to sunset when it will be turned ON. This cool down period is another attempt to regain proper operation of the absolute temperature measurement data.*
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 24 June 1976, to 1700 G.m.t., 1 July 1976

Central station	Midnight at the Apollo 14 site occurred on 28 June for the 67th lunation. The DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength of -137.0 ± 2.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 24 June 1976, to 1700 G.m.t., 1 July 1976

Central station	Midnight of the 82nd lunation occurred on 29 June. A signal strength of -139.5 ± 3.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma. data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 0400 G.m.t., 1 July 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2416	1874	1797	1532
Total Commands to Date	29690	16161	35644	21440
Sun Angle	294.8°	300.9°	321.9°	333.5°
Input Power	51.7w *(52.4w)*	61.5w *(61.8w)*	55.9w *(56.7w)*	64.1w *(64.1w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	7.2°F	27.2°F	1.1°F	28.9°F
PSE Sensor Temp (DL-07)	126.1°F	124.1°F	124.3°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	106.4°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.6°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-70.7°F	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1297
Total Commands to Date	34497
Sun Angle	349.2°
Input Power	66.6w *(67.3w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	12.7°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-20.8°F
HFE Temp Ref 1 (DH-13)	285.5°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	11.4°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 07/01/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
24 JUNE	GWM/ACN	Station Problem	LOS 24/0425 AOS 24/0433	ALL	08^{m}
25 JUNE	GWM	Higher Priority	LOS 25/0100 AOS 25/0145	ALL	45^{m}
25 JUNE	GWM/ACN	Higher Priority	LOS 25/0418 AOS 25/0523	ALL	$1^{h}05^{m}$
26 JUNE	GDS/ULA	Higher Priority	LOS 26/0107 AOS 26/0237	ALL	$1^{h}30^{m}$
26 JUNE	ULA/ACN	Higher Priority	LOS 26/0425 AOS 26/0645	ALL	$2^{h}20^{m}$
26 JUNE	ACN/GDS	Higher Priority	LOS 26/1041 AOS 26/1223	ALL	$1^{h}42^{m}$
27 JUNE	ORR/ACN	Higher Priority	LOS 27/0627 AOS 27/0705	ALL	38^{m}
27 JUNE	ACN/ROS	Higher Priority	LOS 27/1047 AOS 27/1124	ALL	37^{m}
27 JUNE	ROS/GDS	Higher Priority	LOS 27/1300 AOS 27/1320	ALL	20^{m}
28 JUNE	GWM/BDA	Higher Priority	LOS 28/0906 AOS 28/1136	ALL	$2^{h}30^{m}$
28 JUNE	ACN/GDS	Higher Priority	LOS 28/1344 AOS 28/1416	ALL	32^{m}
29 JUNE	GDS	Station Problem	LOS 29/0247 AOS 29/0249	ALL	02^{m}
29 JUNE	ORR/BDA	Higher Priority	LOS 29/0815 AOS 29/1123	ALL	$3^{h}08^{m}$
29 JUNE	BDA/ROS	Higher Priority	LOS 29/1234 AOS 29/1311	ALL	37^{m}
30 JUNE	ORR/ACN	Higher Priority	LOS 30/0915 AOS 30/1132	ALL	$2^{h}17^{m}$
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 06/158	07/159	08/160	09/161	10/162	11/163	12/164
0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0554 ALSEP 14 LOSS OF SIGNAL 1400-1600	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY 1800-2200 ALSEP 15 SIDE SUPT	NO SUPPORT	1400-1600 ALSEP 15 CYCLE SIDE
JUN 13/165	**14/166**	**15/167**	**16/168**	**17/169**	**18/170**	**19/171**
1400-1600 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600- 1100 ALSEP 17 1500-1600	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON
JUN 20/172	**21/173**	**22/174**	**23/175**	**24/176**	**25/177**	**26/178**
0900-1100	1600-2000 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	0900-1100 ALSEP 15 HFE STBY	0800-1000 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 27/179	28/180	29/181	30/182	JUL 01/183	02/184	03/185
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	NO SUPPORT ALSEP 17	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	09/191	10/192
0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL	1000-1200 ALSEP 14 C/S HTR OFF PSE Z MTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	1500-1730 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	0900-1100	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY	0000-2100 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE
JUL 11/193	12/194	13/195	14/196	15/197	16/198	17/199
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON

ALSEP PERFORMANCE SUMMARY REPORT

8 July 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 45th lunation occurred on 8 July, at the Taurus Littrow site. Downlink signal strength is reported at -139.5 ± 4.0 dbm, from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 8 July the lunar surface temperature, as measured by the HFE thermocouples, was 364 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface. *The LEAM is being operated throughout the lunar day for the first time. High temperatures encountered previously have restricted operation between the sun angles of 45° to 140°. The Principal Investigator requested this operation to obtain science data for a complete lunation. The temperatures are monitored in real-time support and at present 200°F, survival temperature (AJ-11), has been the highest reading encountered during the pre-lunar noon phase. Real-time support will be conducted throughout the post-lunar noon phase (32 hours, 9-10 July) when it is expected that the operating temperatures will be at the peak readings.*

It is requested that any organization having comments, questions, or suggestiong concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 1 July 1976, to 1700 G.m.t., 8 July 1976

Central station	Sunrise at the Descartes Site occurred on 3 July for the 53rd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -136.0 ± 2.0 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 3 July for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been resumed for this lunar day and a total of 1170 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 1 July, to 1700 G.m.t., 8 July 1976

Central station	Sunrise of the 62nd lunation occurred on 4 July at the Hadley Rille Site. Transmitter A downlink signal strength of -136.5 ± 2.5 dbm is reported from transmitter A by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiment	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with -3.5 K vdc Channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 Frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	*The HFE was commanded to OFF at 1400 G.m.t., 5 July. It will remain OFF until just prior to sunset on 19 July when it will be turned back ON. This continuing cool down period is a further attempt to regain proper operation of the absolute temperature measurement data.*
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 1 July 1976, to 1700 G.m.t., 8 July 1976

Central station	Sunrise at the Apollo 14 site (68th lunation) occurred on 5 July. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -138.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. *On 7 July, the Active Seismic and Charged Particle Lunar Environmental Experiments were commanded OFF. This is a trouble shooting operation to compare the power on temperatures of the CPLEE AC-04 and AC-05 and the ASE AS-02 versus the power off readings on these points. The power off condition will be compared with the power on condition of the fourth LOS/AOS of the station. The operation is a continuance of the analyses of the LOS problems.*
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater is in AUTO ON until the sensor temperature (DL-07) approaches 127.0°F at which time it will be commanded to Forced OFF. No significant seismic events were noted during the real time support periods.
Active seismic experiment	*The experiment is OFF.*
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	*The experiment is OFF.*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 1 July 1976, to 1700 G.m.t., 8 July 1976

Central station	Sunrise of the 83rd lunation occurred on 6 July. The DSS-1 (10 watt) heater was commanded OFF on 6 July for lunar day operation. A signal strength of -138.5 ± 4.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The long period Z-axis drive motor was commanded OFF on 6 July for lunar day operations. *The PSE experienced a functional change between real-time support periods of 3 and 4 July. The Y-motor received a Leveling Power ON (octal 071) command. During real-time support the Y-motor was commanded OFF (octal 071) on 4 July and shortly thereafter all engineering data returned to normal for that particular phase of the lunar period.* No significant seismic events were noted during real-time support during this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 8 July 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2423	1881	1804	1539
Total Commands to Date	29812	16209	35774	21549
Sun Angle	26.1°	32.1°	53.2°	65.1°
Input Power	52.4w	61.5w	56.9w	63.6w
Heater and Power Dumps	All OFF	All OFF	All OFF	All OFF
Experiment Status	SIDE & LSM OFF	SIDE,ASE & CPLEE OFF	LSM,SWS, & HFE OFF	ASE OFF
Avg Thermal Plate Temp	70.4°F	80.0°F	95.7°F	98.1°F
PSE Sensor Temp (DL-07)	126.3°F	125.2°F	130.5°F	133.4°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	40.3°C
SWS Module 300 Temp (DW-13)	45.1°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	81.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	355.6°K	N/A
CPLEE Elect Temp (AC-06)	N/A	OFF	N/A	N/A
ASE GLA Temp (AS-03)	N/A	OFF	N/A	N/A
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1304
Total Commands to Date	34638
Sun Angle	80.3°
Input Power	65.3w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	76.0°F
LACE Temp (AM-41)	149.7°F
LEAM Temp (AJ-11)	194.0°F
HFE Temp Ref 1 (DH-13)	325.8°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	76.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 07/08/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
01 JULY	GWM	Higher Priority	LOS 01/0652 AOS 01/0738	ALL	46^{m}
01 JULY	GWM	Higher Priority	LOS 01/1129 AOS 01/1320	ALL	51^{m}
06 JULY	ORR/GWM	Higher Priority	LOS 06/1035 AOS 06/1044	ALL	09^{m}
06 JULY	ACN/MAD	Higher Priority	LOS 06/1700 AOS 06/1734	ALL	34^{m}
07 JULY	ROS	Station Problem	LOS 07/2330 AOS 07/2347	ALL	17^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 27/179	28/180	29/181	30/182	JUL 01/183	02/184	03/185
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	NO SUPPORT ALSEP 17	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	**05/187**	**06/188**	**07/189**	**08/190**	**09/191**	**10/192**
0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 HFE OFF	1000-1200 ALSEP 14 C/S HTR OFF PSE Z MTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	0900-1100	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY	0000-2100 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE
JUL 11/193	**12/194**	**13/195**	**14/196**	**15/197**	**16/198**	**17/199**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON

ALSEP PERFORMANCE SUMMARY REPORT

15 July 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 45th lunation occurred on 9 July at the Taurus Littrow site. A downlink signal strength of -137.0 ± 3.0 dbm was reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 15 July the lunar surface temperature, as measured by the HFE thermocouples, was 300 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize loss of seismic data when the sensor temperature (DG-04) reaches out of limits condition in the high range. *A significant seismic event was observed during real time support starting at 1937 G.m.t. 11 July and lasting approximately 40 minutes. This event was also detected by the Apollo 14 ALSEP Passive seismometer.*

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface. *The LEAM was operated for the first time throughout the lunar day without incident. The highest survival temperature (AJ-11) reached was 212.0°F on 10 July at a sun angle of 106.2°. The Principal Investigator requested this operation to obtain science data during the lunar day which has never been attempted before because of the elevated temperature. Continuous monitoring in real time of the experiment was conducted 9-10 July, and no abnormality of the LEAM data was noted during this peak temperature period.*

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 8 July 1976, to 1700 G.m.t., 15 July 1976

Central station	Noon at the Descartes Site occurred on 10 July for the 53rd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -137.0 $\pm$ 3.0 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 18 July. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1176 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 8 July, to 1700 G.m.t., 15 July 1976

Central station	Noon of the 62nd lunation occurred on 11 July at the Hadley Rille Site. Transmitter A downlink signal strength of -137.0 ± 3.0 dbm is reported from transmitter A by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiment	The instrument was commanded ON 14 July and is operating in the Reset SIDE Frame Counter at 39 with -3.5 K vdc Channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 Frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 K vdc) remains OFF. *At 0300 G.m.t., 11 July, the SIDE experienced a spurious functional change (SIDE ON, Octal 153) as reported by the Merritt Island Tracking Station. At 0903 G.m.t., 11 July, the SIDE was commanded by Mode I to STANDBY (Octal 053) through the Goldstone Tracking Station.*
Heat flow experiment	The HFE is OFF. It will remain OFF until just prior to sunset on 19 July when it will be turned back ON. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 8 July 1976, to 1700 G.m.t., 15 July 1976

Central station	Noon at the Apollo 14 site (68th lunation) occurred on 13 July. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -139.5 ± 3.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. *On 9 July, a trouble shooting test was conducted to attempt to evaluate the AOS/LOSs previously experienced by this station. The Active Seismic and Charged Particle Lunar Environmental Experiments were commanded ON/STANDBY. The 7 and 14 watt power dump resistors and the DSS-1 and 2 (10 and 5 watt) heaters were all exercised ON/OFF to determine the change in reserve power and temperatures. The additional data is necessary for further analysis into this problem.*
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater is in Forced OFF for the lunar day operation. *On 11 July, starting at 1937 G.m.t. and lasting approximately 40 minutes, a significant seismic event was noted during the real time support period.*
Active seismic experiment	*The experiment was commanded to STANDBY 9 July.*
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	*The experiment was commanded to STANDBY 9 July.*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 8 July 1976, to 1700 G.m.t., 15 July 1976

Central station	Noon of the 83rd lunation occurred on 13 July. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -138.5 ± 4.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. *A spurious functional change occurred in the central station between the end of real time support, 12 July, and the beginning of real time support on 14 July which caused a change from Power Conditioning Unit (PCU) 1 to PCU 2. This functional change also placed the Passive Seismometer Experiment (PSE) short period calibration ON and the Uncaged/OT status to OT. At 1429 G.m.t., 14 July, the central station was commanded back to PCU 1 which returned the PSE to the short period calibration OFF and the Uncaged/OT status to Uncaged, however the Suprathermal Ion Detector (SIDE) went to STANDBY Power ON. At 1436 G.m.t., 14 July, the SIDE was commanded OFF.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 19 July. No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 15 July 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2430	1888	1811	1546
Total Commands to Date	29844	16254	35881	21629
Sun Angle	112.0°	117.9°	139.1°	150.9°
Input Power	52.4w	61.5w	56.9w	63.6w
Heater and Power Dumps	All OFF	All OFF	All OFF	All OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF, ASE-CPLEE STBY	LSM, SWS & HFE OFF	ASE OFF
Avg Thermal Plate Temp	93.7°F	102.5°F	98.9°F	80.3°F
PSE Sensor Temp (DL-07)	Offscale HIGH	134.3°F	130.3°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	38.3°C
SWS Module 300 Temp (DW-13)	63.5°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	82.9°C	N/A
CCGE Temp (DI-04)	OFF	OFF	339.4°K	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	78.8°C	N/A	N/A
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1311
Total Commands to Date	34766
Sun Angle	166.2°
Input Power	66.2w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	75.8°F
LACE Temp (AM-41)	100.5°F
LEAM Temp (AJ-11)	156.6°F
HFE Temp Ref 1 (DH-13)	299.5°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	77.5°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 07/15/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
08 JULY	ORR/ACN	Higher Priority	LOS 08/1520 AOS 08/1623	ALL	1^h03^m
08 JULY	MAD/AGO	Higher Priority	LOS 08/1955 AOS 08/2020	ALL	25^m
08 JULY	AGO	Station Problem	LOS 08/2136 AOS 08/2152	ALL	16^m
09 JULY	AGO	Station Problem	LOS 09/0114 AOS 09/0125	ALL	11^m
09 JULY	HAW/GWM	Higher Priority	LOS 09/1410 AOS 09/1422	ALL	12^m
10 JULY	GWM/MAD	Schedule	LOS 10/1912 AOS 10/1915	ALL	03^m
11 JULY	GWM/ACN	Higher Priority	LOS 11/2008 AOS 11/2021	ALL	13^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUN 27/179	28/180	29/181	30/182	JUL 01/183	02/184	03/185
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	NO SUPPORT ALSEP 17	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	09/191	10/192
0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 HFE OFF	1000-1200 ALSEP 14 C/S HTR OFF PSE Z MTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	0900-1100	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY ALSEP 14 CPLEE STBY ASE STBY	0000-1600 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE
JUL 11/193	12/194	13/195	14/196	15/197	16/198	17/199
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-0930 1200-1300	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON

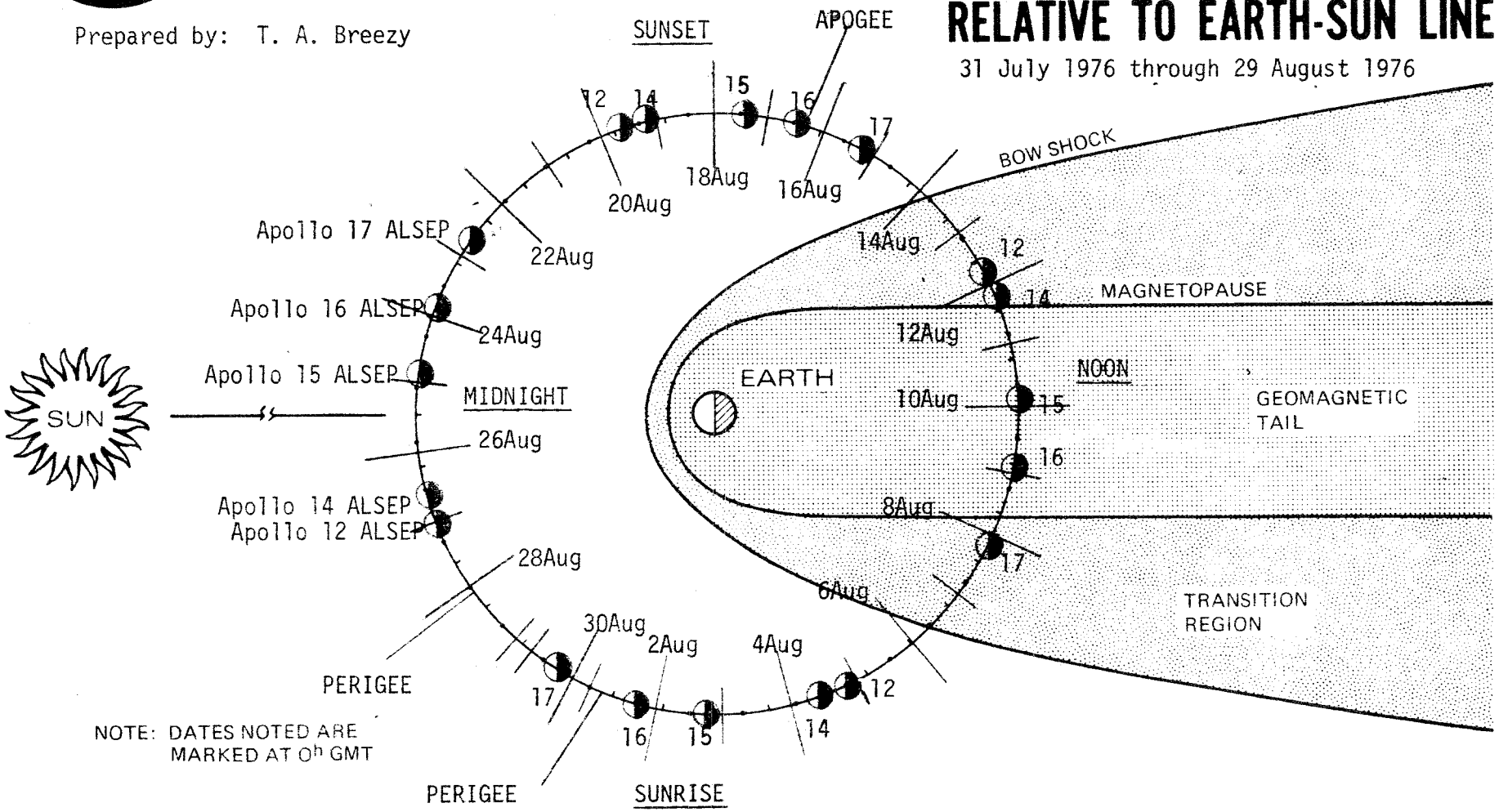
JUL 18/200	19/201	20/202	21/203	22/204	23/205	24/206
0900-1100 ALSEP 15 HFE ON	0900-1100 ALSEP 17 HFE RBS ALSEP 14 CPLEE ON	0900-1100 ALSEP 14 C/S HTR OFF PSE HTR ON ALSEP 12	0300-0700 ALSEP 17 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
JUL 25/207	**26/208**	**27/209**	**28/210**	**29/211**	**30/212**	**31/213**
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17
AUG 01/214	**02/215**	**03/216**	**04/217**	**05/218**	**06/219**	**07/220**
NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 17 LEAM OFF	0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

31 July 1976 through 29 August 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	24Jul/0352	31Jul/1213	(46)07Aug/2107	15Aug/0619	22Aug/1504
16	25Jul/0942	01Aug/1806	(54)09Aug/0307	16Aug/1216	23Aug/2055
15	26Jul/0856	02Aug/1724	(63)10Aug/0229	17Aug/1135	24Aug/2011
14	28Jul/0220	04Aug/1056	(69)11Aug/2006	19Aug/0506	26Aug/1338
12	28Jul/1359	04Aug/2221	(84)12Aug/0748	19Aug/1558	27Aug/0117

ALSEP PERFORMANCE SUMMARY REPORT

22 July 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunset of the 45th lunation occurred on 16 July at the Taurus Littrow site. Downlink signal strength is reported at -138.0 ± 3.0 dbm, from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 22 July the lunar surface temperature, as measured by the HFE thermocouples was 110 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY. *An operational check of the instrument was performed from 1437 to 1508 G.m.t., 22 July. No change was observed in the high voltage and sweep lock anomalies. The command register did contain a load of octal 132 which has occurred previously. The instrument was previously checked on 26 February 1976.*

The Lunar Ejecta and Meteorites Experiment is ON. *At 1816 G.m.t., 16 July, the LEAM science data became static. The instrument was commanded to STANDBY and back to ON but the data remained static. Engineering data is obtainable. The survival temperature (AJ-11) was 30.4°F and the sun angle was 180°. Analysis of the anomaly is being conducted at this time.*

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 15 July 1976, to 1700 G.m.t., 22 July 1976

Central station	Sunset at the Descartes Site occurred on 18 July for the 53rd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -133.0 and -139.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 15 July 1976, to 1700 G.m.t., 22 July 1976

Central station

Sunset of the 62nd lunation occurred at the Hadley Rille Site on 19 July. Transmitter A downlink signal strength is reported as -136.5 ± 3.5 dbm by the tracking stations with 30-foot antennas.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. *The experiment was inadvertently operated with the feedback loop filter OUT from 0515 to 1506 G.m.t. on 17 July.* No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiments

The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.

Heat flow experiments

Attempts to regain proper operation of the instrument through cool-down periods have shown promise. Each operation after cool-down has indicated that the absolute and thermocouple temperature measurements have been near the measurements prior to December 1975. The instrument was operated in STANDBY from 22 June to 5 July and in OFF from 5-19 July. The instrument was commanded to ON, 19 July. The absolute and thermocouple measurements have been normal since 19 July. A ring bridge survey was performed on 21 July and all readings appeared normal.

The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 90.5°K on 22 July as measured by the cable thermocouples. The subsurface temperature was 253.4°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.2°K at its lowermost point.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 15 July 1976, to 1700 G.m.t., 22 July 1976

Central station	Sunset of the 68th lunation at the Apollo 14 site occurred on 20 July. The DSS-1 (10 watt) heater was commanded ON for lunar night operation on 21 July. A signal strength of -139.5 $\pm$ 4.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain 0 db. The heater was commanded to Auto ON, 16 July, for lunar night operation. No significant seismic events were noted during the real-time period.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. *At 0256 G.m.t., 21 July, the experiment received a spurious functional command (STANDBY Power ON, octal 053) as reported by the Guam Tracking Station. During real-time support on 21 July at 0759 G.m.t., the instrument was commanded ON (Octal 052) and configured to the present operational mode.*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 15 July 1976, to 1700 G.m.t., 22 July 1976

Central station	Sunset of the 83rd lunation occurred on 21 July. A signal strength between -138.5 and -145.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded ON for lunar night operation on 21 July.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP) except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The sensor temperature (DL-07 = 139.3°F, sun angle - 160.5°) returned onscale, 19 July. The Z-motor was commanded ON, 21 July, to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1500 G.m.t., 22 July 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2437	1895	1818	1553
Total Commands to Date	29947	16306	36054	21793
Sun Angle	197.1°	202.0°	223.5°	235.1°
Input Power	51.7w	61.5w	55.8w	63.9w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	All OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF, ASE STBY	LSM, SWS OFF	ASE OFF
Avg Thermal Plate Temp	9.1°F	28.2°F	-10.5°F	29.7°F
PSE Sensor Temp (DL-07)	126.4°F	124.1°F	124.7°F	125.9°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-13.1°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	114.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-56.0°C	N/A	N/A
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.7°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1318
Total Commands to Date	34952
Sun Angle	250.6°
Input Power	66.8w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	5.2°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-17.4°F
HFE Temp Ref 1 (DH-13)	285.0°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	6.2°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 07/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
19 JULY	ACN	Higher Priority	LOS 19/0215 AOS 19/0253	ALL	38^m
20 JULY	GWM/ACN	Higher Priority	LOS 20/0246 AOS 20/0302	ALL	16^m
21 JULY	ACN	Higher Priority	LOS 21/0440 AOS 21/0533	ALL	53^m
22 JULY	ACN	Higher Priority	LOS 22/0456 AOS 22/0541	ALL	45^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

JUN 27/179	28/180	29/181	30/182	JUL 01/183	02/184	03/185
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	NO SUPPORT ALSEP 17	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	09/191	10/192
0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 HFE OFF	1000-1200 ALSEP 14 C/S HTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	0900-1100	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY ALSEP 14 CPLEE STBY ASE STBY	0000-1600 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE
JUL 11/193	12/194	13/195	14/196	15/197	16/198	17/199
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-0930 1200-1300	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON

JUL 18/200	19/201	20/202	21/203	22/204	23/205	24/206
0900-1100 ALSEP 15	0900-1100 ALSEP 17 HFE RBS ALSEP 14 CPLEE ON ALSEP 15 HFE ON	0900-1100 ALSEP 14 C/S HTR ON ALSEP 12	0300-0700 ALSEP 17 & 15 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
JUL 25/207	26/208	27/209	28/210	29/211	30/212	31/213
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17
AUG 01/214	02/215	03/216	04/217	05/218	06/219	07/220
NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 17 LEAM OFF	0900-1100 ALSEP 14 C/S HTR OFF ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY

ALSEP PERFORMANCE SUMMARY REPORT

29 July 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 45th lunation occurred on 24 July at the Taurus Littrow site. Downlink signal strength between -137.0 and -144.0 dbm was reported from transmitter A by the tracking stations with 30-foot antennas. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 28 July the lunar surface temperature, as measured by the HFE thermocouples was 107 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize losing seismic data when the temperature reaches an out of limits condition in the high range.

The Lunar Surface Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface. The science data remains static however the engineering data is obtainable. Analysis of this anomaly continues.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 22 July 1976, to 1700 G.m.t., 29 July 1976

Central station	Midnight at the Descartes Site occurred on 25 July for the 53rd lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength, from transmitter B, of -135.5 ± 2.5 dbm was reported by the 20-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 22 July 1976, to 1700 G.m.t., 29 July 1976

Central station

Midnight of the 62nd lunation occurred on 26 July at the Hadley Rille Site. *During real-time support on 23 July, a change was made from transmitter A to transmitter B when the Bermuda Tracking Station had been experiencing data dropouts and could not maintain decom lock. The signal strength from transmitter A was -148.0 dbm at the time. After the change to transmitter B, the signal strength increased to -142.0 dbm and a gain of one (1) watt in reserve power was noted.*

At the beginning of real-time support on 28 July, the temperature, RF power, and current parameters for transmitter B were all reading offscale LOW (octal reading 002). Engineering and science data from the central station, PSE, SIDE, and HFE were normal. Later in the support period, a switch was made to processor X from processor Y. The engineering and science data were not normal and the transmitter B parameters were still offscale LOW. Processor Y was reselected and all data was normal with the exception of the transmitter B parameters. As the average thermal plate (ATP) temperature was -13.64°F at the time, it was believed that the anomaly was caused by low temperatures in the central station. The HFE was then commanded to STANDBY, resulting in a 5 watt increase in the reserve power, in an attempt to place more heat in the central station. Detailed analysis has shown that processor X is reading one (1) PCM count low which accounts for the data not appearing normal. Further analysis indicates that the F-08 protective fuse, providing +29 vdc to the parameter monitors in the transmitter B circuit, had blown causing all the engineering parameters for the transmitter to read offscale LOW. On 29 July the ATP temperature had increased to -2.2°F. Transmitter B engineering data were still reading offscale LOW, further supporting the analysis that the protective fuse had blown. Transmitter B is operating normally otherwise.

The downlink signal strength, from transmitter B, was reported between -136.0 and -143.0 dbm by the tracking stations with 30-foot antennas this report period.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.

Operational status from 1700 G.m.t., 22 July 1976, to 1700 G.m.t., 29 July 1976

Suprathermal ion	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+4.5 Kvdc) remains OFF. *At 0937 G.m.t., 24 July, the experiment received a spurious functional command (STAND-BY Power ON, Octal 053) as reported by the Rosman Tracking Station. On 24 July, at 1922 G.m.t., the instrument was commanded ON (Octal 153) by Mode I through the Gold-stone Tracking Station. During real-time support on 26 July the experiment was con-figured to the present operational mode.*
Heat flow experiment	*The instrument is currently in STANDBY.* The lunar surface temperature was 84.7°K on 28 July as indicated by the cable thermocouples. The subsurface temperature was 252.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.2°K at its lowermost point. Ring bridge surveys were being achieved on a periodic basis since 19 July.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 22 July 1976, to 1700 G.m.t., 29 July 1976

Central station	Midnight at the Apollo 14 site occurred on 28 July for the 68th lunation. The DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength of -137.0 ± 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network conbruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 22 July 1976, to 1700 G.m.t., 29 July 1976

Central station	Midnight of the 83rd lunation occurred on 28 July. A signal strength of -139.0 $\pm$ 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. *At 0104 G.m.t., 23 July, a spurious functional command (7 watt Power Dump Resistor ON, Octal 017) was observed by the Guam Tracking Station. The 7 watt PDR was turned OFF (Octal 021) by Mode I command from the tracking station at 0143 G.m.t., 23 July, at the request of mission control.* The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. *The experiment received a spurious functional command (PSE Thermal Control Mode to Auto OFF, Octal 076) as observed by the Goldstone Tracking Station at 2256 G.m.t., 26 July. At the request of mission control the Guam Tracking Station uplinked in Mode I the required three Octal 076 commands to return the experiment to its normal Auto ON thermal control mode. This commanding was accomplished between 0102 and 0106 G.m.t., 27 July.* The internal temperature (DL-07) has been offscale LOW since 26 July and is expected to return onscale on 4 August. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 28 July 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2443	1901	1824	1559
Total Commands to Date	29975	16320	36171	21805
Sun Angle	271.0°	277.0°	298.1°	310.0°
Input Power	51.3w *(51.7w)*	61.0w *(61.5w)*	55.4w *(55.9w)*	63.6w *(64.1w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	6.5°F	26.5°F	-13.6°F	28.8°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.6°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.8°C	N/A
CCGE Temp (DI-04)	OFF	OFF	108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-70.7°F	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	283.7°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1324
Total Commands to Date	35050
Sun Angle	325.2°
Input Power	66.6w *(66.6w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	-0.1°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-20.8°F
HFE Temp Ref 1 (DH-13)	284.9°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	0.3°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 7/29/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
23 JULY	GWM/ACN	Higher Priority	LOS 23/0516 AOS 23/0603	ALL	47^{m}
23 JULY	ACN/AGO	Higher Priority	LOS 23/0935 AOS 23/0941	ALL	06^{m}
24 JULY	GWM/ACN	Higher Priority	LOS 24/0600 AOS 24/0609	ALL	09^{m}
25 JULY	GWM	Station Problem	LOS 25/0044 AOS 25/0055	ALL	11^{m}
27 JULY	GDS	Station Problem	LOS 27/2304 AOS 27/2312	ALL	08^{m}
28 JULY	ACN	Higher Priority	LOS 28/1020 AOS 28/1106	ALL	46^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUL 18/200	19/201	20/202	21/203	22/204	23/205	24/206
0900-1100 ALSEP 15	1000-1200 ALSEP 17 HFE RBS ALSEP 14 CPLEE ON ALSEP 15 HFE ON	0900-1100 ALSEP 14 C/S HTR ON ALSEP 12	0300-0700 ALSEP 17 & 15 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT
JUL 25/207	**26/208**	**27/209**	**28/210**	**29/211**	**30/212**	**31/213**
NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE RBS HFE STBY	1000-1100 ALSEP 15 SPCL SPT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17
AUG 01/214	**02/215**	**03/216**	**04/217**	**05/218**	**06/219**	**07/220**
NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 17 LEAM OFF	0900-1100 ALSEP 14 C/S HTR OFF ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY

ALSEP PERFORMANCE SUMMARY REPORT

5 August 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 46th lunation occurred on 31 July, at the Taurus Littrow site. Downlink signal strength is reported at -137.0 ± 6.0 dbm, from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 5 August the lunar surface temperature, as measured by the HFE thermocouples, was 327 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to attempt to keep the sensor temperature (DG-04) below the out of limits high temperature range to minimize seismic data losses.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface. *Between support periods of 30 July and 2 August, the LEAM science data returned to normal. One calibration sequence was executed and appeared normal. Data had been static since 16 July. Calibrations sent while the data was static did not execute. The LEAM is being operated throught this lunar day for the second time. High temperatures encountered previously have restricted operation between the sun angles of 45° to 140°. The Principal Investigator requested this operation to obtain science data for another complete lunation. The temperatures are monitored in real-time support and at present 200°F, survival temperature (AJ-11), has been the highest reading encountered during the pre-lunar noon phase.*

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 29 July 1976, to 1700 G.m.t., 5 August 1976

Central station	Sunrise at the Descartes Site occurred on 1 August for the 54th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -134.0 ± 4.0 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 2 August for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN.) No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been resumed for this lunar day and a total of 1182 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 29 July 1976, to 1700 G.m.t., 5 August 1976

Central station

Sunrise of the 63rd lunation occurred on 2 August at the Hadley Rille Site. Transmitter B downlink signal strength of -136.5 ± 4.5 dbm is reported from transmitter B by the tracking stations with 30-foot antennas. *The central station experienced a spurious functional change at 1008 G.m.t., 10 April 1976, as reported by the Guam Tracking Station. A one (1) second drop in decom-lock was experienced at the time. As this is normal for a processor change a command verification word (CVW) would not be seen in the downlink signal. The decom-lock is attributed to the Data Processor Y Select command (octal 035) being received. During real-time support on 12 April, it was decided by mission control to continue operating in Data Processor Y as there was a one PCM (Pulse Code Modulation) count less in Data Processor X, the engineering data appeared more normal, and Apollo 12, 14, and 16 ALSEPs were operating in Data Processor Y also. No difficulty has been experienced since 10 April with the operation or data received.*

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. *Between support periods of 2 and 3 August the PSE experienced a spurious functional change (Uncage Arm/Fire to OT, octal 073). On 4 August the PSE was reset to Uncaged (octal 073) which returned it to the previous timer outputs.* No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiment

The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the -3.5 K vdc Channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 Frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 K vdc) remains OFF. *Between real-time support periods of 2 and 3 August the SIDE experienced a change from Reset Frame Counter at 39 to Master Reset (0-127 frames). As the Master Reset (Load 008) requires two separate commands to occur, the change is attributed to an internal instrument change and not to any spurious commands. The SIDE was commanded back to Reset Frame Counter at 39 on 3 August at 1416 G.m.t.*

Heat flow experiment

The HFE was commanded to OFF at 1413 G.m.t., 3 August. It will remain OFF until just prior to sunset on 17 August when it will be turned back ON. This continuing cool down period is a further attempt to regain proper operation of the absolute temperature measurement data.

Apollo 15 ALSEP (continued)

Operational status from 1700 G.m.t., 29 July 1976, to 1700 G.m.t., 5 August 1976

Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 29 July 1976, to 1700 G.m.t., 5 August 1976

Central station	Sunrise of the 69th lunation at the Apollo 14 site occurred on 4 August. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -138.5 ± 4.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater is in AUTO ON until the sensor temperature (DL-07) approaches 127.0°F at which time it will be commanded to Forced OFF. No significant seismic events were noted during real time support periods.
Active seismic experiment	The experiment is in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 29 July 1976, to 1700 G.m.t., 5 August 1976

Central station	Sunrise of the 84th lunation occurred on 4 August. The DSS-1 (10 watt) heater was commanded OFF on 6 August for lunar day operation. A signal strength of -137.0 ± 4.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The long period Z-axis drive motor was commanded OFF on 6 August for lunar day operation. No significant seismic events were noted during real-time support during this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 0600 G.m.t., 5 August 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2451	1909	1832	1567
Total Commands to Date	30007	16336	36287	21874
Sun Angle	3.8°	9.8°	30.8°	42.7°
Input Power	51.7w	61.0w	56.2w	63.6w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM,SWS,& HFE OFF	ASE OFF
Avg Thermal Plate Temp	28.2°F	60.2°F	76.9°F	85.5°F
PSE Sensor Temp (DL-07)	126.3°F	124.2°F	126.0°F	127.3°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	36.4°C
SWS Module 300 Temp (DW-13)	-0.57°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	62.5°C	N/A
CCGE Temp (DI-04)	OFF	OFF	339.4°K	N/A
CPLEE Elect Temp (AC-06)	N/A	7.5°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-26.0°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1332
Total Commands to Date	35244
Sun Angle	57.9°
Input Power	64.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	68.0°F
LACE Temp (AM-41)	137.3°F
LEAM Temp (AJ-11)	200.0°F
HFE Temp Ref 1 (DH-13)	320.4°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	67.4°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 08/05/75

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
01 AUGUST	ACN	Higher Priority	LOS 01/1314 AOS 01/1345	ALL	31m
02 AUGUST	GWM/ACN	Higher Priority	LOS 02/1156 AOS 02/1233	ALL	37m
02 AUGUST	ACN	Higher Priority	LOS 02/1328 AOS 02/1351	ALL	23m
03 AUGUST	ACN	Station Problem	LOS 03/2046 AOS 03/2048	ALL	02m
04 AUGUST	ORR	Higher Priority	LOS 04/1239 AOS 04/1244	ALL	05m
			LOS AOS		
			LOS AOS		
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUL 18/200	19/201	20/202	21/203	22/204	23/205	24/206
0900-1100 ALSEP 15	1000-1200 ALSEP 17 HFE RBS ALSEP 14 CPLEE ON ALSEP 15 HFE ON	0900-1100 ALSEP 14 C/S HTR ON ALSEP 12	0300-0700 ALSEP 17 & 15 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT
JUL 25/207	26/208	27/209	28/210	29/211	30/212	31/213
NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE RBS HFE STBY	1000-1100 ALSEP 15 SPCL SPT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17
AUG 01/214	02/215	03/216	04/217	05/218	06/219	07/220
NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	0900-1100	0900-1100 ALSEP 14 ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY ALSEP 14 PSE HTR OFF

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 08/221	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100
AUG 15/228	**16/229**	**17/230**	**18/231**	**19/232**	**20/233**	**21/234**
0000-0100 ALSEP 17 1300-1400 2300-2400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15	0900-1100 ALSEP 17 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 17 HFE RBS	0900-1100
AUG 22/235	**23/236**	**24/237**	**25/238**	**26/239**	**27/240**	**28/241**
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

12 August 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 46th lunation occurred on 7 August at the Taurus Littrow site. A downlink signal strength between -134.0 and -141.5 dbm was reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a periodic basis. On 12 August the lunar surface temperature, as measured by the HFE thermocouples, was 298 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is operating and configured for data collection as follows: seismic high gain, integrator shorted mode, bias out, post amplifier gain at increment 2, the coarse and fine screws driven to the extreme lower position, the tilt servo motors in an intermediate position, and the sensor beam near center. The LSG heater is commanded ON/OFF manually to minimize loss of seismic data when the sensor temperature (DG-04) reaches out of limits condition in the high temperature range.

The Lunar Seismic Profiling Experiment is in STANDBY.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON and configured to measure impact flux rates on the lunar surface. *The LEAM was operated for the second time throughout the lunar day without incident. The highest survival temperature (AJ-11) reached was 213.6°F on 9 August at a sun angle of 110.9° as observed during the real time support period. The Principal Investigator requested this operation to obtain additional science data during the lunar day.*

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 5 August 1976, to 1700 G.m.t., 12 August 1976

Central station	Noon at the Descartes Site occurred on 9 August for the 54th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength between -134.0 and -141.5 dbm was reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 16 August. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1188 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 5 August 1976, to 1700 G.m.t., 12 August 1976

Central station	Noon of the 63rd lunation occurred on 10 August at the Hadley Rille Site. *At 1621 G.m.t., 7 August, the transmitters were switched from B to A returning the station to its prime system. The reserve power (CS-2) after the change increased from 21.17 to 22.00 watts and the signal strength decreased from -132.0 to -133.0 dbm. The engineering parameters (AT 23, 24 and AE 16, 18) are normal on Transmitter A.* Transmitter A downlink signal strength was reported between -136.0 and -143.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. The experiment is presently being cycled from STAND-BY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The HFE is OFF. It will remain OFF until just prior to sunset on 16 August when it will be turned back ON. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 5 August 1976, to 1700 G.m.t., 12 August 1976

Central station	Noon at the Apollo 14 site (69th lunation) occurred on 11 August. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -142.0 ± 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater is in Forced OFF for the lunar day operation. No significant seismic events were noted during real time support of this report period.
Active seismic experiment	The experiment is in STANDBY. *At 0204 G.m.t., 8 August, a spurious functional change (ASE ON, octal 042) with a command verification word was noted by the Merritt Island Tracking Station. The Goldstone Tracking Station commanded the ASE back to STANDBY (octal 043) by Mode I at 0310 G.m.t., 9 August, at the direction of mission control.*
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment was commanded to STANDBY 9 July.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 5 August 1976, to 1700 G.m.t., 12 August 1976

Central station	Noon of the 84th lunation occurred today. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -138.0 and -143.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 18 August. No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 12 August 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2458	1916	1839	1574
Total Commands to Date	30091	16491	36381	21974
Sun Angle	94.2°	100.1°	121.3°	133.1°
Input Power	52.1w	61.5w	56.2w	63.6w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE & CPLEE STBY	LSM,SWS,&HFE OFF/ SIDE STBY	ASE OFF
Avg Thermal Plate Temp	91.6°F	109.1°F	107.9°F	92.9°F
PSE Sensor Temp (DL-07)	Offscale HIGH	134.3°F	138.8°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	38.3°C
SWS Module 300 Temp (DW-13)	64.3°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	STBY	N/A
CCGE Temp (DI-04)	OFF	OFF	STBY	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	78.8°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1339
Total Commands to Date	35363
Sun Angle	148.3°
Input Power	64.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSPE STBY
Avg Thermal Plate Temp	63.5°F
LACE Temp (AM-41)	124.7°F
LEAM Temp (AJ-11)	192.5°F
HFE Temp Ref 1 (DH-13)	308.1°K
LSG Temp (DG-04)	Offscale LOW
LSP Temp (AP-01)	64.0°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 08/12/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
09 AUGUST	MIL	Station Problem	LOS 09/0738 AOS 09/0743	A-17	05^{m}
10 AUGUST	MIL	Station Problem	LOS 10/0648 AOS 10/0650	ALL	02^{m}
11 AUGUST	ORR/ACN	Higher Priority	LOS 11/2030 AOS 11/2050	ALL	20^{m}
11 AUGUST	ACN	Station Problem	LOS 11/2050 AOS 11/2055	A-17	05^{m}
11 AUGUST	ACN	Higher Priority	LOS 11/2238 AOS 11/2325	ALL	47^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

JUL 18/200	19/201	20/202	21/203	22/204	23/205	24/206
0900-1100 ALSEP 15	1000-1200 ALSEP 17 HFE RBS ALSEP 14 CPLEE ON ALSEP 15 HFE ON	0900-1100 ALSEP 14 C/S HTR ON ALSEP 12	0300-0700 ALSEP 17 & 15 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	0900-1100	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT
JUL 25/207	26/208	27/209	28/210	29/211	30/212	31/213
NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE RBS HFE STBY	1000-1100 ALSEP 15 SPCL SPT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT ALSEP 17
AUG 01/214	02/215	03/216	04/217	05/218	06/219	07/220
NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RST ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	0900-1100 ALSEP 15 HFE OFF	0900-1100 ALSEP 14 ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	1053-1253 ALSEP 15 SIDE STBY ALSEP 14 PSE HTR OFF

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 08/221	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100
AUG 15/228	**16/229**	**17/230**	**18/231**	**19/232**	**20/233**	**21/234**
0000-0100 ALSEP 17 1300-1400 2300-2400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 14 PSE HTR ON ALSEP 15 HFE ON	0900-1100 ALSEP 15	0900-1100 ALSEP 17 & 15 HFE RBS ALSEP 14 CPLEE ON	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 17 & 15 HFE RBS	0900-1100
AUG 22/235	**23/236**	**24/237**	**25/238**	**26/239**	**27/240**	**28/241**
NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

19 August 1976
G.m.t.: 1700

Apollo 17 ALSEP

High Bit Rate was the operational mode from 0701 G.m.t., 15 August, to 1434 G.m.t., 18 August. At the July meeting of the Geophysics Working Group it was recommended that the LSPE be utilized in the ALSEP seismic network rather than the LSG. In this operational mode only data from the LSPE will be available. The Normal Bit Rate mode will be utilized during real-time support periods on Mondays, Wednesdays, and Fridays. On these days engineering data will be available to check the central station and the other experiments. HFE ring bridge surveys will be conducted weekly on Wednesdays.

Sunset of the 46th lunation occurred on 15 August at the Taurus Littrow site. Downlink signal strength is reported between -135.0 and -142.0 dbm from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. *Ring bridge surveys will be achieved on a weekly basis.* On 18 August the lunar surface temperature, as measured by the HFE thermocouples was 114 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.9°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is ON. *The science data became static again on 15 August at a survival temperature (AJ-11) of 47.5°F and a sun angle of 179.5°. The instrument was commanded to and remained in STANDBY until 18 August when it was commanded back ON. The survival temperature was -58.0°F at turn ON. Science data was static and engineering data is obtainable.*

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 12 August 1976, to 1700 G.m.t., 19 August 1976

Central station	Sunset at the Descartes Site occurred on 16 August for the 54th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -138.0 ± 4.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 12 August 1976, to 1700 G.m.t., 19 August 1976

Central station

Sunset of the 63rd lunation occurred at the Hadley Rille Site on 17 August. Transmitter A downlink signal strength is reported at -137.5 ± 4.0 dbm by the tracking stations with 30-foot antennas.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiment

The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

Heat flow experiments

Attempts to regain proper operation of the instrument through cool-down periods have shown promise. Each operation after cool-down has indicated that the absolute and thermocouple temperature measurements have been near the measurements prior to December 1975. The instrument was operated in STANDBY from 28 July to 3 August and in OFF from 3-17 August. The instrument was commanded to ON, 17 August. The absolute and thermocouple measurements were normal on 18 August. A ring bridge survey was performed and all readings appeared normal.

The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence. The lunar surface temperature was 97.0°K on 18 August as measured by the cable thermocouples. The subsurface temperature was 253.6°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.3°K at its lowermost point.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 12 August 1976, to 1700 G.m.t., 19 August 1976

Central station	Sunset of the 69th lunation at the Apollo 14 site occurred on 19 August. The DSS-1 (10 watt) heater will be commanded ON for lunar night operation later today, 19 August. A signal strength of -141.5 $\pm$ 7.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain 0 db. The heater was commanded to Auto ON, 16 August, for lunar night operation. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 12 August 1976, to 1700 G.m.t., 19 August 1976

Central station	Sunset of the 84th lunation will occur later today, 19 August. A signal strength between -133.5 and -144.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater will be commanded ON for lunar night operation later today.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP) except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The sensor temperature (DL-07 = 142.5°F, sun angle = 154.2°) returned onscale, 17 August. The Z-motor will be commanded ON later today to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 18 August 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2464	1922	1845	1580
Total Commands to Date	30137	16429	36551	22088
Sun Angle	167.8°	173.2°	194.5°	206.5°
Input Power	52.1w	62.0w	55.4w	64.1w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM & SWS OFF/SIDE STBY	ASE OFF
Avg Thermal Plate Temp	61.7°F	56.1°F	-8.9°F	30.4°F
PSE Sensor Temp (DL-07)	136.6°F	125.5°F	124.7°F	125.9°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-8.9°C
SWS Module 300 Temp (DW-13)	37.8°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	123.4°K	N/A
CPLEE Elect Temp (AC-06)	N/A	0.18°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	65.6°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	285.1°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1345
Total Commands to Date	35437
Sun Angle	221.6°
Input Power	66.8w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSG STBY
Avg Thermal Plate Temp	15.2°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-58.0°F
HFE Temp Ref 1 (DH-13)	284.6°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	20.1°F

REMOTE SITE NON-RECOVERABLE .SEP
DATA LOSSES FOR WEEK ENDING 08/19/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
12 AUGUST	ACN	Higher Priority	LOS 12/2244 AOS 12/2334	ALL	50^m
13 AUGUST	HAW/ORR	Higher Priority	LOS 13/1901 AOS 13/1950	ALL	49^m
13 AUGUST	GWM/ACN	Higher Priority	LOS 13/2303 AOS 13/2337	ALL	34^m
16 AUGUST	ACN/MIL	Higher Priority	LOS 16/0220 AOS 16/0340	ALL	1^h20^m
17 AUGUST	ACN/MIL	Higher Priority	LOS 17/0336 AOS 17/0408	ALL	32^m
17 AUGUST	GWM	Higher Priority	LOS 17/2230 AOS 17/2319	ALL	49^m
18 AUGUST	GWM	Station Problem	LOS 18/0024 AOS 18/0028	A17	04^m
18 AUGUST	ACN	Higher Priority	LOS 18/0303 AOS 18/0345	ALL	42^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

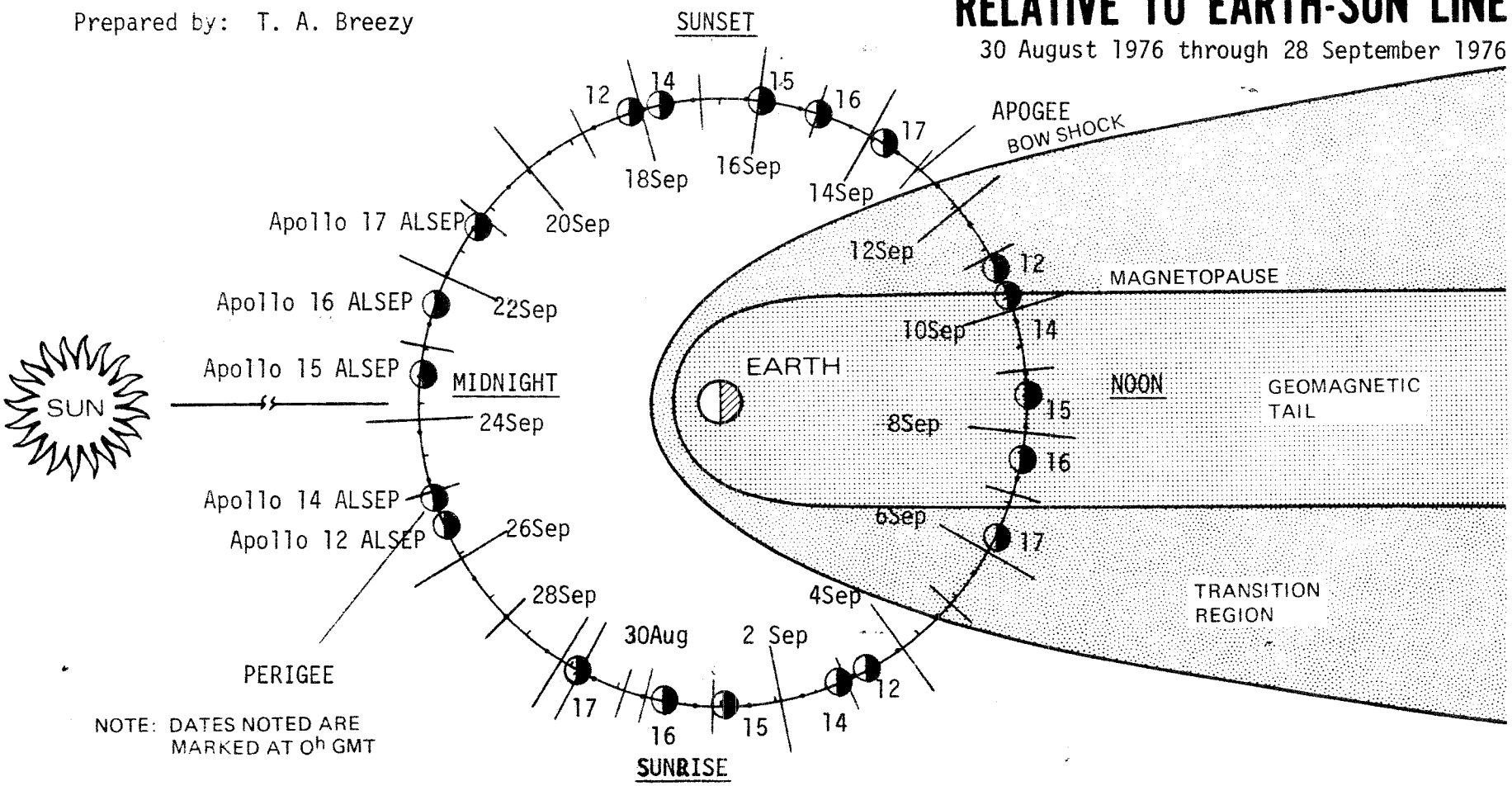
AUG 08/221	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100
AUG 15/228	**16/229**	**17/230**	**18/231**	**19/232**	**20/233**	**21/234**
0000-0100 ALSEP 17 LEAM STBY LSG STBY LSPE ON HBR ON 1300-1400 2300-2400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 HFE ON ALSEP 14 CPLEE ON	0900-1100 ALSEP 17 NBR ON LEAM ON ALSEP 17 & 15 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 15 HFE RBS	0900-1100
AUG 22/235	**23/236**	**24/237**	**25/238**	**26/239**	**27/240**	**28/241**
NO SUPPORT	0900-1100 ALSEP 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT	0900-1100 ALSEP 15 HFE RBS	NO SUPPORT

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

30 August 1976 through 28 September 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO		DAY/HOUR (GMT)			
(ALSEP)	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	22Aug/1504	29Aug/2335	(47) 06Sep/0838	13Sep/1759	21Sep/0255
16	23Aug/2055	31Aug/0529	(55) 07Sep/1438	14Sep/2358	22Sep/0849
15	24Aug/2011	01Sep/0448	(64) 08Sep/1401	15Sep/2318	23Sep/0806
14	26Aug/1338	02Sep/2223	(70) 10Sep/0742	17Sep/1653	25Sep/0136
12	27Aug/0117	03Sep/1006	(85) 10Sep/1924	18Sep/0342	25Sep/1316

ALSEP PERFORMANCE SUMMARY REPORT

26 August 1976
G.m.t.: 1700

Apollo 17 ALSEP

During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

Midnight of the 46th lunation occurred on 22 August at the Taurus Littrow site. Downlink signal strength between -133.0 and -145.0 dbm was reported from transmitter A by the tracking stations with 30-foot antennas. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. *Real time data is obtained on Monday, Wednesday and Friday and ring bridge surveys are done once a week.* On 25 August the lunar surface temperature, as measured by the HFE thermocouples was 106 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY. *On 20 August, a series of commands were sent to the experiment to try to determine the cause of the anomalous operation of the static science data. The X and Y Processors were switched (10 times) and the experiment was commanded to STANDBY and back ON several times. During each switch of the processors the science data came back with a different data reading and repeatability was not achieved. Each time the LEAM was switched from STANDBY to ON the static value readings were the same. Analysis of this anomaly is continuing.*

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 19 August 1976, to 1700 G.m.t., 26 August 1976

Central station	Midnight at the Descartes Site occurred on 23 August for the 54th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength, from transmitter B, of -136.0 ± 3.0 dbm was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). *Two significant seismic events were observed during real time support periods this week, at 1421 G.m.t., 23 August, and at 1426 G.m.t., 25 August, both lasting approximately 30 minutes.*
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 19 August 1976, to 1700 G.m.t., 26 August 1976

Central station

Midnight of the 63rd lunation occurred on 24 August at the Hadley Rille site. The downlink signal strength from *transmitter B*, was reported between -135.0 and -143.0 dbm by the tracking stations with 30-foot antennas this report period. *During real-time support on 20 August, a change was made from transmitter A to transmitter B when the Hawaii Tracking Station reported downlink signal fluctuations. The signal strength from transmitter A was fluctuating from -141.0 to -150.0 dbm at the time. After the change to transmitter B, the signal strength was steady at -142.0 dbm and two (2) watts increase in reserve power was noted. As had been previously observed on 28 July, transmitter B temperature, RF power, and current parameters are all reading offscale LOW (octal reading 002). The offscale LOW readings of the transmitter B parameters are caused by the blown F-08 protective fuse in the circuit. Engineering and science data from the central station, PSE, SIDE, and HFE are normal. It is believed that the fluctuations of the transmitter A downlink signal anomaly may be caused by low temperatures in the central station. At the time the Average Thermal Plate (ATP) temperature was -13.64°F. On 21 August, with the reserve power approaching 4 watts, the HFE was commanded to STANDBY, resulting in a 5 watt increase in the reserve power. On 23 August the ATP temperature had increased to -2.2°F.*

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. *A significant seismic event was observed during real time support at 1426 G.m.t., 25 August, lasting approximately 30 minutes.*

Suprathermal ion detector/cold cathode gauge experiments

The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

Heat flow experiment

The instrument is currently in STANDBY.

Solar wind spectrometer experiment

Commanded OFF June 1974.

Lunar surface magnetometer experiment

Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 19 August 1976, to 1700 G.m.t., 26 August 1976

Central station

Midnight at the Apollo 14 site will occur later today for the 69th lunation. The DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength of -136.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. *Between the end of support of the Ascension Island Tracking Station at 0925 G.m.t., 24 August, and the beginning of support of the Merritt Island Tracking Station at 1017 G.m.t., 24 August, the central station experienced a loss of downlink telemetry modulation. In order to restore the downlink telemetry modulation the following commands were uplinked by the Merritt Island Tracking Station in Mode I, at mission control direction: Normal Bit Rate ON (octal 006) at 1050 G.m.t., X Processor Select (octal 034) at 1051 G.m.t., and Y Processor Select (octal 034) at 1052 G.m.t. Following the Y Processor Select command the station acquired the normal downlink signal. During real time support on 25 August, 4 Passive Seismometer calibration ON/OFF commands were transmitted with a functional response, but no Command Verification Word (CVW) was received in the downlink. A High Bit Rate OFF (octal 005) command was sent to reset the Command Decoder permitting the generation of CVWs. Analysis of the above series of commands indicated that the loss of downlink modulation was a result of a spurious functional High Bit Rate ON (octal 003) command being received by the ALSEP 14 station on 24 August.*

Passive seismic experiment

The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. *Two significant seismic events were observed during real time support periods this week at 1421 G.m.t., 23 August, and at 1426 G.m.t., 25 August, both lasting approximately 30 minutes.*

Active seismic experiment

The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).

Suprathermal ion detector/cold cathode gauge experiments

The instrument was commanded to OFF on 21 May 1976.

Charged particle lunar environmental experiment

The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 19 August 1976, to 1700 G.m.t., 26 August 1976

Central station	Midnight of the 84th lunation will occur on 27 August. A signal strength of -139.0 ± 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation. *On 3 May 1974 it was reported that the Y Processor had failed on the Apollo 12 ALSEP station. However, as a result of the Apollo 14 ALSEP central station incident of 24 August 1976 and a review of the ALSEP 12 command history of 3 May 1974, it was determined the same condition existed. The Y Processor had not failed as was previously suspected, but a spurious functional High Bit Rate ON (octal 003) had been received. On 25 August, during real time support, the station was configured to the Y Processor (octal 035) and a normal downlink telemetry modulation signal was received. The central station will remain in this mode of operation.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. *The experiment received a spurious functional command (PSE Coarse Level Sensor IN, octal 102) as observed by the Merritt Island Tracking Station at 0938 G.m.t., 22 August. At the request of mission control the Goldstone Tracking Station uplinked in Mode I, Coarse Level Sensor Out (octal 102) at 1144 G.m.t., 22 August, returning the experiment to its normal mode.* The Z-motor is ON to maximize heating in the instrument during lunar night. *A significant seismic event was observed during real-time support at 1426 G.m.t., 25 August, lasting approximately 30 minutes.*
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 25 August 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2471	1929	1852	1587
Total Commands to Date	30196	16459	36625	22136
Sun Angle	253.0°	258.9°	280.1°	291.9°
Input Power	50.4w *(51.3w)*	60.6w *(61.0w)*	54.7w *(55.4w)*	63.6w *(63.6w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	5.9°F	25.9°	-3.1°F	28.8°F
PSE Sensor Temp (DL-07)	124.5°F	124.1°F	124.4°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.6°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.7°C	N/A
CCGE Temp (DI-04)	OFF	OFF	108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.4°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1352
Total Commands to Date	35497
Sun Angle	307.2°
Input Power	66.4w *(66.6w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	13.7°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-58.0°F
HFE Temp Ref 1 (DH-13)	285.4°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	17.5°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 08/26/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
20 AUGUST	ACN/MIL	Higher Priority	LOS 20/0528 AOS 20/0623	ALL	55^{m}
21 AUGUST	GWM/ACN	Higher Priority	LOS 21/0446 AOS 21/0530	ALL	44^{m}
22 AUGUST	ACN/MIL	Higher Priority	LOS 22/0700 AOS 22/0812	ALL	$1^{h}12^{m}$
23 AUGUST	ACN	Higher Priority	LOS 23/0654 AOS 23/0726	ALL	32^{m}
24 AUGUST	ACN/MIL	Higher Priority	LOS 24/0925 AOS 24/1017	ALL	52^{m}
24 AUGUST	MIL	Loss of Modulation	LOS 24/1017 AOS 24/1052	A14	35^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

Please insert as corrected sheet for Apollo 15 ALSEP in the APOLLO ALSEP PERFORMANCE SUMMARY REPORT dated 19 August 1976 to 26 August 1976.

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 08/221	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100
AUG 15/228	**16/229**	**17/230**	**18/231**	**19/232**	**20/233**	**21/234**
0000-0100 ALSEP 17 LEAM STBY LSG STBY LSPE ON HBR ON 1300-1400 2300-2400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 HFE ON ALSEP 14 CPLEE ON	0900-1100 ALSEP 17 NBR ON - 52^{m} LEAM ON ALSEP 17 & 15 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 LEAM STBY NBR - 1^{h}25^{m}	0900-1100 ALSEP 15 HFE RBS ALSEP 17 NBR - 22^{m}	0900-1100 ALSEP 17 NBR - 07^{m} ALSEP 15 HFE STBY
AUG 22/235	**23/236**	**24/237**	**25/238**	**26/239**	**27/240**	**28/241**
NO SUPPORT	0900-1100 ALSEP 17 NBR - 58^{m} HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 NBR	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 C/S HTR OFF	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 17 NBR ALSEP 16 LSM FLIP CAL 2300-2400	0900-1100
SEP 05/249	06/250	07/251	08/252	09/253	10/254	11/255
0900-1100 ALSEP 15 SIDE STBY	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON
SEP 12/256	13/257	14/258	15/259	16/260	17/261	18/262
0900-1100	1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON	0900-1100 ALSEP 15 ALSEP 17 NBR	0900-1100	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 ALSEP 17 NBR	0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON 1400-1600

ALSEP PERFORMANCE SUMMARY REPORT

2 September 1976
G.m.t.: 1700

Apollo 17 ALSEP

The station is operated in the Lunar Seismic Profiling Format ON (High Bit Rate, 3533.3 bits per second). In this mode of operation only selected items of central station engineering data are available and other science and engineering data from the central station and the other experiments are lost. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to check the engineering and science data of the C/S and HFE. The other experiments are in STANDBY.

Sunrise of the 47th lunation occurred on 29 August, at the Taurus Littrow site. Downlink signal strength is reported at -138.0 $\pm$ 3.0 dbm, from transmitter A, by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. Ring bridge surveys are being achieved on a weekly basis. On 1 September the lunar surface temperature, as measured by the HFE thermocouples, was 206 $\pm$ 8°k. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Science Requirements Branch TN3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 26 August 1976, to 1700 G.m.t., 2 September 1976

Central station	Sunrise at the Descartes Site occurred on 31 August for the 55th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -136.0 $\pm$ 4.0 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 31 August for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN.) No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been resumed for this lunar day and a total of 1194 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 26 August 1976, to 1700 G.m.t., 2 September 1976

Central station	Sunrise of the 64th lunation occurred on 1 September at the Hadley Rille Site. Transmitter B downlink signal strength of -138.5 ± 2.5 dbm is reported by the tracking stations with 30-foot antennas. *The central station experienced a spurious functional change (DSS-2 5 watt Heater ON, octal 017) between the real-time support periods of 31 August and 1 September. A command verification word was not reported. At 1355 G.m.t., 1 September, the 5 watt Heater was commanded OFF (octal 021) by mission control.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the -3.5 Kvdc Channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 Kvdc) remains OFF. *At 2341 G.m.t., 18 August, the SIDE experienced a command register change (Master Reset, octal 107) to Load 008 caused by receiving a spurious command as reported by the Guam Tracking Station. The SIDE was commanded back to Reset Frame Counter at 39 on 20 August at 0118 G.m.t. during real-time support.*
Heat flow experiment	The instrument was commanded OFF at 1422 G.m.t., 2 September. The experiment had been in STANDBY since 21 August.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 26 August 1976, to 1700 G.m.t., 2 September 1976

Central station	Midnight at the Apollo 14 site occurred on 26 August for the 69th lunation. The DSS-1 (10 watt) heater is ON for lunar night operation. A signal strength of -137.0 $\pm$ 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 26 August 1976, to 1700 G.m.t., 2 September 1976

Central station	Midnight of the 84th lunation occurred on 27 August. A signal strength of -136.5 ± 4.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. *The Passive Seismometer sensor temperature (DL-07) remained onscale this lunar night as it did during the 26 June to 6 July 1976 lunar night. The previous onscale indications, for the sensor temperature during lunar night, were 26 May to 10 June 1973. The short period Z-axis sensor has returned with continuous onscale readings during the 21 July to 4 August and 19 August to 2 September lunar nights. Analysis to determine the reasons for the onscale indications is being conducted.* The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1976.

Status as of 1600 G.m.t., 2 September 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2479	1937	1860	1595
Total Commands to Date	30212	16481	36710	22195
Sun Angle	350.8°	356.8°	17.9°	29.8°
Input Power	49.7w	60.2w	55.0w	63.2w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM/SWS/HFE OFF	ASE OFF
Avg Thermal Plate Temp	3.5°F	25.0°	57.2°	72.5°
PSE Sensor Temp (DL-07)	124.4°F	124.1°F	125.8°F	126.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	38.3°C
SWS Module 300 Temp (DW-13)	-16.0°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	35.3°C	N/A
CCGE Temp (DI-04)	OFF	OFF	323.8°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.4°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP *1 September 1976*
Total Days of Operation	1359
Total Commands to Date	35535
Sun Angle	45.0°
Input Power	64.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	60.6°F
LACE Temp (AM-41)	107.5°F
LEAM Temp (AJ-11)	165.2°F
HFE Temp Ref 1 (DH-13)	305.1°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	63.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 09/02/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
26 AUGUST	ACN	Higher Priority	LOS 26/0940 AOS 26/1029	ALL	49m
26 AUGUST	ACN/MIL	Higher Priority	LOS 26/1156 AOS 26/1237	ALL	41m
27 AUGUST	ORR/ACN	Higher Priority	LOS 27/0800 AOS 27/0843	ALL	43m
27 AUGUST	ACN	Higher Priority	LOS 27/0944 AOS 27/1034	ALL	50m
28 AUGUST	GWM/ACN	Higher Priority	LOS 28/1026 AOS 28/1058	ALL	32m
29 AUGUST	GWM/ACN	Higher Priority	LOS 29/1117 AOS 29/1152	ALL	35m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 08/221	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	0900-1100
AUG 15/228	**16/229**	**17/230**	**18/231**	**19/232**	**20/233**	**21/234**
0000-0100 ALSEP 17 LEAM STBY LSG STBY LSPE ON HBR ON 1300-1400 2300-2400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 HFE ON ALSEP 14 CPLEE ON	0900-1100 ALSEP 17 NBR ON - 52^{m} LEAM ON ALSEP 17 & 15 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 LEAM STBY NBR - 1^{h}25^{m}	0900-1100 ALSEP 15 HFE RBS ALSEP 17 NBR - 22^{m}	0900-1100 ALSEP 17 NBR - 07^{m} ALSEP 15 HFE STBY
AUG 22/235	**23/236**	**24/237**	**25/238**	**26/239**	**27/240**	**28/241**
NO SUPPORT	0900-1100 ALSEP 17 NBR - 58^{m} HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR - 12^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR - 15^{m}	NO SUPPORT

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 NBR - 13^{m}	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 17 NBR - 56^{m} HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF ALSEP 17 NBR ALSEP 16 LSM FLIP CAL 2300-2400	0900-1100 ALSEP 14 CPLEE STBY
SEP 05/249	**06/250**	**07/251**	**08/252**	**09/253**	**10/254**	**11/255**
0900-1100 ALSEP 15 SIDE STBY	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON
SEP 12/256	**13/257**	**14/258**	**15/259**	**16/260**	**17/261**	**18/262**
0900-1100	1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON	0900-1100 ALSEP 15 ALSEP 17 NBR HFE RBS ALSEP 14 CPLEE ON	0900-1100	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 ALSEP 17 NBR	0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON 1400-1600

ALSEP PERFORMANCE SUMMARY REPORT

9 September 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 47th lunation occurred on 6 September at the Taurus Littrow site. A downlink signal strength between -135.0 and -140.5 dbm was reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 8 September the lunar surface temperature, as measured by the HFE thermocouples, was 364 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 2 September 1976, to 1700 G.m.t., 9 September 1976

Central station	Noon at the Descartes Site occurred on 7 September for the 55th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength between -133.0 and -140.0 dbm was reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return on-scale 15 September. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1200 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 2 September 1976, to 1700 G.m.t., 9 September 1976

Central station	Noon of the 64th lunation occurred on 8 September at the Hadley Rille Site. Transmitter B downlink signal strength was reported between -133.0 and -142.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 11 September. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 K vdc) remains OFF.
Heat flow experiment	The HFE is OFF. The experiment will remain OFF for an extended cool down period this lunar day.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 2 September 1976, to 1700 G.m.t., 9 September 1976

Central station	Sunrise at the Apollo 14 site (70th lunation) occurred on 2 September. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -140.5 ± 4.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network contruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. *At 2201 G.m.t., 8 September, a spurious functional change (feedback loop filter IN, Octal 101) with a command verification word was noted by the Ascension Island Tracking Station. The station commanded the PSE filter OUT (Octal 101) by Mode I at 2331 G.m.t., 8 September, at the direction of mission control.* The heater is Forced OFF for the lunar day operation. No significant seismic events were noted during real time support of this report period.
Active seismic experiment	The experiment is in STANDBY.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The Experiment was commanded to STANDBY 5 September.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 2 September 1976, to 1700 G.m.t., 9 September 1976

Central station	Sunrise of the 85th lunation occurred on 3 September. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -136.0 and -145.0 dbm from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 9 September 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2466	1944	1867	1602
Total Commands to Date	30331	16525	36815	22306
Sun Angle	76.1°	82.0°	103.2°	115.0°
Input Power	51.4w	61.1w	55.4w	63.0w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE & CPLEE STBY	LSM/SWS/HFE OFF & SIDE STBY	ASE OFF
Avg Thermal Plate Temp	89.9°F	110.9°F	112.4°F	100.4°F
PSE Sensor Temp (DL-07)	135.6°F	132.1°F	Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	43.5°C
SWS Module 300 Temp (DW-13)	64.3°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	STBY	N/A
CCGE Temp (DI-04)	OFF	OFF	STBY	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	75.7°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1366
Total Commands to Date	35587
Sun Angle	130.3°
Input Power	64.5w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	82.7°F
LACE Temp (AM-41)	143.8°F
LEAM Temp (AJ-11)	204.0°F
HFE Temp Ref 1 (DH-13)	319.5°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	86.3°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 9/09/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
03 SEPTEMBER	ACN	Higher Priority	LOS 03/1610 AOS 03/1702	ALL	52^m
08 SEPTEMBER	MIL	Station Problem	LOS 08/0438 AOS 08/0455	A12-A15-A16-A17	17^m
08 SEPTEMBER	MIL	Station Problem	LOS 08/0450 AOS 08/0455	A14	05^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 NBR - 13^{m}	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 17 NBR - 56^{m} HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF ALSEP 17 NBR - 18^{m} ALSEP 16 LSM FLIP CAL 2300-2400	0900-1100 ALSEP 14 CPLEE STBY
SEP 05/249	**06/250**	**07/251**	**08/252**	**09/253**	**10/254**	**11/255**
0900-1100 ALSEP 15 SIDE STBY	0900-1100 ALSEP 17 NBR - 17^{m} ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 NBR - 1^{h}29^{m} HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12^{m}	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON
SEP 12/256	**13/257**	**14/258**	**15/259**	**16/260**	**17/261**	**18/262**
0900-1100	1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON	0900-1100 ALSEP 15 ALSEP 17 NBR HFE RBS ALSEP 14 CPLEE ON	0900-1100	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 ALSEP 17 NBR	0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON 1400-1600

ALSEP PERFORMANCE SUMMARY REPORT

16 September 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunset of the 47th lunation occurred on 13 September at the Taurus Littrow site. Downlink signal strength is reported at -136.5 ± 6.5 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 15 September the lunar surface temperature, as measured by the HFE thermocouples, was 115 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

Central station	Sunset at the Descartes Site occurred on 14 September for the 55th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -137.5 $\pm$ 4.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

Central station	Sunset of the 64th lunation occurred at the Hadley Rille Site on 15 September. Transmitter B downlink signal strength is reported at -136.5 ± 4.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+4.5 Kvdc) remains OFF.
Heat flow experiment	The instrument was operated in STANDBY from 21 August to 2 September and in OFF from 2-15 September. The instrument was commanded to STANDBY on 15 September and to ON on 16 September. Engineering and science data had not stabilized and were not available. The instrument is presently operating in the gradient mode and all sensors are being sampled in full sequence.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

Central station	Noon of the 70th lunation at the Apollo 14 site occurred on 10 September. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -134.0 to -144.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. The heater was commanded to Auto ON in preparation for lunar night operation. No significant seismic events were noted during real time support of this report period.
Active seismic experiment	The experiment is in STANDBY.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment was commanded ON at 1854 G.m.t., 15 September, and is in the manual mode at the -35 vdc range and the automatic thermal control mode.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

Central station	Noon of the 85th lunation occurred on 10 September. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -134.0 and -143.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) was offscale HIGH from 11 to 16 September. No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 16 September 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2493	1951	1874	1609
Total Commands to Date	30370	16560	36964	22443
Sun Angle	160.5°	166.5°	187.2°	199.1°
Input Power	51.4w	61.1w	54.4w	63.6w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	DSS-1 (10w) OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM/SWS OFF	ASE OFF
Avg Thermal Plate Temp	67.5°F	64.5°F	5.8°F	30.6°F
PSE Sensor Temp (DL-07)	141.4°F	125.3°F	124.8°F	126.0°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-7.7°C
SWS Module 300 Temp (DW-13)	45.1°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.8°C	N/A
CCGE Temp (DI-04)	OFF	OFF	135.9°K	N/A
CPLEE Elect Temp (AC-06)	N/A	17.4°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	74.2°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	NOT AVAIL.	OFF

TM POINT	APOLLO 17 ALSEP
	15 September 1976, 1900 G.m.t.
Total Days of Operation	1374
Total Commands to Date	35627
Sun Angle	205.0°
Input Power	66.4w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	15.2°F
LACE Temp (AM-41)	-14.0°F
LEAM Temp (AJ-11)	-52.0°F
HFE Temp Ref 1 (DH-13)	285.1°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	18.8°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 09/16/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
13 SEPTEMBER	MAD/GWM	Higher Priority	LOS 13/2320 AOS 13/2327	ALL	07^{m}
14 SEPTEMBER	MAD	Higher Priority	LOS 14/0130 AOS 14/0214	ALL	44^{m}
15 SEPTEMBER	MAD	Higher Priority	LOS 15/0135 AOS 15/0218	ALL	43^{m}
15 SEPTEMBER	ORR	Station Problem	LOS 15/2226 AOS 15/2230	ALL	04^{m}
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AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 NBR - 13m	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 17 NBR - 56m HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF ALSEP 17 NBR - 18m ALSEP 16 LSM FLIP CAL 2300-2400	0900-1100 ALSEP 14 CPLEE STBY
SEP 05/249	**06/250**	**07/251**	**08/252**	**09/253**	**10/254**	**11/255**
0900-1100 ALSEP 15 SIDE STBY	0900-1100 ALSEP 17 NBR - 17m ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 17 NBR - 58m HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12m	0900-1100 ALSEP 17 NBR - 19m ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON
SEP 12/256	**13/257**	**14/258**	**15/259**	**16/260**	**17/261**	**18/262**
0900-1100	1400-1600 ALSEP 17 NBR - 07m ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	1300-1500 ALSEP 15 HFE STBY ALSEP 17 NBR - 47m HFE RBS ALSEP 14 CPLEE ON	0900-1100 ALSEP 15 HFE ON	0900-1100 ALSEP 14 C/S HTR ON ALSEP 12 ALSEP 17 NBR	0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON 1400-1600

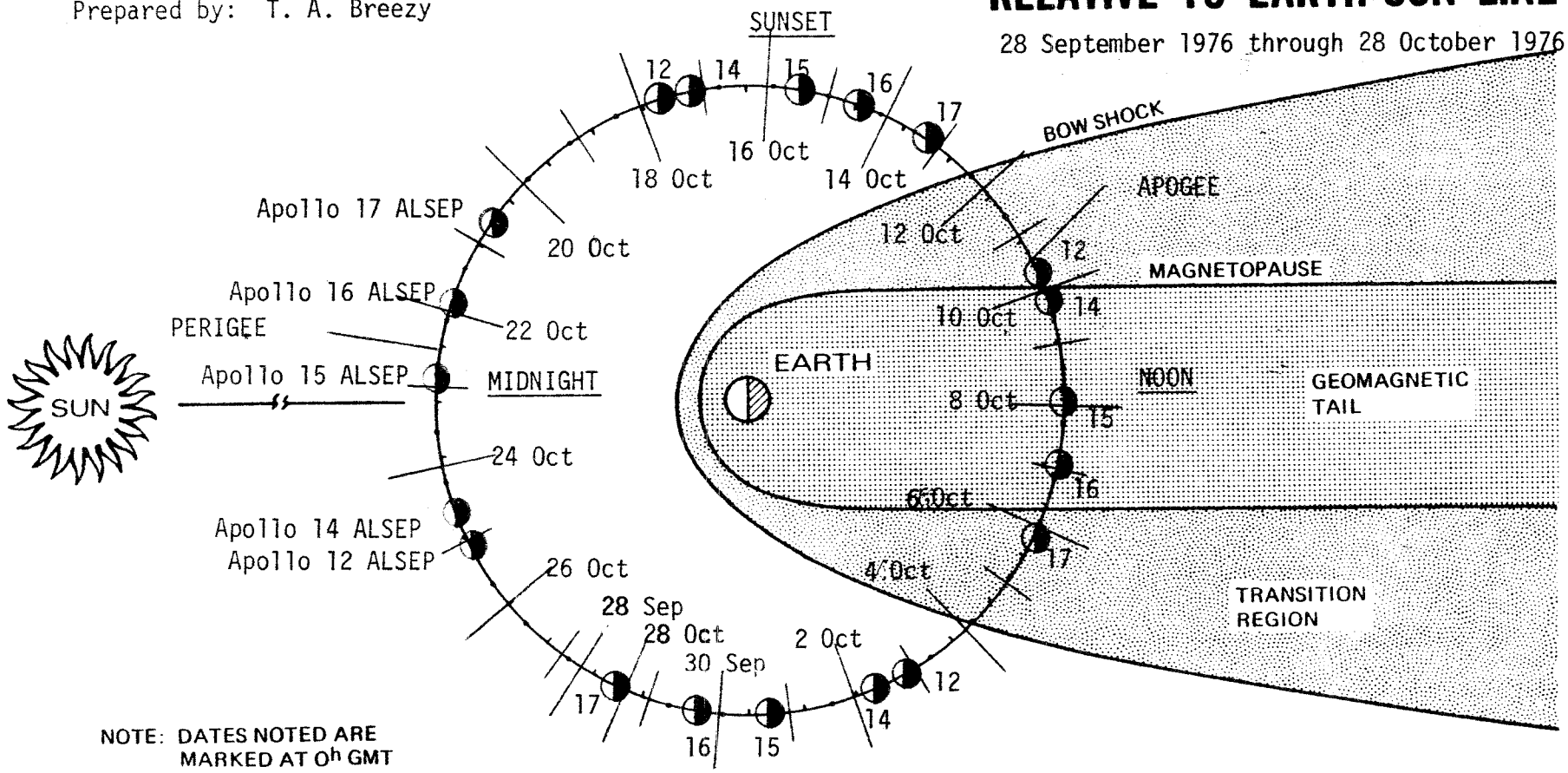
SEP 19/263	20/264	21/265	22/266	23/267	24/268	25/269
0900-1100	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT
SEP 26/270	**27/271**	**28/272**	**29/273**	**30/274**	**OCT 01/275**	**02/276**
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 12
OCT 03/277	**04/278**	**05/279**	**06/280**	**07/281**	**08/282**	**09/283**
0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE	1500-1900 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

28 September 1976 through 28 October 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	21Sep/0255	28Sep/1137	(48)050ct/2054	130ct/0629	200ct/1540
16	22Sep/0849	29Sep/1736	(56)070ct/0258	140ct/1231	210ct/2136
15	23Sep/0806	30Sep/1655	(65)080ct/0222	150ct/1153	220ct/2054
14	25Sep/0136	020ct/1034	(71)090ct/2005	170ct/0531	240ct/1428
12	25Sep/1316	020ct/2221	(86)100ct/0748	170ct/1616	250ct/0208

NASA-JSC

ALSEP PERFORMANCE SUMMARY REPORT

23 September 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 47th lunation occurred on 21 September at the Taurus Littrow site. Downlink signal strength is reported at -140.5 ± 4.5 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 22 September the lunar surface temperature, as measured by the HFE thermocouples, was 109 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 16 September 1976, to 1700 G.m.t., 23 September 1976

Central station	Midnight at the Descartes Site occurred on 22 September for the 55th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -137.5 ± 3.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 16 September 1976, to 1700 G.m.t., 23 September 1976

Central station	Midnight of the 64th lunation occurred today at the Hadley Rille Site. Transmitter B downlink signal strength is reported at -140.0 ± 4.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.
Heat flow experiment	*The instrument was commanded to STANDBY, 20 September, to increase the central station's reserve power during lunar night. During the operational period from 16 September the engineering and science data appeared normal, as had been indicated following the previous cool down periods. To further evaluate the experiment on 18 September a ring bridge survey was conducted for this lunation to obtain another data point.* *For additional information, on 20 September the lunar surface temperature was 88.8°K as measured by the cable thermocouples. The subsurface temperature was 253.7°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.3°K at its lowermost point.*
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 16 September 1976, to 1700 G.m.t., 23 September 1976

Central station	Sunset of the 70th lunation at the Apollo 14 site occurred on 17 September. The DSS-1 (10 watt) heater is ON for lunar night operation. A signal strength of -137.5 ± 2.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	*The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The PSE feedback loop filter was commanded IN on 18 September. Based on science data observations noted during the operation of the experiment on 8 September as a result of a spurious command to the feedback filter it was decided to command the filter IN. Future operation of the PSE will be with the filter IN unless the science data deteriorates.* No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 16 September 1976, to 1700 G.m.t., 23 September 1976

Central station	Sunset of the 85th lunation occurred on 18 September. A signal strength of -139.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The Z-motor is ON to maximize heating in the instrument during the lunar night. The sensor temperature (DL-07) was offscale LOW on 20 September and is expected to return onscale 2 October. *At 0417 G.m.t., 19 September, the experiment responded to a spurious command (PSE long period calibration ON, octal 066) as reported by the Madrid Tracking Station. During real time support on 19 September this was confirmed by mission control and the long period calibration was commanded OFF (octal 066).* No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 22 September 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2499	1957	1880	1615
Total Commands to Date	30431	16585	37040	22478
Sun Angle	234.7°	240.7°	261.8°	273.7°
Input Power	49.7w *(50.9w)*	60.3w *(61.0w)*	53.9w *(54.7w)*	63.6w *(63.6w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM/SWS OFF & HFE STBY	ASE OFF
Avg Thermal Plate Temp	4.4°F	25.9°F	-4.5°F	28.8°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.5°F	125.9°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-15.2°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.8°C	N/A
CCGE Temp (DI-04)	OFF	OFF	110.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-21.9°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.1°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1380
Total Commands to Date	35659
Sun Angle	288.9°
Input Power	65.7w *(66.4w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	12.8°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-58.0°F
HFE Temp Ref 1 (DH-13)	285.1°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	17.5°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 09/23/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
17 September	MAD	Higher Priority	LOS 17/0145 AOS 17/0231	ALL	46^{m}
17 September	MIL	JSC Problem	LOS 17/1514 AOS 17/1600	A-14	46^{m}
17 September	ORR	Station Problem	LOS 17/2001 AOS 17/2007	ALL	06^{m}
18 September	GDS	Station Problem	LOS 18/1530 AOS 18/1542	A-17	12^{m}
19 September	MAD	Higher Priority	LOS 19/0834 AOS 19/0932	ALL	58^{m}
21 September	MAD/MIL	Station Problem & Higher Priority	LOS 21/0850 AOS 21/0944	ALL	54^{m}
22 September	MAD	Higher Priority	LOS 22/0840 AOS 22/0919	ALL	39^{m}
			LOS AOS		
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			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
NO SUPPORT ALSEP 17	0900-1100 ALSEP 17 NBR - 13m	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	0900-1100 ALSEP 17 NBR - 56m HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF ALSEP 17 NBR - 18m ALSEP 16 LSM FLIP CAL 2300-2400	0900-1100 ALSEP 14 CPLEE STBY
SEP 05/249	**06/250**	**07/251**	**08/252**	**09/253**	**10/254**	**11/255**
0900-1100 ALSEP 15 SIDE STBY	0900-1100 ALSEP 17 NBR - 17m ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 17 NBR - 58m HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12m	0900-1100 ALSEP 17 NBR - 19m ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON
SEP 12/256	**13/257**	**14/258**	**15/259**	**16/260**	**17/261**	**18/262**
0900-1100	1400-1600 ALSEP 17 NBR - 07m ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	1300-1500 ALSEP 15 HFE STBY ALSEP 17 NBR - 47m HFE RBS ALSEP 14 CPLEE ON	0900-1100 ALSEP 15 HFE ON	0900-2400 ALSEP 14 C/S HTR ON ALSEP 12	0000-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 54m ALSEP 17 & 15 HFE RBS 1400-1600

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

SEP 19/263	20/264	21/265	22/266	23/267	24/268	25/269
0900-1100	0900-1100 ALSEP 17 NBR - 08^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR - 14^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT
SEP 26/270	27/271	28/272	29/273	30/274	OCT 01/275	02/276
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 12
OCT 03/277	04/278	05/279	06/280	07/281	08/282	09/283
0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE	1500-1900 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE

ALSEP PERFORMANCE SUMMARY REPORT

30 September 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 48th lunation occurred on 28 September at the Taurus Littrow site. Downlink signal strength is reported at -139.5 ± 2.5 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 29 September the lunar surface temperature, as measured by the HFE thermocouples, was 194 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 23 September 1976, to 1700 G.m.t., 30 September 1976

Central station	Sunrise at the Descartes Site occurred on 29 September for the 56th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength of -134.5 ± 3.5 dbm is reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater was commanded OFF on 30 September for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences will be resumed on 1 October for this lunar day. A total of 1204 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 23 September 1976. to 1700 G.m.t., 30 September 1976

Central station	Sunrise of the 65th lunation occurred today, 30 September, at the Hadley Rille Site. Transmitter B downlink signal strength of -137.0 $\pm$ 6.0 dbm is reported by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the -3.5 Kvdc Channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.
Heat flow experiment	The instrument is in STANDBY.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 23 September 1976, to 1700 G.m.t., 30 September 1976

Central station	Midnight at the Apollo 14 site occurred on 25 September for the 70th lunation. The DSS-1 (10 watt) heater is ON for lunar night operation. A signal strength of -138.0 ± 5.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP). No significant seismic events were noted during the real time support periods.
Active seismic experiment	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode. It is planned to leave the experiment in this configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 23 September 1976, to 1700 G.m.t., 30 September 1976

Central station	Midnight of the 85th lunation occurred on 25 September. A signal strength of -137.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. The Passive Seismometer sensor temperature (DL-07) remains offscale LOW this lunar night. It is predicted to return onscale when lunar sunrise occurs on 2 October. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1976.

Status as of 1400 G.m.t., 30 September 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2507	1965	1888	1623
Total Commands to Date	30444	16608	37098	22510
Sun Angle	331.4°	337.5°	358.6°	10.4°
Input Power	49.3w	59.8w	53.3w	63.2w
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE STBY	LSM/SWS OFF & HFE STBY	ASE OFF
Avg Thermal Plate Temp	1.6°F	24.5°F	-6.1°F	62.2°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.4°F	126.2°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	22.1°C
SWS Module 300 Temp (DW-13)	-16.1°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.8°C	N/A
CCGE Temp (DI-04)	OFF	OFF	106.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-22.7°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	-71.1°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP
	29 September, 1445 G.m.t.
Total Days of Operation	1387
Total Commands to Date	35812
Sun Angle	13.8°
Input Power	64.9w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LSG & LEAM STBY
Avg Thermal Plate Temp	66.8°F
LACE Temp (AM-41)	65.7°F
LEAM Temp (AJ-11)	110.3°F
HFE Temp Ref 1 (DH-13)	291.6°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	71.4°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 09/30/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
23 September	ORR	Station Problem	LOS 23/0043 AOS 23/0045	ALL	02^{m}
23 September	MAD	Higher Priority	LOS 23/0845 AOS 23/0926	ALL	41^{m}
24 September	MAD	Higher Priority	LOS 24/0845 AOS 24/0927	ALL	42^{m}
24 September	MAD	Higher Priority	LOS 24/1029 AOS 24/1117	ALL	48^{m}
25 September	MAD	Higher Priority	LOS 25/11032 AOS 25/1134	ALL	$1^{h}02^{m}$
26 September	MAD	Higher Priority	LOS 26/1059 AOS 26/1113	ALL	14^{m}
28 September	MAD	Schedule Problem	LOS 28/1156 AOS 28/1200	A14	04^{m}
29 September	ORR/MAD	Schedule Problem	LOS 29/1253 AOS 29/1256	ALL	03^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

SEP 19/263	20/264	21/265	22/266	23/267	24/268	25/269
0900-1100	0900-1100 ALSEP 17 NBR - 08^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR - 14^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR - 56^{m} HFE RBS	NO SUPPORT
SEP 26/270	27/271	28/272	29/273	30/274	OCT 01/275	02/276
NO SUPPORT	0900-1100 ALSEP 17 NBR - 21^{m}	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR - 46^{m} HFE RBS	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	0937-1137 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	1100-1300 ALSEP 14 ALSEP 12
OCT 03/277	04/278	05/279	06/280	07/281	08/282	09/283
0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE	1500-1900 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE

ALSEP PERFORMANCE SUMMARY REPORT

7 October 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 48th lunation occurred on 5 October at the Taurus Littrow site. A downlink signal strength between -130.0 and -139.0 dbm was reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 6 October the lunar surface temperature, as measured by the HFE thermocouples, was 369 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is OFF.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 30 September 1976, to 1700 G.m.t., 7 October 1976

Central station	Noon at the Descartes Site occurred on 7 October for the 56th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength between -134.0 and -142.5 dbm was reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return on-scale 14 October. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1210 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 30 September 1976, to 1700 G.m.t., 7 October 1976

Central station	Noon of the 65th lunation will occur on 8 October at the Hadley Rille Site. Transmitter B downlink signal strength was reported between -130.0 and -141.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 9 October. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.
Heat flow experiment	The HFE is OFF. The experiment will remain OFF for an extended cool down period this lunar day.
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 30 September 1976, to 1700 G.m.t., 7 October 1976

Central station	Sunrise at the Apollo 14 site (71st lunation) occurred on 2 October. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -142.0 $\pm$ 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP). The heater is Forced OFF for the lunar day operation. No significant seismic events were noted during real time support of this report period.
Active seismic experiment	The experiment is in STANDBY.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The Experiment was commanded to STANDBY 4 October.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 30 September1976, to 1700 G.m.t., 7 October 1976

Central station	Sunrise of the 86th lunation occurred on 2 October. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -137.0 and -143.0 dbm from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data. *From 1 October through 3 October it was noted that the data output of the sum cups levels 1 through 14 during the instrument's AC calibrate measurements (sequence 15) was giving an invalid indication. This anomaly has previously been observed. At 0407 G.m.t., 5 October, a spurious functional command (SWS to STANDBY, octal 046) was observed by the Santiago Tracking Station. The SWS was turned back ON (octal 045) by Mode I command from the Merritt Island Tracking Station at 0543 G.m.t., 5 October, at the request of mission control.*
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar Surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 7 October 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2514	1972	1895	1630
Total Commands to Date	30543	16670	37238	22612
Sun Angle	57.7°	63.6°	84.8°	96.6°
Input Power	50.7w	60.7w	54.7w	63.2w
Heater and Power Dumps	ALL OFF	ALL OFF	ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF/ASE & CPLEE STBY	LSM/SWS OFF & HFE OFF	ASE OFF
Avg Thermal Plate Temp	90.8°F	108.3°F	111.4°F	104.4°F
PSE Sensor Temp (DL-07)	129.1°F	129.2°F	Offscale HIGH	Offscale HIGH
LSM Internal Temp (DM-05)	OFF	N/A	OFF	47.0°C
SWS Module 300 Temp (DW-13)	64.3°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	STBY	N/A
CCGE Temp (DI-04)	OFF	OFF	STBY	N/A
CPLEE Elect Temp (AC-06)	N/A	STBY	N/A	N/A
ASE GLA Temp (AS-03)	N/A	71.2°C	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	OFF	OFF

TM POINT	APOLLO 17 ALSEP *6 October, 2300 G.m.t.*
Total Days of Operation	1394
Total Commands to Date	35847
Sun Angle	111.8°
Input Power	64.1w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSG STBY/LEAM OFF
Avg Thermal Plate Temp	90.8°F
LACE Temp (AM-41)	157.7°F
LEAM Temp (AJ-11)	194.0°F
HFE Temp Ref 1 (DH-13)	327.9°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	94.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/07/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
30 September	AGO	RFI	LOS 30/2335 AOS 30/2345	ALL	10^m
04 October	ORR	Station Problem	LOS 04/1259 AOS 04/1311	ALL	12^m
04 October	MAD/AGO	Higher Priority	LOS 04/1949 AOS 04/2039	ALL	50^m
05 October	MAD	Higher Priority	LOS 05/2000 AOS 05/2034	ALL	34^m
06 October	ORR	Station Problem	LOS 06/1422 AOS 06/1435	ALL	13^m
06 October	MAD	Higher Priority	LOS 06/2001 AOS 06/2044	ALL	43^m
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			LOS AOS		
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			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

SEP 19/263	20/264	21/265	22/266	23/267	24/268	25/269
0900-1100	0900-1100 ALSEP 17 NBR - 08m ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 17 NBR - 14m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 56m HFE RBS	NO SUPPORT
SEP 26/270	27/271	28/272	29/273	30/274	OCT 01/275	02/276
NO SUPPORT	0900-1100 ALSEP 17 NBR - 21m	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR - 46m HFE RBS	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	0937-1137 ALSEP 17 NBR - 11m LEAM OFF ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0830-1030 ALSEP 14 ALSEP 12
OCT 03/277	04/278	05/279	06/280	07/281	08/282	09/283
0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 14m	0900-1100 ALSEP 15 CYCLE SIDE	1600-2000 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR - 56m HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE

TIMES - Local

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM STBY	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 HFE STBY ALSEP 14 CPLEE ON ALSEP 17 NBR	0900-1100 ALSEP 15 HFE ON
OCT 17/291	**18/292**	**19/293**	**20/294**	**21/295**	**22/296**	**23/297**
1500-1900 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 17 NBR ALSEP 15 HFE RBS	0900-1100	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT
OCT 24/298	**25/299**	**26/300**	**27/301**	**28/302**	**29/303**	**30/304**
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET

ALSEP PERFORMANCE SUMMARY REPORT

14 October 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunset of the 48th lunation occurred on 13 October at the Taurus Littrow site. Downlink signal strength is reported between -138.0 and -140.5 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 13 October the lunar surface temperature, as measured by the HFE thermocouples, was 124 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 257.0 °K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

Central station	Sunset at the Descartes Site occurred on 14 October for the 56th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength from transmitter B is reported between -136.5 and -140.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) returned onscale today, 14 October, at a reading of 142.8°F and a sun angle of 175.6°. No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences will be discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

Central station	Noon of the 65th lunation occurred at the Hadley Rille Site on 8 October. Transmitter B downlink signal strength is reported at -138.5 ± 2.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature returned onscale, 11 October, and was reading 138.8°F at a sun angle of 132.3°. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+4.5 Kvdc) remains OFF.
Heat flow experiment	The instrument is in STANDBY.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

The Goldstone Tracking Station reported an abrupt loss of the downlink telemetry signal at 053658 G.m.t., 9 October. Commands, to turn transmitters ON, were sent Mode I through Goldstone, but all resulted in spacecraft rejects. Subsequent commanding during real-time support also resulted in spacecraft rejects. Again, playback of the data just prior to LOS showed no abnormalities of the housekeeping parameters which would indicate cause for the drop. The cause is believed similar to the previous shutdowns. The downlink signal strength from transmitter B was -132.0 dbm on an 85 foot antenna at the time of LOS. This is the fifth LOS for the Apollo 14 ALSEP.

APOLLO 14 ALSEP STATUS AT LOS

	LOS	LOS	LOS	LOS	*LOS*
Date	1 Mar 75	18 Jan 76	17 Mar 76	8 Jun 76	*9 Oct 76*
Sun Angle	108.1°	95.2°	85.6°	23.4°	*82.6°*
Avg Therm. Plate	115.8°F	119.6°F	116.5°F	71.5°F	*113.6°F*
RTG Power	63.63w	61.74w	61.94w	61.86w	*60.72w*
Res. Power	39.11w	36.51w	36.94w	33.04w	*35.85w*
Transmitter	A	A	A	B	*B*
Receiver	ON-Xtal A	OFF	ON-Xtal B	ON-Xtal B	*ON-Xtal A*
PCU	1	2	1	1	*1*
PSE	ON	ON	ON	ON	*ON*
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	*Forced OFF*
CPLEE	STBY	STBY	STBY	ON	*STBY*
SIDE	UNK	UNK	OFF	OFF	*OFF*
ASE	STBY	STBY	STBY	STBY	*STBY*
DTREM	ON	ON	ON	ON	*ON*

Central station

Noon of the 71st lunation at the Apollo 14 site occurred on 9 October. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength of -138.5 to -143.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations prior to LOS. *Between 0045 and 1418 G.m.t., 7 October, the central station responded to a spurious command (Timer Output Accept, octal 032). The corrective commands (PSE Calibration Short Period OFF, octal 065, and PSE Uncage to OT, octal 073) were sent at 1427 G.m.t., 8 October.*

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

Passive seismic experiment	The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP). The heater was commanded to Forced OFF on 6 October for lunar day operation. No significant seismic events were noted during real time support of the report period prior to LOS.
Active seismic experiment	The experiment was in STANDBY at LOS.
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.
Charged particle lunar environmental experiment	The experiment was in STANDBY at LOS.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

Central station	Noon of the 86th lunation occurred on 10 October. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -139.0 and -141.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) was offscale HIGH at a sun angle of 105.5° on 11 October. No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar Surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 14 October 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
		At LOS: 0536 G.m.t. 10/9/76		
Total Days of Operation	2521	*1974*	1902	1637
Total Commands to Date	30590	*16674*	37370	22727
Sun Angle	142.8°	*82.6°*	169.5°	181.3°
Input Power	50.7w	*60.7w*	53.6w	63.7w
Heater and Power Dumps	ALL OFF	*ALL OFF*	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	*SIDE OFF/ASE & CPLEE STBY*	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	82.2°F	*113.6°F*	65.6°F	30.6°F
PSE Sensor Temp (DL-07)	Offscale HIGH	*132.1°F*	125.5°F	130.3°F
LSM Internal Temp (DM-05)	OFF	*N/A*	OFF	17.1°C
SWS Module 300 Temp (DW-13)	57.5°C	*N/A*	OFF	N/A
SIDE Temp (DI-05)	OFF	*OFF*	56.5°C	N/A
CCGE Temp (DI-04)	OFF	*OFF*	301.5°K	N/A
CPLEE Elect Temp (AC-06)	N/A	*STBY*	N/A	N/A
ASE GLA Temp (AS-03)	N/A	*77.2°C*	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	*N/A*	STBY	OFF

TM POINT	APOLLO 17 ALSEP
	13 October, 1938 G.m.t.
Total Days of Operation	1401
Total Commands to Date	35882
Sun Angle	186.7°
Input Power	66.1w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LEAM & LSG STBY
Avg Thermal Plate Temp	32.1°F
LACE Temp (AM-41)	-2.3°F
LEAM Temp (AJ-11)	-76.0°F
HFE Temp Ref 1 (DH-13)	284.2°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	37.0°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/14/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
07 October	MAD	Higher Priority	LOS 07/2015 AOS 07/2049	ALL	34^{m}
08 October	ORR/MAD	Higher Priority	LOS 08/1918 AOS 08/1935	ALL	17^{m}
08 October	MAD	Higher Priority	LOS 08/2020 AOS 08/2058	ALL	38^{m}
09 October	GDS	LOSS OF DOWN-LINK SIGNAL	LOS 08/0536:58 AOS	A14	-----
09 October	ORR	Higher Priority	LOS 09/1753 AOS 09/1844	ALL	51^{m}
10-11 October	MAD/MIL	Equipment Failure	LOS 10/2259 AOS 11/0050	ALL	1^{h}51^{m}
11 October	ORR	Higher Priority	LOS 11/1724 AOS 11/1801	ALL	37^{m}
11 October	ORR/MAD	Higher Priority	LOS 11/1947 AOS 11/2010	ALL	23^{m}
12 October	ORR	Higher Priority	LOS 12/1754 AOS 12/1850	ALL	56^{m}
13 October	MAD/MIL	Schedule Problem Adverse weather	LOS 13/0038 AOS 13/0216	ALL	1^{h}38^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

SEP 19/263	20/264	21/265	22/266	23/267	24/268	25/269
0900-1100	0900-1100 ALSEP 17 NBR - 08m ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 17 NBR - 14m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 56m HFE RBS	NO SUPPORT
SEP 26/270	27/271	28/272	29/273	30/274	OCT 01/275	02/276
NO SUPPORT	0900-1100 ALSEP 17 NBR - 21m	NO SUPPORT ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR - 46m HFE RBS	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	0937-1137 ALSEP 17 NBR - 11m LEAM OFF ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0830-1030 ALSEP 14 ALSEP 12
OCT 03/277	04/278	05/279	06/280	07/281	08/282	09/283
0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 14m	0900-1100 ALSEP 15 CYCLE SIDE	1600-2000 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR - 56m HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL	ALSEP 14 LOS - 0036 0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 08m LEAM STBY

TIMES - Local

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

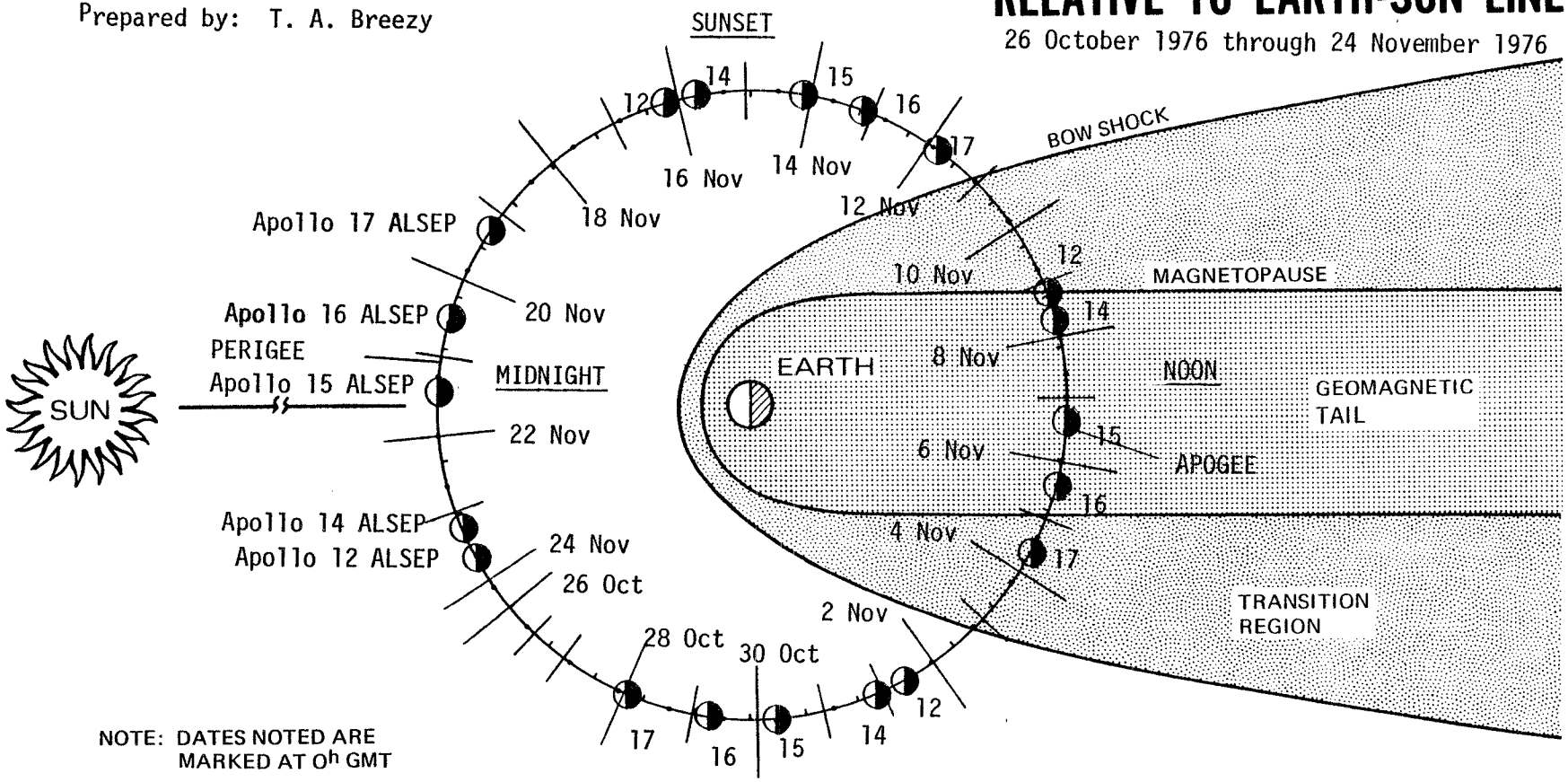
OCT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17m ALSEP 16 LSM FLIP CAL	0900-1100	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54m HFE RBS ALSEP 16 LSM FLIP CAL	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON ALSEP 15 HFE STBY	0900-1100 ALSEP 14 CPLEE ON ALSEP 17 NBR	0900-1100 ALSEP 15 HFE ON
OCT 17/291	**18/292**	**19/293**	**20/294**	**21/295**	**22/296**	**23/297**
1500-1900 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 17 NBR ALSEP 15 HFE RBS	0900-1100	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT
OCT 24/298	**25/299**	**26/300**	**27/301**	**28/302**	**29/303**	**30/304**
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	NO SUPPORT ALSEP 16	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

26 October 1976 through 24 November 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR (GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	200ct/1540	280ct/0036	(49)04Nov/1006	11Nov/1955	19Nov/0520
16	210ct/2136	290ct/0636	(57)05Nov/1612	13Nov/0159	20Nov/1118
15	220ct/2054	300ct/0558	(66)06Nov/1537	14Nov/0123	21Nov/1037
14	240ct/1428	310ct/2338	(72)08Nov/0924	15Nov/1904	23Nov/0413
12	250ct/0208	01Nov/1132	(87)08Nov/2108	16Nov/0544	23Nov/1555

NASA-JSC

ALSEP PERFORMANCE SUMMARY REPORT

21 October 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 48th lunation occurred on 20 October at the Taurus Littrow site. Downlink signal strength is reported at -141.5 ± 2.5 dbm from transmitter A by the 30 foot antenna tracking stations. *During a real-time check of the AB-18 Timer on 13 October it was observed timing out had occurred prior to the calculated time by a minimum of 23 minutes. A special support was held on 16 October and the time out occurred at least 29 minutes early. On 18 October the station was left in normal Data Processor Format ON as this is the only mode in which the AB-18 telemetry point can be physically monitored. Remote tracking stations were instructed to monitor AB-18 for the actual time out which was to occur at 234037 G.m.t., 18 October. Orroral Valley reported the time out occurred at 230810 G.m.t., 18 October, approximately 32 minutes and 27 seconds early. It is believed the timer has stepped this amount but still runs 61 hours 49 minutes 35 seconds before the next timing pulse. Further checks will be made to establish that this is a shift of 32 minutes 27 seconds and not a cumulative error.* Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 20 October the lunar surface temperature, as measured by the HFE thermocouples, was 109 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.9°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

Central station	Midnight at the Descartes Site will occur later today, 21 October for the 56th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -130.0 and -143.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

Central station

Sunset of the 65th lunation occurred on, 15 October at the Hadley Rille Site. *Between the real-time support periods ending at 1533 G.m.t., 7 October, and beginning at 1354 G.m.t., 8 October, the central station had a functional change (Data Processor X Select). As no command verification word (CVW) would be seen in the downlink and no momentray drop in the telemetry data was seen by the remote tracking station the change is not believed to have been caused by a spurious command (octal 034). At 1424 G.m.t., 19 October, Data Processor Y (octal 035) was reselected without any noticeable change in the downlink telemetry data.* Transmitter B downlink signal strength is reported between -136.0 and -144.5 by stations with 30-foot antennas.

Passive seismic experiment

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge experiments

The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

Heat flow experiment

The instrument is in STANDBY. *The instrument was commanded ON at 0931 G.m.t., 16 October. During the operational period to 1602 G.m.t., 20 October, the engineering and science data appeared normal. To further evaluate the experiment on 17 October a ring bridge survey was conducted to obtain another data point this lunation.*

For additional information, on 17 October the lunar surface temperature was 89.1°K as measured by the cable thermocouples. The subsurface temperature was 254.0°K at the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 251.2°K at its lowermost point.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Apollo 15 ALSEP (continued)

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

The Apollo 14 ALSEP downlink signal remains silent as reported by the remote site tracking stations. Attempts to uplink commands have resulted in spacecraft rejects. Sunset of the 71st lunation occurred on 17 October.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

Central station	Sunset of the 86th lunation occurred on 17 October. A signal strength of -139.5 ± 3.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the shrot period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The Z-motor is ON to maximize heating in the instrument during the lunar night. The sensor temperature (DL-07) was offscale LOW on 20 October and is expected to return onscale 1 November. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data. *The experiment was operated in the extended gain mode from 1430 G.m.t., 15 October, to 1443 G.m.t., 18 October, because of an increase in solar wind activity.*
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1600 G.m.t., 20 October 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2527	*1974*	1908	1643
Total Commands to Date	30691	*16674*	37504	22797
Sun Angle	215.0°	*211.0°*	242.5°	253.9°
Input Power	49.4w *(49.7w)*		52.8w *(53.9w)*	63.2w *(63.6w)*
Heater and Power Dumps	DSS-1 (10w) ON	*NOTE: LOS*	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	*9 Oct 76*	LSM & SWS OFF/HFE	ASE OFF
Avg Thermal Plate Temp	3.8°F		-20.5°F STBY	28.7°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.7°F	125.8°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-43.4°C		OFF	N/A
SIDE Temp (DI-05)	OFF		7.8°C	N/A
CCGE Temp (DI-04)	OFF		110.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		283.8°K	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1408
Total Commands to Date	35900
Sun Angle	269.6°
Input Power	65.7w *(66.0w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LEAM & LSG STBY
Avg Thermal Plate Temp	25.1°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	LOW
HFE Temp Ref 1 (DH-13)	286.0°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	30.4°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/21/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
14 October	ORR/HAW	Higher Priority	LOS 14/1709 AOS 14/1724	ALL	15^{m}
14 October	HAW	Higher Priority	LOS 14/1856 AOS 14/1957	ALL	$1^{h}01^{m}$
14 October	HAW/ORR	Higher Priority	LOS 14/2041 AOS 14/2120	ALL	39^{m}
14 October	ORR/MAD	Higher Priority	LOS 14/2200 AOS 14/2232	ALL	32^{m}
15 October	MAD/MIL	Higher Priority	LOS 15/0315 AOS 15/0350	ALL	35^{m}
16 October	MAD/MIL	Higher Priority	LOS 16/0321 AOS 16/0445	ALL	$1^{h}24^{m}$
16 October	MIL/ORR	Higher Priority	LOS 16/1710 AOS 16/1739	ALL	29^{m}
17 October	MAD	Higher Priority	LOS 17/0155 AOS 17/0303	ALL	$1^{h}08^{m}$
17 October	ROS	Station Problem	LOS 17/1719 AOS 17/1730	ALL	11^{m}
18 October	ORR/MAD	Higher Priority	LOS 18/0217 AOS 18/0300	ALL	43^{m}
18 October	GDS/ORR	Station Problem	LOS 18/2016 AOS 18/2035	A15, A17	19^{m}
18 October	GDS/ORR	Station Problem	LOS 18/2017 AOS 18/2035	A12	18^{m}
19 October	ORR/MAD	Schedule Problem	LOS 19/0315 AOS 19/0324	ALL	09^{m}
19 October	MAD	Higher Priority	LOS 19/0719 AOS 19/0746	ALL	27^{m}
19 October	MAD/MIL	Higher Priority	LOS 19/0850 AOS 19/0915	ALL	25^{m}
19 October	BDA/GDS	Station Problem	LOS 19/1305 AOS 19/1333	ALL	28^{m}
20 October	ORR	Station Problem	LOS 20/0131 AOS 20/0135	ALL	04^{m}
20 October	ORR	Station Problem	LOS 20/0135 AOS 20/0144	A15	09^{m}

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/21/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
20 October	ORR	Station Problem	LOS 20/ 0254 AOS 20/ 0258	ALL	04^m
20 October	ORR/MAD	Station Problem	LOS 20/ 0416 AOS 20/ 0419	ALL	03^m
20 October	MAD	Higher Priority	LOS 20/0522 AOS 20/0612	ALL	50^m
20 October	ORR	Station Problem	LOS 20/2217 AOS 20/2219	ALL	02^m
21 October	ORR	Higher Priority	LOS 21/0259 AOS 21/0321	ALL	22^m
21 October	ORR/MAD	Higher Priority	LOS 21/0517 AOS 21/0605	ALL	48^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - Local CDT through 23 October
- Local CST after 23 October

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
NO SUPPORT	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17^m ALSEP 16 LSM FLIP CAL	0900-1100	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54^m HFE RBS ALSEP 16 LSM FLIP CAL	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR - 11^m	0330-0530 ALSEP 15 HFE ON ALSEP 17 NBR - 33^m
OCT 17/291	**18/292**	**19/293**	**20/294**	**21/295**	**22/296**	**23/297**
1500-1900 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 36^m ALSEP 15 HFE RBS	0900-1100 ALSEP 17 NBR - 9^h37^m	0900-1100	0900-1100 ALSEP 17 NBR - 1^h16^m ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT
OCT 24/298	**25/299**	**26/300**	**27/301**	**28/302**	**29/303**	**30/304**
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	NO SUPPORT ALSEP 16	0930-1130 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET

APOLLO ALSEP PERFORMANCE SUMMARY REPORT

AC/H. Clements
AP3/C. Redmond
AP5/F. Carlton
CH3/G. Griffith
ED/D. Gerke
ED5/J. Lowery
EP5/J. Briley
FS4/M. Ward
TA/P. Armitage
TC3/W. Eichelman
TC3/J. Bates
TN6/J. Minear
WA2/J. Lobb

NASA HQS.

SL/E. Glahn

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Dr. D. Reasoner

AEC/W. C. Remini

ALSEP PERFORMANCE SUMMARY REPORT

28 October 1976
G.m.t.: 1700

Apollo 17 ALSEP

Sunrise of the 49th lunation occurred on 28 October at the Taurus Littrow site. Downlink signal strength is reported at -139.5 ± 3.5 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods. *The AB-18 timer will be checked during real-time support on 31 October to further analyze the shift (-32 minutes and 27 seconds) in the scheduled timer pulses.*

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 27 October the lunar surface temperature, as measured by the HFE thermocouples, was 106 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 21 October 1976, to 1700 G.m.t., 28 October 1976

Central station	Midnight at the Descartes Site occurred on 21 October for the 56th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported at -135.0 $\pm$ 3.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 21 October 1976, to 1700 G.m.t., 28 October 1976

Central station	Midnight of the 65th lunation occurred on 22 October at the Hadley Rille Site. Transmitter B downlink signal strength is reported at -138.5 ± 1.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. *Between support periods of 22 and 25 October the PSE experienced a spurious functional change (Uncage Arm/Fire to OT, octal 073). On 27 October the PSE was reset to Uncaged (octal 073) which returned it to the previous timer outputs.* No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF. *Between real-time support periods of 22 and 25 October the SIDE experienced a change from Reset Frame Counter at 39 to Master Reset (0-127 frames). As the Master Reset (Load 008) requires two separate commands to occur, the change is attributed to an internal instrument change and not to any spurious commands. The SIDE was commanded back to Reset Frame Counter at 39 on 25 October at 1417 G.m.t.*
Heat flow experiment	The instrument was commanded to STANDBY, 16 October, to increase the central station's reserve power during lunar night.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 21 October 1976, to 1700 G.m.t., 28 October 1976

The Apollo 14 ALSEP downlink signal remains silent as reported by the remote site tracking stations. Attempts to uplink commands have resulted in spacecraft rejects. Midnight of the 71st lunation occurred on 24 October.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 21 October 1976, to 1700 G.m.t., 28 October 1976

Central station	Midnight of the 86th lunation occurred on 25 October. A signal strength between -135.5 and -138.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation. *The SWS was placed in the STANDBY mode to provide additional power to the Central Station to avoid the PSE electronics A/D converter anomaly at low temperatures. This configuration gave a 1.87 watt increase in reserve power (8.77 to 10.64 watts) and an average C/S thermal plate temperature increase in 1 hour from 0.98°F to 2.94°F (Ref. Apollo 12 ALSEP, SMEAR 84).*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except SP Z gain is at -20 db. The Passive Seismometer sensor temperature (DL-07) remains offscale LOW this lunar night. It is predicted to return onscale when lunar sunrise occurs on 1 November. The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument was commanded to STANDBY at 1436 G.m.t., 27 October.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1976.

Status as of 1600 G.m.t., 27 October 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2534	*1974*	1915	1650
Total Commands to Date	30703	*16674*	37552	*22822*
Sun Angle	301.5°	*307.5°*	328.5°	340.4°
Input Power	48.7w *(49.4w)*		52.2w *(53.3w)*	63.2w *(63.2w)*
Heater and Power Dumps	DSS-1 (10w) ON	*NOTE: LOS*	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF/SWS	*9 Oct 76*	LSM & SWS OFF/HFE	ASE OFF
Avg Thermal Plate Temp	2.9°F STBY		-7.7°F STBY	27.6°F
PSE Sensor Temp (DL-07)	Offscale LOW		124.5°F	125.8°F
LSM Internal Temp (DM-05)	OFF		OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-43.4°C		OFF	N/A
SIDE Temp (DI-05)	OFF		7.8°C	N/A
CCGE Temp (DI-04)	OFF		108.3°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		STBY	OFF

TM POINT	APOLLO 17 ALSEP
Total Days of Operation	1415
Total Commands to Date	35949
Sun Angle	355.8°
Input Power	65.3w *(66.0w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LEAM & LSG STBY
Avg Thermal Plate Temp	23.9°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	LOW
HFE Temp Ref 1 (DH-13)	285.8°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	27.8°F

Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/28/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
20 October	*ORR*	*Higher Priority*	LOS *20/0258* AOS *20/0351*	*ALL*	*53m*
21 October	*ORR*	*Higher Priority*	LOS *21/0259* AOS *21/0320*	*ALL*	*21m*
21 October	*ORR/MAD*	*Higher Priority*	LOS *21/0517* AOS *21/0550*	*ALL*	*33m*
21 October	AGO	Station Problem	LOS 21/0942 AOS 21/0945	A12, A17	03m
21 October	MAD	Station Problem	LOS 21/1335 AOS 21/1340	ALL	05m
21-22 October	GDS/HAW	Higher Priority	LOS 21/2320 AOS 22/0005	ALL	45m
22 October	HAW	Higher Priority	LOS 22/0036 AOS 22/0108	ALL	32m
22 October	HAW	Higher Priority	LOS 22/0206 AOS 22/0249	ALL	43m
22 October	HAW/MAD	Higher Priority	LOS 22/0306 AOS 22/0610	ALL	3h04m
22 October	MAD/AGO	Higher Priority	LOS 22/0937 AOS 22/1014	ALL	37m
23 October	MAD/AGO	Higher Priority	LOS 23/0943 AOS 23/1058	ALL	1h15m
23 October	AGO/MIL	Higher Priority	LOS 23/1600 AOS 23/1617	ALL	17m
24 October	ORR/MAD	Higher Priority	LOS 24/0832 AOS 24/0914	ALL	42m
24 October	MAD	Higher Priority	LOS 24/0949 AOS 24/1041	ALL	52m
25 October	ORR	Station Problem	LOS 25/0925 AOS 25/0930	A17	05m
25 October	ORR/MAD	Higher Priority	LOS 25/0947 AOS 25/1054	ALL	1h07m
26 October	GDS	Station Problem	LOS 26/0030 AOS 26/0039	A15	09m
26 October	GDS	Station Problem	LOS 26/0033 AOS 26/0039	A12	06m

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 10/28/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
26 October	ORR/MAD	Higher Priority	LOS 26/1048 AOS 26/1107	ALL	19m
27 October	ORR/MAD	Higher Priority	LOS 27/1059 AOS 27/1142	ALL	43m
27 October	GDS	Higher Priority	LOS 27/2155 AOS 27/2221	ALL	26m
28 October	ORR	Higher Priority	LOS 28/0828 AOS 28/0910	ALL	42m
			LOS AOS		
			LOS AOS		
			LOS AOS		
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TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 31/305	NOV 01/306	02/307	03/308	04/309	05/310	06/311
1300-1500 ALSEP 14 ALSEP 15 HFE OFF	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	1000-1200	0900-1100 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE
NOV 07/312	**08/313**	**09/314**	**10/315**	**11/316**	**12/317**	**13/318**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 17 1900-2000	0300-4000 1200-1300 2100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR	0900-1100 ALSEP 15
NOV 14/319	**15/320**	**16/321**	**17/322**	**18/323**	**19/324**	**20/325**
0900-1100 ALSEP 15 HFE ON	0900-1100 ALSEP 14 ALSEP 17 NBR	0400 0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	0900-1100 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR	NO SUPPORT

TIMES - Local CDT through 30 October
- Local CST after 31 October

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
NO SUPPORT	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17m ALSEP 16 LSM FLIP CAL	0900-1100	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54m HFE RBS ALSEP 16 LSM FLIP CAL	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR - 11m	0330-0530 ALSEP 15 HFE ON ALSEP 17 NBR - 33m
OCT 17/291	**18/292**	**19/293**	**20/294**	**21/295**	**22/296**	**23/297**
1500-1900 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 36m ALSEP 15 HFE RBS	0900-1100 ALSEP 17 NBR - 9h37m	0900-1100	0900-1100 ALSEP 17 NBR - 1h16m ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 17 NBR - 53m HFE RBS	NO SUPPORT
OCT 24/298	**25/299**	**26/300**	**27/301**	**28/302**	**29/303**	**30/304**
NO SUPPORT	0900-1100 ALSEP 17 NBR - 17m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 57m HFE RBS ALSEP 12 SWS STBY	NO SUPPORT	1900-2000 ALSEP 16	0930-1130 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET

ALSEP PERFORMANCE SUMMARY REPORT

4 November 1976
G.m.t.: 1700

Apollo 17 ALSEP

Noon of the 49th lunation occurred today at the Taurus Littrow site. A downlink signal strength between -134.0 and -140.0 dbm was reported from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods. *The previously reported 32 minute early arrival of the 61 hour timer pulse on 18 October was attributed to switching from LSPE high bit rate (HBR) to normal bit rate (NBR) and back periodically. Each mode change is believed to act as a main frame mark input to the timer, indicating another 54 seconds has elapsed. However, on 31 October a real time pulse verification was obtained at 20:04:20 G.m.t., which was 1 minute 45 seconds early instead of the 4 minutes 30 seconds early as predicted from the 18 October time mark. This anomaly is being investigated.*

The Heat Flow experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 3 November the lunar surface temperature, as measured by the HFE thermocouples was 367 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.7°K at probe #1 and 256.9°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is OFF.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 28 October 1976, to 1700 G.m.t., 4 November 1976

Central station	Sunrise at the Descartes Site occurred on 29 October for the 57th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength between -134.0 and -139.0 dbm was reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON, component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return on-scale 13 November. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1220 have been executed and verified by the experiment engineering data since deployment.
Active seismic	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 28 October 1976, to 1700 G.m.t., 4 November 1976

Central station	Sunrise of the 66th lunation occurred on 30 October at the Hadley Rille Site. Transmitter B downlink signal strength was reported between -135.0 and -141.5 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is in STANDBY. The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.
Heat flow experiment	The HFE is OFF. The experiment will remain OFF for an extended cool down period this lunar day. *After the completion of Phase II support with the Santiago Tracking Station, at approximately 0500 G.m.t., 2 November, the HFE experienced a spurious functional command Experiment Standby Power ON (octal 056). At 1757 G.m.t., 2 November, the Madrid Tracking Station uplinked in Mode I, Experiment Power OFF (octal 057) by mission control direction.*
Solar wind spectrometer experiment	Commanded OFF June 1974.
Lunar surface magnetometer experiment	Commanded OFF June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 28 October 1976, to 1700 G.m.t., 4 November 1976

The Apollo 14 ALSEP downlink signal remains silent as reported by the remote site tracking stations. Sunrise of the 72nd lunation occurred on 31 October.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 28 October 1976, to 1700 G.m.t., 4 November 1976

Central station	Sunrise of the 87th lunation occurred on 1 November. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -135.0 and -141.0 dbm from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 4 November 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2542	*1974*	1923	1658
Total Commands to Date	30795	*16674*	37701	22920
Sun Angle	39.3°	*45.3°*	66.4°	78.3°
Input Power	50.0w		53.6w	63.5w
Heater and Power Dumps	ALL OFF		ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	*NOTE: LOS*	LSM,SWS,& HFE OFF/	ASE OFF
Avg Thermal Plate Temp	87.4°F	*9 Oct 76*	107.0°F SIDE STBY	104.6°F
PSE Sensor Temp (DL-07)	127.0°F		141.2°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF		OFF	45.8°C
SWS Module 300 Temp (DW-13)	57.5°C		OFF	N/A
SIDE Temp (DI-05)	OFF		STBY	N/A
CCGE Temp (DI-04)	OFF		STBY	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		OFF	OFF

TM POINT	APOLLO 17 ALSEP
	3 November 1976, 1900 G.m.t.
Total Days of Operation	1422
Total Commands to Date	35978
Sun Angle	93.5°
Input Power	63.7w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE & LSG STBY/LEAM OFF
Avg Thermal Plate Temp	91.2°F
LACE Temp (AM-41)	157.7°F
LEAM Temp (AJ-11)	179.0°F
HFE Temp Ref 1 (DH-13)	329.3°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	94.1°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 11/04/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
28 October	ORR/MAD	Higher Priority	LOS 28/1100 AOS 28/1230	ALL	1^h30^m
29 October	ORR	Higher Priority	LOS 29/0940 AOS 29/0950	ALL	10^m
29 October	ORR/MAD	Higher Priority	LOS 29/1320 AOS 29/1535	ALL	2^h15^m
30 October	ORR	Higher Priority	LOS 30/1146 AOS 30/1211	ALL	25^m
31 October	ORR	Higher Priority	LOS 31/0956 AOS 31/1039	ALL	43^m
31 October	ORR/MAD	Higher Priority	LOS 31/1347 AOS 31/1423	ALL	36^m
31 October	AGO	Station Problem	LOS 31/2200 AOS 31/2204	ALL	04^m
01 November	ORR	Higher Priority	LOS 01/1120 AOS 01/1146	ALL	26^m
02 November	ULA	Higher Priority	LOS 02/1100 AOS 02/1237	ALL	1^h37^m
02 November	ORR	Higher Priority	LOS 02/1357 AOS 02/1418	ALL	21^m
03 November	ORR/HAW	Higher Priority	LOS 03/1135 AOS 03/1152	ALL	17^m
03 November	HAW/ORR	Higher Priority	LOS 03/1232 AOS 03/1252	ALL	20^m
03 November	ORR/MAD	Schedule	LOS 03/1637 AOS 03/1643	ALL	07^m
03 November	MAD	Station Problem	LOS 03/1844 AOS 03/1846	A-17	02^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - Local CDT through 30 October
- Local CST after 31 October

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
NO SUPPORT	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17m ALSEP 16 LSM FLIP CAL	0900-1100	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54m HFE RBS ALSEP 16 LSM FLIP CAL	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR - 11m	0330-0530 ALSEP 15 HFE ON ALSEP 17 NBR - 33m
OCT 17/291	**18/292**	**19/293**	**20/294**	**21/295**	**22/296**	**23/297**
1500-1900 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 36m ALSEP 15 HFE RBS	0900-1100 ALSEP 17 NBR - 9h37m	0900-1100	0900-1100 ALSEP 17 NBR - 1h16m ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 17 NBR - 53m HFE RBS	NO SUPPORT
OCT 24/298	**25/299**	**26/300**	**27/301**	**28/302**	**29/303**	**30/304**
NO SUPPORT	0900-1100 ALSEP 17 NBR - 17m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 57m HFE RBS ALSEP 12 SWS STBY	NO SUPPORT	1900-2000 ALSEP 16	0930-1130 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 17 LEAM - OFF NBR - 29m

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

OCT 31/305	NOV 01/306	02/307	03/308	04/309	05/310	06/311
1300-1500 ALSEP 14 ALSEP 15 HFE OFF ALSEP 17 NBR - 01^h	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 16 LSM FLIP CAL	1000-1200	1100-1300 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 01^h10^m HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE
NOV 07/312	**08/313**	**09/314**	**10/315**	**11/316**	**12/317**	**13/318**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 17 1900-2000	0300-4000 1200-1300 2100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR	0900-1100 ALSEP 15
NOV 14/319	**15/320**	**16/321**	**17/322**	**18/323**	**19/324**	**20/325**
0900-1100 ALSEP 15 HFE ON	0900-1100 ALSEP 14 ALSEP 17 NBR	0400 0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	0900-1100 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR	NO SUPPORT

ALSEP PERFORMANCE SUMMARY REPORT

11 November 1976
G.m.t.: 1700

A penumbral eclipse of the moon occurred from 2046 G.m.t., 6 November to 0117 G.m.t., 7 November. All ALSEP sites were affected by the eclipse. This is the fifteenth event which one or all of the ALSEPs have experienced.

Apollo 17 ALSEP

Sunset of the 49th lunation occurs today, 11 November, at the Taurus Littrow site. Downlink signal strength is reported between -135.0 and -144.0 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 10 November the lunar surface temperature, as measured by the HFE thermocouples, was 180 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 4 November 1976, to 1700 G.m.t., 11 November 1976

Central station	Noon at the Descartes Site occurred on 5 November for the 57th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. A signal strength between -137.0 and -140.0 dbm was reported from transmitter B by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is OFF for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). The instrument assembly temperature (DL-07) remains offscale HIGH and is expected to return on-scale 13 November. No significant seismic events were noted during real-time support this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1226 have been executed and verified by the experiment engineering data since deployment.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 4 November 1976, to 1700 G.m.t., 11 November 1976

Central station	Noon of the 66th lunation occurred at the Hadley Rille Site on 6 November. Transmitter B downlink signal strength is reported at -137.0 ± 2.0 dbm by the tracking stations with 30-foot antennas.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. The instrument assembly temperature (DL-07) was off-scale HIGH from 5 to 10 November between the sun angles 75.2° and 138.5°. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiments	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+4.5 Kvdc) remains OFF.
Heat flow experiment	The instrument is OFF.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974. *At 0346 G.m.t., 5 November, the Goldstone Tracking Station detected a CVW (Octal 046, STANDBY Power ON) in the downlink. Goldstone also detected a change in octal reading of parameter AB-05 (experiment standby power status). The SWS was commanded to OFF by Mode I command on 5 November by Goldstone at the direction of mission control.*

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 4 November 1976, to 1700 G.m.t., 11 November 1976

The Apollo 14 ALSEP downlink signal remains silent as reported by the remote site tracking stations. Noon of the 72nd lunation occurred on 8 November.

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 4 November 1976, to 1700 G.m.t., 11 November 1976

Central station	Noon of the 87th lunation occurred on 8 November. The DSS-1 (10 watt) heater is OFF for lunar day operation. A signal strength between -138.0 and -142.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The instrument assembly temperature (DL-07) was offscale HIGH at a sun angle of 87.1° on 8 November. No significant seismic events were noted during real-time support this report period.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 11 November 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2549	*1974*	1930	1665
Total Commands to Date	30858	*16674*	37820	23022
Sun Angle	124.4°	*130.4°*	151.5°	163.4°
Input Power	50.3w		53.2w	63.2w
Heater and Power Dumps	ALL OFF		ALL OFF	ALL OFF
Experiment Status	SIDE & LSM OFF	*NOTE: LOS*	LSM,SWS,& HFE OFF	ASE OFF
Avg Thermal Plate Temp	91.6°F	*9 Oct 76*	91.6°F	69.4°F
PSE Sensor Temp (DL-07)	Offscale HIGH		128.9°F	Offscale HIGH
LSM Internal Temp (DM-05)	OFF		OFF	40.3°C
SWS Module 300 Temp (DW-13)	64.3°C		OFF	N/A
SIDE Temp (DI-05)	OFF		79.2°C	N/A
CCGE Temp (DI-04)	OFF		331.4°K	N/A
CPLEE Elect Temp (AC-06)	N/A		N/A	N/A
ASE GLA Temp (AS-03)	N/A		N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A		OFF	OFF

TM POINT	APOLLO 17 ALSEP *10 November 1976, 1500 G.m.t.*
Total Days of Operation	1429
Total Commands to Date	36016
Sun Angle	165.6°
Input Power	64.5w
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE,LEAM,& LSG STBY
Avg Thermal Plate Temp	65.8°F
LACE Temp (AM-41)	104.0°F
LEAM Temp (AJ-11)	152.2°F
HFE Temp Ref 1 (DH-13)	298.7°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	70.7°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 11/11/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
04 November	HAW	Higher Priority	LOS 04/1046 AOS 04/1141	ALL	55^m
04 November	HAW/ORR	Higher Priority	LOS 04/1220 AOS 04/1300	ALL	40^m
05 November	ULA/ORR	Higher Priority	LOS 05/1305 AOS 05/1353	ALL	48^m
05 November	MAD	Higher Priority	LOS 05/1954 AOS 05/2037	ALL	43^m
07 November	MAD	Higher Priority	LOS 07/2022 AOS 07/2052	ALL	30^m
08 November	MAD/MIL	Higher Priority	LOS 08/0748 AOS 08/0830	ALL	42^m
08 November	MAD	Higher Priority	LOS 08/2005 AOS 08/2050	ALL	45^m
09 November	ORR/MAD	Higher Priority	LOS 09/2040 AOS 09/2202	ALL	1^h22^m
10 November	HAW/ORR	Higher Priority	LOS 10/1750 AOS 10/1752	ALL	02^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

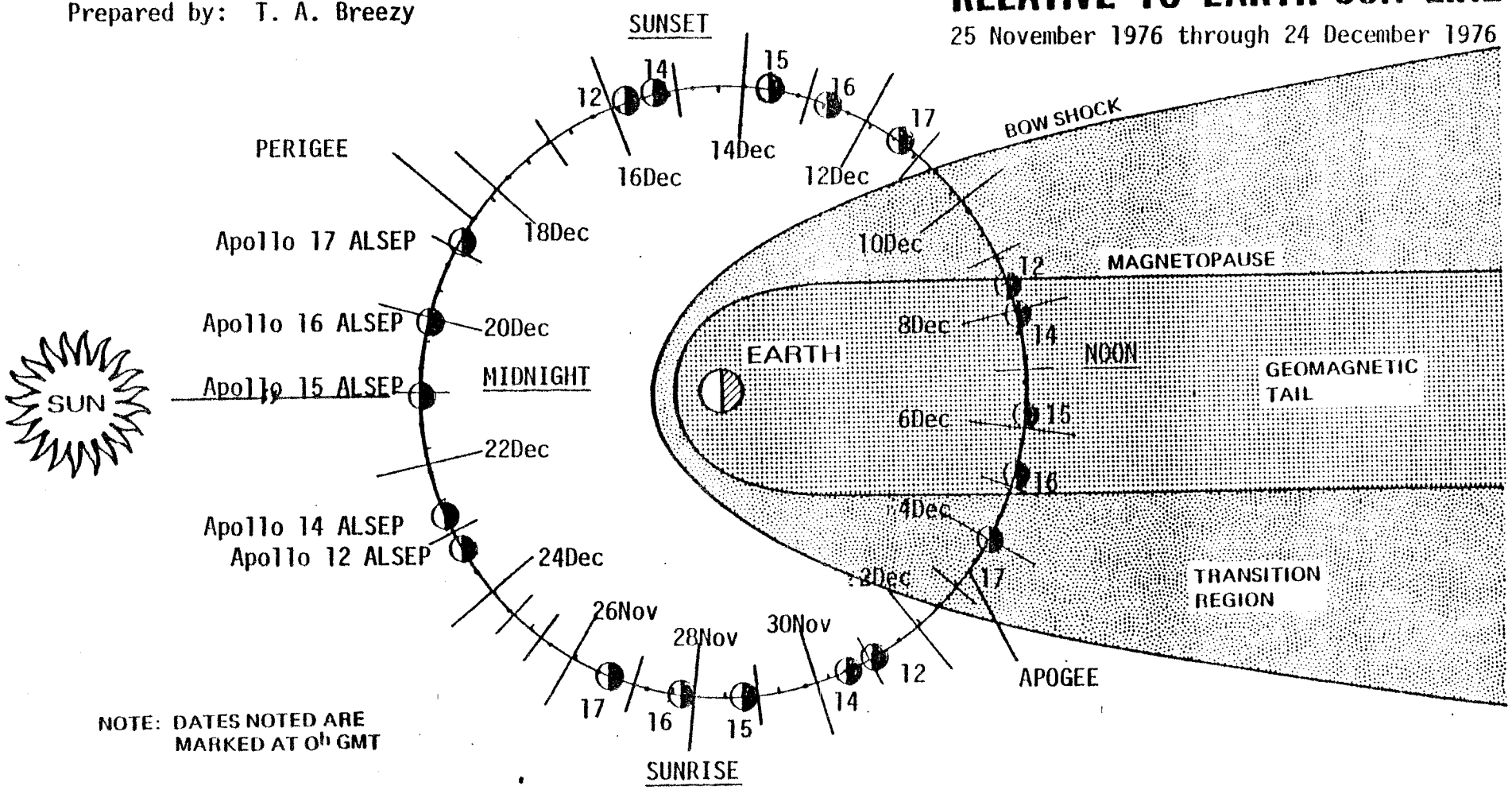
OCT 31/305	NOV 01/306	02/307	03/308	04/309	05/310	06/311
1300-1500 ALSEP 14 ALSEP 15 HFE OFF ALSEP 17 NBR - 01^h	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 16 LSM FLIP CAL	1000-1200	1100-1300 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 01^h10^m HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 42^m LUNAR PENUMBRAL ECLIPSE START - 2046
NOV 07/312	**08/313**	**09/314**	**10/315**	**11/316**	**12/317**	**13/318**
0900-1100 ALSEP 15 CYCLE SIDE LUNAR PENUMBRAL ECLIPSE END - 0117	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 17^m LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR - 51^m HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 17 1900-2000	0300-4000 1200-1300 2100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR	0900-1100 ALSEP 15
NOV 14/319	**15/320**	**16/321**	**17/322**	**18/323**	**19/324**	**20/325**
0900-1100 ALSEP 15 HFE ON	0900-1100 ALSEP 14 ALSEP 17 NBR	0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	0900-1100 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR	NO SUPPORT

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

25 November 1976 through 24 December 1976



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT) Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	19Nov/0520	26Nov/1429	(50)04Dec/0010	11Dec/1008	18Dec/1942
16	20Nov/1118	27Nov/2030	(58)05Dec/0617	12Dec/1614	20Dec/0142
15	21Nov/1037	28Nov/1953	(67)06Dec/0543	13Dec/1540	21Dec/0102
14	23Nov/0413	30Nov/1336	(73)07Dec/2332	15Dec/0923	22Dec/1840
12	23Nov/1555	01Dec/0142	(88)08Dec/1118	15Dec/1959	23Dec/0621

NASA-JSC

ALSEP PERFORMANCE SUMMARY REPORT

18 November 1976
G.m.t.: 1700

Apollo 17 ALSEP

Midnight of the 49th lunation will occur tomorrow, 19 November, at the Taurus Littrow site. Downlink signal strength is reported between -139.0 and -142.0 dbm from transmitter A by the 30 foot antenna tracking stations. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 17 November the lunar surface temperature, as measured by the HFE thermocouples, was 110 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments. *During support on 13 November at approximately 1622 G.m.t., a small seismic event was observed lasting 2 to 3 minutes.*

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment is in STANDBY.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 16 ALSEP

Operational status from 1700 G.m.t., 11 November 1976, to 1700 G.m.t., 18 November 1976

Central station	Sunset at the Descartes Site occurred on 13 November for the 57th lunation. The 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The signal strength, from transmitter B, is reported between -135.5 and -141.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). No significant seismic events were observed during this report period.
Lunar surface magnetometer experiment	The LSM is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences have been discontinued for the remainder of this lunar night due to the low temperature of the Z-axis sensor head.
Active seismic experiment	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 11 November 1976, to 1700 G.m.t., 18 November 1976

Central station	Sunset of the 66th lunation occurred at the Hadley Rille Site on 14 November. Transmitter A downlink signal strength is reported between -138.0 and -143.0 dbm by the tracking stations with 30-foot antennas. *On 14 November the Suprathermal Ion Detector Experiment rippled to STANDBY 6 minutes after the Heat Flow Experiment was commanded ON for this lunar night. The HFE was commanded back to STANDBY to provide sufficient reserve power to turn the SIDE ON.*
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs. No significant seismic events were observed during this report period.
Suprathermal ion detector/cold cathode gauge experiment	The instrument is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.
Heat flow experiment	The instrument is in STANDBY.
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 11 November 1976, to 1700 G.m.t., 18 November 1976

The Apollo 14 ALSEP 4 downlink signal was acquired by the Goldstone Tracking Station on 12 November after having been off since 9 October 1976. Details of the ALSEP 4 status at the time of this fifth AOS are shown in the attached chart with a summary of the previous LOS and AOS data.

Central station

Sunset of the 72nd lunation at the Apollo 14 site occurred on 14 November. The DSS-1 (10 watt) heater is ON for lunar night operation. A signal strength of -138.0 ± 2.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.

Passive seismic experiment

The instrument is ON with thermal control AUTO ON, component gains 0 db, and feedback loop filter OUT. At the start of support on 13 November it was noted that the internal temperature (DL-07) was offscale HIGH with the PSE heater FORCED OFF and the long period (LP) Z axis was offscale (instead of centered). These unusual conditions revealed that the Z motor was ON, apparently since AOS the previous day. The Z motor was commanded OFF and the heater was commanded AUTO ON for lunar night operation. On 15 and 16 November, numerous commands (gain changes, filter IN and OUT, auto and forced leveling) were sent in attempts to bring the LP Z axis onscale. On 17 November the LP Z axis was commanded onscale by extended periods of leveling in the high speed mode. It appears that the LP Z axis has recovered and is responding to leveling, calibrations and seismic events for the first time since March 1972. As a result, the P.I. requested that the filter be left OUT for better evaluation of the LP Z data.

Active seismic experiment

The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).

Suprathermal ion detector/cold cathode gauge experiments

The instrument was commanded to OFF on 21 May 1976.

Charged particle lunar environmental experiment

The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

12 November 1976

5th AOS of Apollo 14 ALSEP 4

The Goldstone Tracking Station reported the acquisition of signal (AOS) from ALSEP 4 at 0748 G.m.t., 12 November. Real time data was being processed in JSC ALSEP control by 0835 G.m.t. The signal strength at AOS was -131.5 dbm on a 26 meter antenna. In addition to the status below the Data Processor Y was ON, the PSE LP Cal ON, and the PSE gains were at -30, -20, and -20 db for the LP XY, LP Z, and SP Z axes. The ALSEP 4 receiver was operating and ground commands were transmitted and executed. The ALSEP 4 was reconfigured to PCU 1, PSE Filter Out, PSE gains to 0 db, PSE LP Cal OFF, CPLEE to Standby, and DTREM ON. This is the fifth AOS after an abrupt loss of signal (LOS) for the ALSEP 4 station.

LOS'S

	LOS	LOS	LOS	LOS	*LOS*
Date	1 Mar 75	18 Jan 76	17 Mar 76	8 Jun 76	*9 Oct 76*
Sun Angle	108.1°	95.2°	85.6°	23.4°	*82.6°*
Avg Therm P1	115.8°F	119.6°F	116.5°F	71.5°F	*113.6°F*
RTG Power	63.63w	61.74w	61.94w	61.86w	*60.72w*
Res. Power	39.11w	36.51w	36.94w	33.04w	*35.85w*
Transmitter	A	A	A	B	*B*
Receiver	ON-Xtal A	OFF	ON-Xtal B	ON-Xtal B	*ON-Xtal A*
PCU	1	2	1	1	*1*
PSE	ON	ON	ON	ON	*ON/FILT. IN*
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	*Forced OFF*
CPLEE	STBY	STBY	STBY	ON	*STBY*
SIDE	UNK	UNK	OFF	OFF	*OFF*
ASE	STBY	STBY	STBY	STBY	*STBY*
DTREM	ON	ON	ON	ON	*ON*

AOS'S

	AOS	AOS	AOS	AOS	*AOS*
Date	5 Mar 75	19 Feb 76	20 May 76	10 Jun 76	*12 Nov 76*
Sun Angle	159.3°	117.5°	156.1°	45.8°	*137.9°*
Avg Therm P1	62.9°F	95.7°F	58.5°F	77.3°F	*75.5°F*
RTG Power	64.15w	62.12w	61.61w	59.16w	*56.92w*
Res. Power	40.88w	30.49w	31.31w	27.71w	*25.97w*
Transmitter	A	A	A	B	*B*
Receiver	OFF	ON-Xtal B	ON-Xtal B	ON-Xtal B	*ON-Xtal A*
PCU	2	2	2	2	*2*
PSE	ON	ON	ON	ON	*ON/FILT. IN*
PSE Htr	Forced OFF	Auto ON	Auto ON	Auto ON	*Auto ON*
CPLEE	STBY	ON	ON	ON	*ON*
SIDE	UNK	UNK	UNK	OFF	*OFF*
ASE	STBY	STBY	STBY	STBY	*STBY*
DTREM	ON	OFF	ON	ON	*OFF*

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 11 November 1976, to 1700 G.m.t., 18 November 1976

Central station	Sunset of the 87th lunation occurred on 16 November. A signal strength between -138.0 and -144.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP) except the short period Z-axis gain is set at -20 db (Ref, 5 Dec 75 ALSEP Performance Summary Report). The sensor temperature returned onscale (DL-07 = 137.2°F) 15 November and was offscale LOW 18 November (sun angle 171.9° to 209.0°F). The Z-motor is ON to maximize heating in the instrument during lunar night. No significant seismic events were noted during the real-time support of this instrument.
Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.
Lunar surface magnetometer experiment	Commanded OFF 14 June 1974.

Status as of 1700 G.m.t., 18 November 1976, was as follows:

TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation	2556	1980	1937	1672
Total Commands to Date	30975	16874	37977	23130
Sun Angle	209.6°	215.5°	236.6°	248.5°
Input Power	48.7w *(49.4w)*	60.2w *(LOS)*	51.5w *(52.8w)*	63.2w *(63.2w)*
Heater and Power Dumps	DSS-1 (10w) ON	DSS-1 (10w) ON	ALL OFF	DSS-1 (10w) ON
Experiment Status	SIDE & LSM OFF	ASE STBY/SIDE OFF	LSM & SWS OFF/HFE STBY	ASE OFF
Avg Thermal Plate Temp	3.2°F	26.5°F	-8.4°F	28.1°F
PSE Sensor Temp (DL-07)	Offscale LOW	124.1°F	124.6°F	125.8°F
LSM Internal Temp (DM-05)	OFF	N/A	OFF	-10.2°C
SWS Module 300 Temp (DW-13)	-14.8°C	N/A	OFF	N/A
SIDE Temp (DI-05)	OFF	OFF	7.2°C	N/A
CCGE Temp (DI-04)	OFF	-21.9°C	112.2°K	N/A
CPLEE Elect Temp (AC-06)	N/A	-66.4°C	N/A	N/A
ASE GLA Temp (AS-03)	N/A	N/A	N/A	OFF
HFE Temp Ref 1 (DH-13)	N/A	N/A	STBY	OFF

TM POINT	APOLLO 17 ALSEP *17 November 1976, 1600 G.m.t.*
Total Days of Operation	1436
Total Commands to Date	36048
Sun Angle	251.5°
Input Power	65.6w *(65.7w)*
APM Status (AB-13)	ON
Power Dump Status (AB-14)	OFF
Experiment Status	LACE, LEAM, & LSG STBY
Avg Thermal Plate Temp	11.2°F
LACE Temp (AM-41)	-16.1°F
LEAM Temp (AJ-11)	-52.0°F
HFE Temp Ref 1 (DH-13)	285.0°K
LSG Temp (DG-04)	STBY
LSP Temp (AP-01)	15.9°F

Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 11/18/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
11 November	HAW/ORR	Schedule	LOS 11/1751 AOS 11/1922	ALL	1^h29^m
11 November	ORR/MAD	Schedule	LOS 11/2100 AOS 11/2118	ALL	18^m
11 November	MAD	Higher Priority	LOS 11/2314 AOS 11/2344	ALL	30^m
12 November	ULA/MAD	Higher Priority	LOS 12/2132 AOS 12/2214	ALL	42^m
14 November	ORR/MAD	Schedule	LOS 14/0000 AOS 14/0003	ALL	03^m
15 November	ORR/MAD	Schedule	LOS 15/0103 AOS 15/0110	ALL	07^m
16 November	MIL/HAW	Schedule	LOS 16/1450 AOS 16/1554	ALL	1^h04^m
17 November	ORR/MAD	Schedule	LOS 17/0259 AOS 17/0301	ALL	02^m
18 November	MAD/MIL	Higher Priority	LOS 18/0810 AOS 18/0832	ALL	22^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

OCT 31/305	NOV 01/306	02/307	03/308	04/309	05/310	06/311
1300-1500 ALSEP 14 ALSEP 15 HFE OFF ALSEP 17 NBR - 01^{h}	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 16 LSM FLIP CAL	1000-1200	1100-1300 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - $01^{h}10^{m}$ HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 42^{m} LUNAR PENUMBRAL ECLIPSE START - 2046

NOV 07/312	08/313	09/314	10/315	11/316	12/317	13/318
0900-1100 ALSEP 15 CYCLE SIDE LUNAR PENUMBRAL ECLIPSE END - 0117	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 17^{m} LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR - 51^{m} HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 17 1900-2000	ALSEP 14 AOS 0148 0300-0600 1200-1300 2100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR - 08^{m}	0900-1100 ALSEP 15 HFE STBY ALSEP 14 PSE HTR ON

NOV 14/319	15/320	16/321	17/322	18/323	19/324	20/325
0900-1100 ALSEP 15 HFE ON/STBY ALSEP 14 CPLEE ON	0900-1100 ALSEP 14 ALSEP 17 NBR - 11^{m}	0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1600-1700	0900-1100 ALSEP 17 NBR - $1^{h}29^{m}$ HFE RBS	0900-1100 ALSEP 15	0900-1100 ALSEP 17 NBR	NO SUPPORT

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

NOV 21/326	22/327	23/328	24/329	25/330	26/331	27/332
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT ALSEP 16
NOV 28/333	**29/334**	**30/335**	**DEC 01/336**	**02/337**	**03/338**	**04/339**
0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 17 LEAM OFF	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	0900-1100 ALSEP 14 ALSEP 12	0200-0400 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL 1300-1400	0900-1100 ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF
DEC 05/340	**06/341**	**07/342**	**08/343**	**09/344**	**10/345**	**11/346**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 15 NBR ALSEP 16 LSM FLIP CAL 2000-2100	0600-0700 ALSEP 17 1600-1700

ALSEP PERFORMANCE SUMMARY REPORT

22 November 1976
G.m.t.: 1700

This abbreviated weekly ALSEP Performance Summary Report is being issued early this week because of the Thanksgiving Holiday. The December 1 report will include the balance of this week. It is planned to use this new report format for future weekly reports. Note that the weekly ALSEP Status matrix is now included in this reformat.

Friday, 19 November 1976, marked the 7th Anniversary of the Apollo 12 ALSEP 1 station's continuous operation on the moon.

Apollo 17 ALSEP

The station is operated in the LSP Format ON (High Bit Rate, 3533.3 bits per second). During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) and engineering data from the central station and the other experiments is checked.

The Lunar Seismic Profiling Experiment is ON and is a part of the ALSEP seismic network.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. HFE science data is obtained during normal bit rate periods, with a ring bridge survey weekly. On 22 November the lunar surface temperature, as measured by the HFE thermocouples was 107 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

Apollo 16 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN).

The Lunar Surface Magnetometer is ON. Flip calibrations have been discontinued for this lunar night due to the low temperatures of the z-axis sensor head.

Apollo 15 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (Ref, Apollo 16 ALSEP).

The Suprathermal Ion Detector Experiment is ON and operating in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON.

The Heat Flow Experiment is in STANDBY to maintain sufficient reserve power to avoid ripple off of other experiments during lunar night.

ALSEP PERFORMANCE SUMMARY REPORT (continued)

22 November 1976
G.m.t.: 1700

Apollo 14 ALSEP

Acquisition of Signal of the Apollo 14 ALSEP has continued since 12 November.

The Passive Seismic Experiment is ON with the thermal control, AUTO ON; component gain 0 db; and feedback loop filter, OUT. *At the beginning of real-time support on 22 November it was noted the filter was IN. The filter was OUT at the end of real-time support on 19 November. No CVW was reported in the downlink signal. The filter was commanded OUT by mission control at 1448 G.m.t., 22 November. The long period Z axis continues to respond to calibration commands.*

The Charged Particle Lunar Environmental Experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report).

The Solar Wind Spectrometer Experiment is in STANDBY for the remainder of the lunar night to increase temperature of the PSE electronics located in the central station.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

Apollo 14 ALSEP 4 PSE

Details of Restoring the Long Period (LP) Z Axis to Operation

As reported last week the ALSEP 4 PSE LP Z axis was successfully restored to onscale operation after having been inoperative since March 1972. The following documents the sequence of events which accomplished the restoration on 17 November.

It had been noted on 13 November that the Z motor was on (indicated by PSE temperature offscale high with heaters forced off, large scale oscillations of X and Y axes seismic data, and the LP Z axis offscale instead of centered). The Z motor was commanded off. Attempts to command the LP Z axis onscale were unsuccessful on 15 and 16 November.

On 17 November the LP Z axis was commanded onscale by driving the Z axis to the top stop in highspeed for 4 minutes, then driving in highspeed for 8 minutes in the other direction until the tidal parameter indicated crossover (from offscale high to offscale low). The Z tidal position was then centered by using normal forced and auto leveling procedures.

The filter was commanded in and the Z tidal data broke into fullscale oscillations. Within one minute the Z tidal data went offscale low, so the filter was commanded out. The P. I. was contacted and agreed to operating the PSE with the filter out and the LP Z axis centered, versus driving the LP Z axis to the top stop and operating with the filter in.

ALSEP STATUS — as of week ending *1700 Z (G.m.t.) 22 November* 1976

		Apollo 12 ALSEP 1	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed		1412Z, 11/19/69	1728Z, 2/5/71	1805Z, 7/31/71	1938Z, 4/21/72	0253Z, 12/12/72
Lunar Location		23.5°W, 3.0°S	17.5°W, 3.7°S	3.7°E, 26.1°N	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops		*87/2560*	*72/1984*	*66/1941*	*57/1676*	*43/1441*
Phase, Sun Angle		*Sunset, 257.8°*	*Sunset, 263.3°*	*Midnight, 285.0°*	*Midnight, 296.8°*	*Midnight, 312.6°*
Cmds - Total/Week		*30990/74*	*16963/176*	*38007/79*	*23149/46*	*36056/31*
Spurious Changes		*112*	*95*	*116*	*11*	*0*
RTG	Initial/Present Reserve Power	73.6w/ *48.3w* *10.6w*	72.5w/ *60.3w* *15.0w*	74.7w/ *51.5w* *12.7w*	70.9w/ *63.2w* *14.5w*	75.4w/ *65.2w* *16.2w*
CENTRAL STATION	Avg. Therm. Plate	*4.7°F*	*25.8°F*	*-10.0°F*	*27.6°F*	*10.0°F*
	Transmitter	B, 7/8/74	B, *11/12/76*	B, 8/20/76	B, 3/26/73	A, 12/9/74
	Processor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR B 8/74
	PCU	1	1	1	1	2
	Timer	Inoperative	Inoperative	Operative Reset: *10/30/76*	Inhibited 5/72 Reset: *10/30/76*	Operative Inhibited: *11/22/76*
	Heaters	DSS-1 (10w) - *ON 11/16/76*	DSS-1 (10w) - *ON 11/16/76*	DSS-1 (10w) - OFF	DSS-1 (10w) - *ON 11/13/76*	APM STATUS: ON
EXPERIMENTS — PSE — ACTIVE/OPERABLE	LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0,0,0db	LSPE -HBR 8/15/76
	Heaters Z motor (A1)	Auto On	*Auto ON 11/13/76*	Auto On	Auto On	NBR Real Time Mon, Wed, Fri.
	Filter	IN - 6/29/75	*OUT - 11/17/76*	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
	DL-07 Temp.	*Offscale LOW*	*124.6°F*	*124.3°F*	*125.8°F*	Data Mon, Wed, Fri,
	Uncage Ckt.	Uncaged	*OT 11/12/76*	*Uncaged*	OT	RBS weekly
		SWS - *STBY 11/19/76* Range: Norm. Exten.	CPLEE- *ON, 11/14/76* Anal B Failed 4/71	SIDE - ON, Cycle OFF T2 >85°C CCGE-Failed 7/18/75	LSM-ON X, Y, Z Pos. 180° Flip Cals *1228* Z Failed 3/3/75	LEAM-STBY 8/15/76 Static @ night since 7/16/76
				HFE -*STBY, 11/14/76* Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed No Free Modes or closed Loop Ops
		Dust Detector - ON	DTREM - ON	DTREM - ON		
INACTIVE/INOPERABLE		SIDE-OFF 5/3/76 Increase reserve power for C/S heat	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since deployment, cable severed.	LACE-STBY 7/22/76 HV failed 10/73
		LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired Geophones 2 & 3 bad	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired. Sensors failed.	

PSEP - Apollo 11 Deployed 7/21/69, 23.4°E, 0.7°N- Lost Uplink 8/25/69, Lost Downlink 12/14/69

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 11/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
18/19 November	HAW	Higher Priority	LOS 18/2336 AOS 19/0025	ALL	49^{m}
19 November	HAW/MAD	Schedule	LOS 19/0109 AOS 19/0446	ALL	$3^{h}37^{m}$
19 November	MAD	Higher Priority	LOS 19/0818 AOS 19/0858	ALL	40^{m}
20 November	MAD	Higher Priority	LOS 20/0648 AOS 20/0727	ALL	39^{m}
20 November	MAD	Higher Priority	LOS 20/0857 AOS 20/0952	ALL	55^{m}
21 November	ORR/MAD	Higher Priority	LOS 21/0713 AOS 21/0735	ALL	22^{m}
21 November	MAD	Higher Priority	LOS 21/0900 AOS 21/0953	ALL	53^{m}
21 November	MIL/HAW	Higher Priority	LOS 21/1716 AOS 21/1745	ALL	29^{m}
22 November	ORR/MAD	Schedule	LOS 22/0819 AOS 22/0821	ALL	02^{m}
22 November	MAD	Higher Priority	LOS 22/0910 AOS 22/1000	ALL	50^{m}
22 November	MIL/QUI	Higher Priority	LOS 22/1708 AOS 22/1721	ALL	13^{m}
			LOS AOS		
			LOS AOS		
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ALSEP PERFORMANCE SUMMARY REPORT

1 December 1976
G.m.t.: 1700

In conjunction with the reformatting of the weekly ALSEP Performance Summary Report, this week is an expanded report which will be issued approximately monthly as the sun rises for the start of the new lunations for the ALSEP stations on the moon. In addition to the information contained in the new regular weekly report, the "monthly" report will contain:

1. *Status of all ALSEP experiments in narrative form.*
2. *Chart of near lunar noon and midnight data for the lunations just ended.*
3. *Moon Chart for the new lunation periods starting.*
4. *Schedule of ALSEP real time support operations during the next lunations.*

Apollo 17 ALSEP

Sunrise of the 50th lunation occurred on 26 November at the Taurus Littrow site. Transmission of command octal 174 (delay uplink switchover), to inhibit automatic selection of the redundant command signal processing chain by the internally generated 61-hour pulses, continues during real-time support periods.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) to obtain HFE science data. Ring bridge surveys are being achieved on a weekly basis. On 1 December the lunar surface temperature, as measured by the HFE thermocouples, was 335 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Surface Gravimeter Experiment is in STANDBY.

The Lunar Seismic Profiling Experiment is ON. During this reporting period the station was operated in the LSPE High Bit Rate mode except during real time support periods when Normal Bit Rate was utilized to check the engineering data of the central station and the other experiments.

The Lunar Atmospheric Composition Experiment is in STANDBY.

The Lunar Ejecta and Meteorites Experiment was commanded from STANDBY to OFF for lunar daytime 29 November.

Apollo 16 ALSEP

Sunrise at the Descartes Site occurred on 27 November for the 58th lunation. The Central Station 18-hour timer output pulses continue to be inhibited per the agreed operational plan initiated 6 May 1972. The DSS-1 (10 watt) Heater is OFF for lunar day operation.

The Passive Seismic Experiment is configured for seismic network congruity

1 December 1976
G.m.t.: 1700

Apollo 16 (continued)

(thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN).

The Lunar Surface Magnetometer Experiment is ON and recording data. Science data from the Z-axis remained static this report period. Flip calibration sequences are being conducted during the lunar day and a total of 1232 have been executed and verified by the experiment engineering data since deployment.

The Active Seismic Experiment is OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSEP

Sunrise of the 67th lunation occurred at the Hadley Rille Site on 28 November. *At 0725 G.m.t., 28 November the Orroral Valley Tracking Station lost downlink signal from this ALSEP station, apparently from a spurious command (octal 014). The downlink signal returned following a Mode I Transmitter ON command (octal 013) by the station at mission control direction. This spurious change resulted in a 22 minute loss of downlink signal.*

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem timer outputs.

The Suprathermal Ion Detector/Cold Cathode Gauge Experiment is ON and operating in the Reset SIDE Frame Counter at 39 with the Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

The Heat Flow Experiment is in STANDBY.

The Solar Wind Spectrometer Experiment was commanded OFF 14 June 1974.

The Lunar Surface Magnetometer Experiment was commanded OFF 14 June 1974.

Apollo 14 ALSEP

Sunrise of the 73rd lunation at the Apollo 14 site occurred on 30 November. The central station DSS-1 (10 watt) heater is OFF for lunar day operation.

The Passive Seismic Experiment is ON with thermal control AUTO ON, component gains 0 db, and feedback loop filter OUT.

The Active Seismic Experiment is in STANDBY (Apollo 14 ALSEP, SMEAR 86).

The Suprathermal Ion Detector/Cold Cathode Gauge Experiments were commanded OFF on 21 May 1976.

ALSEP PERFORMANCE SUMMARY REPORT (continued)

1 December 1976
G.m.t.: 1700

Apollo 14 ALSEP (continued)

The Charged Particle Lunar Environment Experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

Sunrise of the 88th lunation occurred on 1 December. The central station DSS-1 (10 watt) heater is OFF for lunar day operation.

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP) except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The sensor temperature (DL-07) returned onscale today, 1 December at 126.3°F and a sun angle of 3.3°. *At 0331 G.m.t., 26 November a spurious command verification word was noted by the Goldstone Tracking Station, PSE Level Direction Change (octal 074), from Negative to Positive. This was confirmed by mission control during real time support that date, however no action was required.* The Z-motor was commanded OFF for lunar day operations today.

The Solar Wind Spectrometer Experiment was commanded ON today and is recording solar wind plasma data in the normal gain mode. The instrument was in STANDBY during lunar night to increase temperature of the PSE electronics located in the central station.

The Suprathermal Ion Detector Experiment was commanded OFF 3 May 1976.

The Lunar Surface Magnetometer Experiment was commanded OFF 14 June 1974.

It is requested that any organization having comments, questions, or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

ALSEP STATUS as of week ending 1700 Z (G.m.t.) 01 December 1976

		Apollo 12 ALSEP 1	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed		1412Z, 11/19/69	1728Z, 2/5/71	1805Z, 7/31/71	1938Z, 4/21/72	0253Z, 12/12/72
Lunar Location		23.5°W, 3.0°S	17.5°W, 3.7°S	3.7°E, 26.1°N	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops		88/2569	73/1993	67/1950	58/1685	50/1450
Phase, Sun Angle		Sunrise, 7.9°	Sunrise, 13.9°	Sunrise, 35.0°	Sunrise, 46.9°	Sunrise, 62.1°
Cmds - Total/Week		31020/30	16917/27	38125/118	23229/80	36113/57
Spurious Changes		113	95	117	11	0
RTG	Initial/Present Reserve Power	73.6w/ 48.7w 10.6w	72.5w/ 60.2w 20.5w	74.7w/52.1w 13.6w	70.9w/ 62.8w 31.8w	75.4w/ 63.3w 24.5w
CENTRAL STATION	Avg. Therm. Plate	32.4°F	64.8°F	75.4°F	87.9°F	85.3°F
	Transmitter	B, 7/8/74	B,	B, 8/20/76	B, 3/26/73	A, 12/9/74
	Processor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR B 8/74
	PCU	1	1	1	1	2
	Timer	Inoperative	Inoperative	Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited: 11/29/76
	Heaters	DSS-1 (10w) - OFF 12/01/76	DSS-1 (10w) - OFF 12/01/76	DSS-1 (10w) - OFF	DSS-1 (10w) - OFF 11/28/76	APM STATUS: ON
EXPERIMENTS PSE	LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0,0,0db	LSPE -HBR 8/15/76
	Heaters Z motor (Al)	Auto On OFF - 12/01/76	Auto On	Auto On	Auto On	NBR Real Time Mon, Wed, Fri.
	Filter	IN - 6/29/75	OUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
	DL-07 Temp.	126.3°F	124.8°F	126.4°F	127.4°F	Data Mon, Wed, Fri,
	Uncage Ckt.	Uncaged	OT	OT - 11/30/76	OT	RBS weekly
ACTIVE/ OPERABLE		SWS - ON, 12/01/76 Range: Norm.12/1/76 Exten.	CPLEE- ON, 11/14/76 Anal B Failed 4/71	SIDE - ON, Cycle OFF T2 >85°C CCGE-Failed 7/18/75	LSM - ON X, Y, Z Pos. 180° Flip Cals 1232 Z Failed 3/3/75	LEAM-STBY 8/15/76 Static @ night since 7/16/76
				HFE-STBY, 11/14/76 Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed No Free Modes or closed Loop Ops
		Dust Detector - ON	DTREM - ON	DTREM - ON		
INACTIVE/ INOPERABLE		SIDE-OFF 5/3/76 Increase reserve power for C/S heat	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since deployment, cable severed.	LACE-STBY 7/22/76 HV failed 10/73
		LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired Geophones 2 & 3 bad	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired. Sensors failed.	

PSEP - Apollo 11 Deployed 7/21/69, 23.4°E, 0.7°N- Lost Uplink 8/25/69, Lost Downlink 12/14/69

1 December 1976

NOON and NIGHT DATA
(Latest Lunation)

APOLLO 12 ALSEP

	Noon	Night
Lunation	87	87
Sun Angle	98.9°	282.5°
Sig Strth (9m)	-140.0 dbm	-138.0 dbm
Input Power	50.4w	48.4w
Reserve Power	24.6w	10.4w
Av Ther Pl T.	91.6°F	4.4°F
PSE T. (DL-07)	HIGH	LOW
SWS T. (DW-13)	66.1°C	STBY

APOLLO 14 ALSEP

	Noon (LOS)	Night
Lunation	72	72
Sun Angle		263.1°
Sig Strth (9m)		-137.5 dbm
Input Power		60.3w
Reserve Power		15.0w
Av Ther Pl T.		25.8°F
PSE T. (DL-07)		124.6°F
CPLEE T. (AC-06)		-22.7°C

APOLLO 15 ALSEP

	Noon	Night
Lunation	66	66
Sun Angle	89.5°	284.2°
Sig Strth (9m)	-138.0 dbm	-138.0 dt
Input Power	53.6w	51.5w
Reserve Power	22.6w	12.7w
Av Ther Pl T.	113.8°F	-10.0°F
PSE T. (DL-07)	HIGH	124.6°F
SIDE T. (DI-05)	71.0°C	7.2°C
CCGE T. (DI-04)	364.0°K	108.3°K
HFE T. (DH-13)	OFF	STBY

APOLLO 16 ALSEP

	Noon	Night
Lunation	57	57
Sun Angle	87.3°	259.9°
Sig Strth (9m)	-137.5 dbm	-134.0 dbm
Input Power	63.8w	63.2w
Reserve Power	31.2w	14.5w
Av Ther Pl T.	105.6°F	28.1°F
PSE T. (DL-07)	HIGH	125.9°F
LSM T. (DM-05)	48.2°C	-10.2°C

APOLLO 17 ALSEP

	Noon	Night
Lunation	49	49
Sun Angle	81.8°	275.3°
Sig Strth (9m)	-140.0 dbm	-136.0 dbm
Input Power	63.7w	65.3w
Reserve Power	24.5w	21.9w
Av Ther Pl T.	91.2°F	10.7°F
LACE T. (AM-41)	157.7°F	-16.1°F
LEAM T. (AJ-11)	179.0°F	-52.0°F
HFE T. (DH-13)	329.3°K	285.1°K
LSG T. (DG-04)	STBY	STBY
LSP T. (AP-01)	94.1°F	14.3°F

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 12/01/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
2 November	BDA/GDS	Higher Priority	LOS 22/2030 AOS 22/2200	ALL	1^h30^m
3 November	ORR	Station Problem	LOS 23/0641 AOS 23/0702	A-14	21^m
3 November	ORR/MAD	Higher Priority	LOS 23/0922 AOS 23/1022	ALL	1^h00^m
5 November	ORR	Higher Priority	LOS 25/0730 AOS 25/0757	ALL	27^m
5 November	ORR/ACN	Higher Priority	LOS 25/1033 AOS 25/1039	ALL	06^m
5 November	AGO	Station Problem	LOS 25/2214 AOS 25/2240	ALL	26^m
6 November	ORR	Station Problem	LOS 26/0837 AOS 26/1020	ALL	1^h43^m
ovember	ORR	Poor Signal	LOS 28/0400 AOS 28/0505	A-14	1^h05^m
8 November	ORR	Xmitter OFF	LOS 28/0725 AOS 28/0747	A-15	22^m
8 November	ORR/ACN	Higher Priority	LOS 28/1218 AOS 28/1303	ALL	45^m
9 November	ULA	Poor Signal	LOS 29/0905 AOS 29/0911	A-15 & 17	06^m
0 November	GDS	Station Problem	LOS 30/0343 AOS 30/0346	ALL	03^m
0 November	HAW/ORR	Higher Priority	LOS 30/1136 AOS 30/1218	ALL	42^m
1 December	HAW	Higher Priority	LOS 01/1122 AOS 01/1209	ALL	47^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

TIMES - CST

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

NOV 21/326	22/327	23/328	24/329	25/330	26/331	27/332
NO SUPPORT	0900-1100 ALSEP 17 NBR - 15^{m}	NO SUPPORT	0900-1100 ALSEP 17 NBR - 18^{m} HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR - 54^{m}	NO SUPPORT ALSEP 16
NOV 28/333	**29/334**	**30/335**	**DEC 01/336**	**02/337**	**03/338**	**04/339**
0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET LSM FLIP CAL	0900-1100 ALSEP 17 NBR - 17^{m} LEAM OFF	0900-1100 ALSEP 14 ALSEP 12	0200-0400 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 17 NBR - 44^{m} HFE RBS ALSEP 16 LSM FLIP CAL 1300-1400	0900-1100 ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF
DEC 05/340	**06/341**	**07/342**	**08/343**	**09/344**	**10/345**	**11/346**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 15 NBR ALSEP 16 LSM FLIP CAL 2000-2100	0600-0700 ALSEP 17 1600-1700

TIMES - CDT

ALSEP SUPPORT SCHEDULE/EVENTS

PSE CALS DAILY

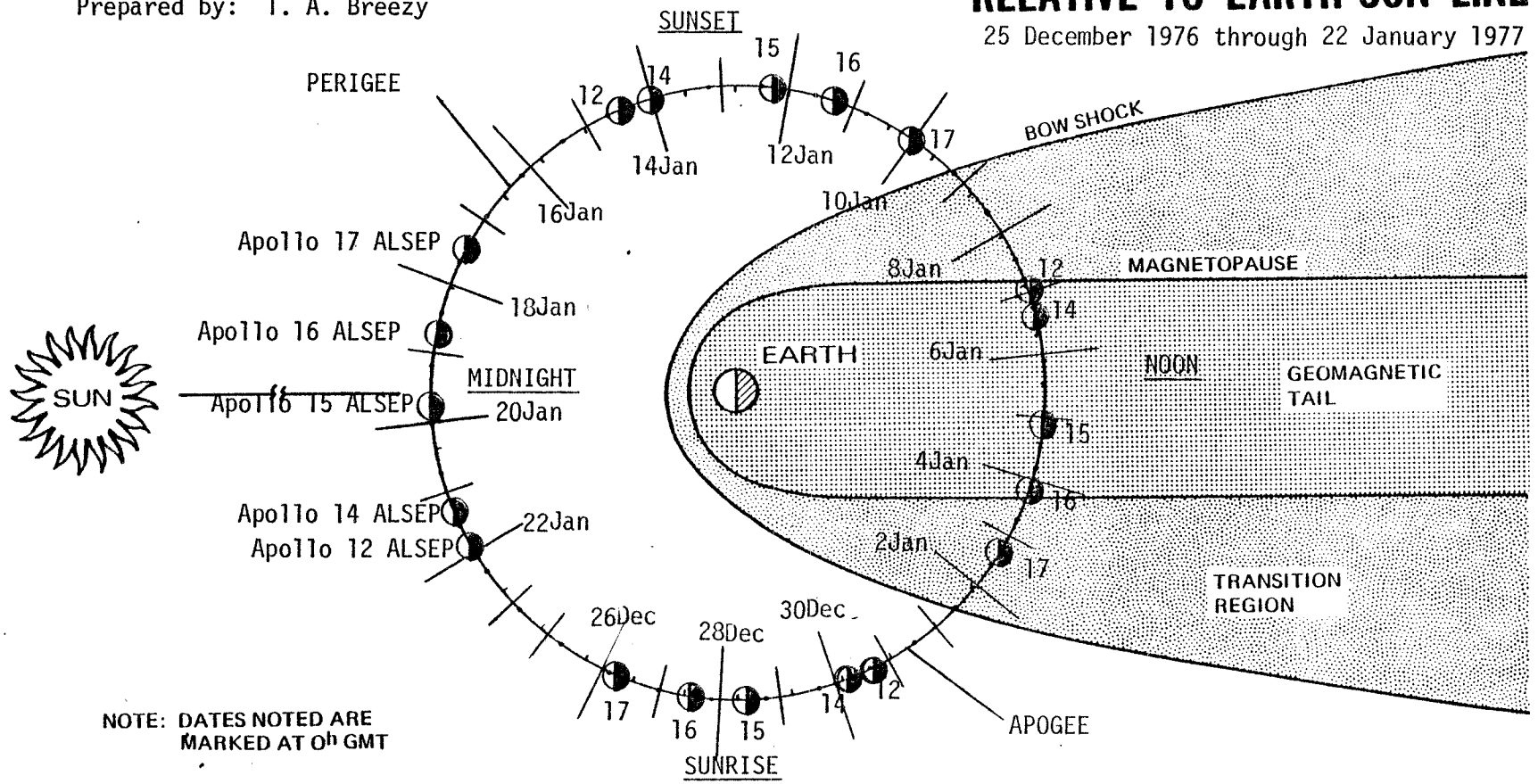
DEC 12/347	13/348	14/349	15/350	16/351	17/352	18/353
0100-0200 1000-1200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON ALSEP 17 NBR	0900-1100	1700-2100 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR HFE RBS	0900-1100	0900-1100 ALSEP 17 NBR	NO SUPPORT
DEC 19/354	20/355	21/356	22/357	23/358	24/359	25/360
NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT	0900-1100 ALSEP 17 NBR HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR	NO SUPPORT ALSEP 17
DEC 26/361	27/362	28/363	29/364	30/365	31/366	JAN 01/001
NO SUPPORT	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET ALSEP 17 NBR	0900-1100 ALSEP 15	0900-1100 ALSEP 14 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	1600-1800 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY

Bendix Aerospace Systems Division

Prepared by: T. A. Breezy

MOON POSITIONS RELATIVE TO EARTH-SUN LINE

25 December 1976 through 22 January 1977



NOTE: DATES NOTED ARE MARKED AT 0^h GMT

APOLLO (ALSEP)	DAY/HOUR(GMT)				
	Midnight	Sunrise	Lunation/Noon	Sunset	Midnight
17	18Dec/1942	26Dec/0458	(51)02Jan/1443	10Jan/0048	17Jan/1023
16	20Dec/0142	27Dec/1100	(59)03Jan/2052	11Jan/0654	18Jan/1622
15	21Dec/0102	28Dec/1025	(68)04Jan/2020	12Jan/0619	19Jan/1542
14	22Dec/1840	30Dec/0410	(74)06Jan/1410	14Jan/0002	21Jan/0920
12	23Dec/0621	30Dec/1613	(89)07Jan/0155	14Jan/1037	21Jan/2101

NASA-JSC

ALSEP PERFORMANCE SUMMARY REPORT

8 December 1976
G.m.t.: 1700

Sunday, 12 December 1976, will mark the 4th Anniversary of the Apollo 17 ALSEP 5 station's continuous operation on the moon.

Apollo 17 ALSEP

The station is operated in the LSP Format ON (High Bit Rate, 3533.3 bits per second). During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) and engineering data from the central station and the other experiments is checked.

The Lunar Seismic Profiling Experiment is ON and is a part of the ALSEP seismic network.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. HFE science data is obtained during normal bit rate periods, with a ring bridge survey weekly. On 8 December the lunar surface temperature, as measured by the HFE thermocouples, was 320 $\pm$ 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 256.9°K at probe #2.

Apollo 16 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN).

The Lunar Surface Magnetometer is ON. *Flip calibrations have been resumed for this lunar day as the temperature of the Z-axis sensor head has returned to normal. A total of 1238 calibrations have been executed and verified by the experiment engineering data since deployment.*

Apollo 15 ALSEP

Between 0343 and 1453 G.m.t., 5 December, the central station experienced a functional change (14-watt power dump resistor ON, octal 022). A command verification word (CVW) was not seen in the telemetry downlink. The reserve power was 3.05 watts and increased to 17.26 watts after the 14-watt PDR was commanded OFF (octal 023) at 1456 G.m.t., 5 December, by mission control.

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP).

The Suprathermal Ion Detector Experiment is in STANDBY. The experiment is presently being cycled from STANDBY to ON during real-time support periods to avoid exceeding an internal temperature of 85°C (Apollo 15 ALSEP, SMEAR 47). During these periods the instrument is operated in the Reset SIDE Frame Counter at 39 with Channeltron high voltages ON. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

8 December 1976
G.m.t.: 1700

Apollo 15 ALSEP (continued)

The Heat Flow Experiment is in STANDBY.

Apollo 14 ALSEP

Acquisition of Signal of the Apollo 14 ALSEP has continued since 12 November.

The external 14 and 7-watt power dump resistors were commanded ON during real-time support on 5 December. This action should relieve some of the heat dissipation into the power conditioning unit (PCU) and central station thermal plate and assist in preventing the loss of downlink signal as the central station approaches lunar noon.

The Passive Seismic Experiment is ON with the thermal control, AUTO ON; component gain 0 db; and feedback loop filter, OUT. *The heater was commanded to Forced OFF for lunar day operation at 0008 G.m.t., 5 December. Execution of the command was verified immediately but indication of heater operation to OFF by an increase in reserve power was not seen on the analog recorder until four minutes later. A check on 8 December had indicated normal operation of the heater. The reason for the delay in the operation on 5 December is being analyzed. Between 1523 G.m.t., 3 December, and 2354 G.m.t., 4 December, the experiment responded to a spurious command (Long Period XY Gain Change -10 db, octal 063). A CVW was not seen in the downlink data. The LP XY gain was commanded to 0 db (3 octal 63s) by mission control at 0021 G.m.t., 5 December.*

The Charged Particle Lunar Environment Experiment was commanded to STANDBY on 2 December.

Apollo 12 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). *At 2102 G.m.t., 3 December, the PSE executed a spurious functional change (Leveling Power Z Motor ON, octal 072) as reported by the Merritt Island Tracking Station. The change was confirmed by mission control during a special real-time support period. The Z motor was commanded OFF (octal 072) Mode I by the tracking station under the direction of mission control at 0107 G.m.t., 4 December.*

The Solar Wind Spectrometer Experiment is ON and in the normal gain mode for the remainder of the lunar day.

ALSEP PERFORMANCE SUMMARY REPORT (continued)

8 December 1976
G.m.t.: 1700

Apollo 12 ALSEP (continued)

The Suprathermal Ion Detector Experiment received a spurious command (Stand-by Power ON, octal 053) at 0949 G.m.t., 4 December. A CVW was seen in the downlink as reported by the Goldstone Tracking Station and confirmed by a change in AB-05 from octal 000 to octal 102. The SIDE was commanded to Standby Power OFF, octal 054, by the Merritt Island Tracking Station under the direction of mission control at 1143 G.m.t., 4 December. The SIDE had been commanded OFF 3 May 1976.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

ALSEP STATUS as of week ending 1700 Z (G.m.t.) 8 December 1976

		Apollo 12 ALSEP 1	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed		1412Z, 11/19/69	1728Z, 2/5/71	1805Z, 7/31/71	1938Z, 4/21/72	0253Z, 12/12/72
Lunar Location		23.5°W, 3.0°S	17.5°W, 3.7°S	3.7°E, 26.1°N	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops		88/2576	73/2000	67/1957	58/1692	50/1457
Phase, Sun Angle		Noon, 92.4°	Noon, 98.3°	Noon, 118.9°	Noon, 130.8°	Noon, 147.0°
Cmds - Total/Week		31117/97	16980/63	38249/124	23333/104	36127/14
Spurious Changes		115	96	118	11	0
CENTRAL STATION / RTG	Initial/Present Reserve Power	73.6w/ 50.0w 24.3w	72.5w/ 60.6w 14.3w	74.7w/ 52.5w 17.0w	70.9w/ 62.8w 31.8w	75.4w/ 63.7w 24.8w
CENTRAL STATION	Avg. Therm. Plate	92.8°F	112.7°F	111.3°F	96.2°F	74.3°F
CENTRAL STATION	Transmitter	B, 7/8/74	B, 11/12/76	B, 8/20/76	B, 3/26/73	A, 12/9/74
CENTRAL STATION	Processor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR B 8/74
CENTRAL STATION	PCU	1	1	1	1	2
CENTRAL STATION	Timer	Inoperative	Inoperative	Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited: 12/8/76
CENTRAL STATION	Heaters /PDR	DSS-1 (10w)-OFF 12/1/76	DSS-1 (10w)-OFF 27w PDR ON 12/5/76	DSS-1 (10w) - OFF	DSS-1 (10w)-OFF 11/28/76	APM STATUS: ON
EXPERIMENTS / PSE	LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0,0,0db	LSPE -HBR 8/15/76
EXPERIMENTS / PSE	Heaters Z motor (Al)	Auto On OFF - 12/1/76	FRCD OFF, 12/5/76	Auto On	Auto On	NBR Real Time Mon, Wed, Fri.
EXPERIMENTS / PSE	Filter	IN - 6/29/75	OUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR Data Mon, Wed, Fri, RBS weekly
EXPERIMENTS / PSE	DL-07 Temp.	HIGH, 12/7/76	138.2°F	HIGH, 12/4/76	HIGH, 12/3/76	
EXPERIMENTS / PSE	Uncage Ckt.	Uncaged	OT - 11/12/76	OT - 12/8/76	OT	
EXPERIMENTS / ACTIVE/OPERABLE		SWS - ON, 12/1/76 Range: Norm. 12/1/76 Ext.	CPLEE- STBY, 12/2/76 Anal B Failed 4/71	SIDE - ON, Cycle OFF T2 >85°C CCGE-Failed 7/18/75	LSM -ON X, Y, Z Pos, 180° Flip Cals 1238 Z Failed 3/3/75	LEAM- STBY 12/8/76 Static @ night since 7/16/76
EXPERIMENTS / ACTIVE/OPERABLE				HFE - STBY 11/14/76 Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed No Free Modes or closed Loop Ops
EXPERIMENTS / ACTIVE/OPERABLE		Dust Detector - ON	DTREM - ON	DTREM - ON		
EXPERIMENTS / INACTIVE/INOPERABLE		SIDE-OFF 5/3/76 Increase reserve power for C/S heat	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since deployment, cable severed.	LACE-STBY 7/22/76 HV failed 10/73
EXPERIMENTS / INACTIVE/INOPERABLE		LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired Geophones 2 & 3 bad	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired. Sensors failed.	

PSEP - Apollo 11 Deployed 7/21/69, 23.4°E, 0.7°N- Lost Uplink 8/25/69, Lost Downlink 12/14/69

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 12/08/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
01 December	HAW/ORR	Higher Priority	LOS 01/1241 AOS 01/1339	ALL	58m
01 December	ACN	Station Problem	LOS 01/2102 AOS 01/2110	A-14	08m
02 December	HAW/ORR	Higher Priority	LOS 02/1301 AOS 02/1339	ALL	38m
02 December	MAD	Station Wx Problem	LOS 02/1548 AOS 02/1615	ALL	27m
02 December	ACN	Station Problem	LOS 02/1655 AOS 02/1659	A-14	04m
05 December	GDS	Antenna Masking	LOS 05/1130 AOS 05/1214	ALL	44m
05 December	ACN	Station Problem	LOS 05/2155 AOS 05/2232	A-14	37m
06 December	MAD	Antenna Masking	LOS 06/1735 AOS 06/1741	ALL	06m
06 December	MAD	Station Problem	LOS 06/1741 AOS 06/1747	A-15	06m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

ALSEP PERFORMANCE SUMMARY REPORT

16 December 1976
G.m.t.: 0300

Apollo 17 ALSEP

The station is operated in the LSP Format ON (High Bit Rate, 3533.3 bits per second). During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) and engineering data from the central station and the other experiments is checked. *The Central Station 61-hour timer was checked during real-time support on 14 December, and the pulse occurred between 1516:04 and 1516:43 G.m.t., or approximately 34 minutes earlier than original predictions. This 34 minute time difference was first observed 18 October 1976 (Ref. ALSEP Performance Summary Report of 28 October and 4 November 1976). It appears that a one time shift has occurred, however, the 61 hour 49 minute 35 second time interval between pulses is still valid.*

The Lunar Seismic Profiling Experiment is ON and is a part of the ALSEP seismic work.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. HFE science data is obtained during normal bit rate periods, with a ring bridge survey weekly. On 16 December the lunar surface temperature, as measured by the HFE thermocouples, was 112 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Ejecta and Meteorites Experiment was commanded from OFF to STANDBY for lunar night 8 December.

Apollo 16 ALSEP

The Central Station DSS-1 (10w) Heater was commanded ON for lunar night on 12 December.

The Passive Seismic Experiment is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN). *The instrument assembly temperature (DL-07) was offscale HIGH from 3 to 12 December between the sun angles of 69.9° to 179.9°.*

The Lunar Surface Magnetometer is ON. *Flip calibrations have been discontinued for this lunar night due to the low temperature of the Z-axis sensor head. A total of 1242 calibrations have been executed and verified by the experiment engineering data since deployment.*

Apollo 15 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP). *The instrument assembly temperature (DL-07) was*

16 December 1976
G.m.t.: 0300

Apollo 15 ALSEP (continued)

offscale HIGH from 4 to 10 December between the sun angles of 74.8° to 143.2°.

The Suprathermal Ion Detector/Cold Cathode Gauge Experiment was commanded to operate ON 9 December. It is operating in the Reset SIDE Frame Counter at 39 with the channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 Frames) briefly during each real-time support period. The CCGE high voltage (+ 4.5 Kvdc) remains OFF.

The Heat Flow Experiment is in STANDBY.

Apollo 14 ALSEP

Acquisition of Signal of the Apollo 14 ALSEP has continued since 12 November, 1976.

The external 7 and 14 watt power dissipation resistors were commanded OFF during real-time support on 13 December, with the approach of lunar sunset. The DSS-1 (10w) Heater was commanded ON for lunar night on 15 December.

The Passive Seismic Experiment is ON with the thermal control, AUTO ON; component gain 0 db; and feedback loop filter, OUT. *The heater was commanded to AUTO ON for lunar night operation 12 December.*

The Charged Particle Lunar Environment Experiment was commanded from STANDBY to ON 13 December. It is operating in the manual mode at the -35 vdc range and automatic thermal control mode for the lunar night.

Apollo 12 ALSEP

The Central Station DSS-1 (10w) heater was commanded ON for night operation on 15 December.

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). *The Z-motor is ON to maximize heating in the instrument during lunar night. The instrument assembly temperature (DL-07) was offscale HIGH from 8 to 15 December between the sun angles of 92.4° to 180.8°.*

The Solar Wind Spectrometer Experiment is ON and in the normal gain mode.

The Suprathermal Ion Detector Experiment was commanded OFF 4 December 1976.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

ALSEP STATUS as of week ending 0300 Z (G.m.t.) 16 December 1976

		Apollo 12 ALSEP 1	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed		1412Z, 11/19/69	1728Z, 2/5/71	1805Z, 7/31/71	1938Z, 4/21/72	0253Z, 12/12/72
Lunar Location		23.5°W, 3.0°S	17.5°W, 3.7°S	3.7°E, 26.1°N	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops		88/*2584*	*73/2008*	67/*1965*	58/*1700*	50/*1565*
Phase, Sun Angle		*Sunset, 183.0°*	*Sunset, 188.3°*	*Sunset, 210.1°*	*Sunset, 221.3°*	*Sunset, 237.2°*
Cmds - Total/Week		*31187/70*	*17038/58*	*38415/166*	*23484/151*	*38178/51*
Spurious Changes		115	96	118	11	0
RTG	Initial/Present Reserve Power	73.6w/*48.8w* *22.1w*	*72.5w/ 59.9w* *26.1w*	74.7w/ *50.4w* *12.2w*	70.9w/*63.2w* *14.8w*	75.4w/*65.2w* *15.9w*
CENTRAL STATION	Avg. Therm. Plate	11.2°F	11.9°F	-10.0°F	29.0°F	10.0°F
	Transmitter	B, 7/8/74	B, 11/12/76	B, 8/20/76	B, 3/26/73	A, 12/9/74
	Processor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR P 8/74
	PCU	1	1	1	1	2
	Timer	Inoperative	Inoperative	Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited: *12/14/76*
	Heaters	DSS-1 (10w) - *ON 12/15/76*	DSS-1 (10w) - *ON 12/15* *21wPDR-OFF 12/13/76*	DSS-1 (10w) - OFF	DSS-1 (10w) - *ON 12/12/76*	APM STATUS: ON
PSE	LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0.0.0db	LSPE -HBR 8/15/76
	Heaters Z motor (A1)	Auto On *ON - 12/15/76*	*AUTO On-12/13/76*	Auto On	Auto On	NBR Real Time Mon, Wed, Fri
	Filter	IN - 6/29/75	OUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
	DL-07 Temp.	*126.9°F*	*124.2°F*	*124.7°F*	*125.9°F*	Data Mon, Wed, Fri,
	Uncage Ckt.	Uncaged	OT - 11/12/76	*Uncaged, 12/15/76*	OT	RBS weekly
EXPERIMENTS ACTIVE/ OPERABLE		SWS - ON, 12/1/76 Range: Norm. 12/1/76 Ext.	CPLEE- *ON, 12/13/76* Anal B Failed 4/71	SIDE - ON, Cycle OFF T2 >85°C CCGE-Failed 7/18/75	LSM -ON X, Y, Z Pos, 180° Flip Cals *1242* Z Failed 3/3/75	LEAM-STBY 12/8/76 Static @ night since 7/16/76
				HFE - STBY 11/14/76 Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed No Free Modes or closed Loop Ops
		Dust Detector - ON	DTREM - ON	DTREM - ON		
	INACTIVE/ INOPERABLE	SIDE-OFF 12/4/76 Increase reserve power for C/S heat	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since deployment, cable severed.	LACE-STBY 7/22/76 HV failed 10/73
		LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired Geophones 2 & 3 bad	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired. Sensors failed.	

PSEP - Apollo 11 Deployed 7/21/69, 23.4°E, 0.7°N- Lost Uplink 8/25/69, Lost Downlink 12/14/69

REMOTE SITE NON-RECOVERABL. ALSEP
DATA LOSSES FOR WEEK ENDING 12/16/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
08 December	QUI	Noisy Downlink	LOS 08/0901 AOS 08/0910	A-12	09^{m}
08 December	QUI	Station Problem	LOS 08/0901 AOS 08/0928	A16 & 17	27^{m}
12 December	ORR/ACN	Schedule	LOS 12/2354 AOS 12/2359	ALL	05^{m}
13 December	ACN	Higher Priority	LOS 13/0047 AOS 13/0113	ALL	26^{m}
14 December	ORR/ACN	Higher Priority	LOS 14/0024 AOS 14/0130	ALL	$1^{h}06^{m}$
15 December	HAW	Station Problem	LOS 15/1505 AOS 15/1507	A-14	02^{m}
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
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			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		

NOV 21/326	22/327	23/328	24/329	25/330	26/331	27/332
NO SUPPORT	0900-1100 ALSEP 17 NBR - 15m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 18m HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 NBR - 54m	NO SUPPORT ALSEP 16
NOV 28/333	**29/334**	**30/335**	**DEC 01/336**	**02/337**	**03/338**	**04/339**
0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET LSM FLIP CAL	0900-1100 ALSEP 17 NBR - 17m LEAM OFF	0900-1100 ALSEP 14 ALSEP 12	0200-0400 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 17 NBR - 44m HFE RBS ALSEP 16 LSM FLIP CAL 1300-1400	0900-1100 ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR - 13m ALSEP 16 LSM FLIP CAL	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF PDRs ON
DEC 05/340	**06/341**	**07/342**	**08/343**	**09/344**	**10/345**	**11/346**
0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 20m ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 19m HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR - 46m ALSEP 16 LSM FLIP CAL 2000-2100	0600-0700 ALSEP 17 1600-1700

DEC 12/347	13/348	14/349	15/350	16/351	17/352	18/353
0100-0200 1000-1200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON PDRs OFF ALSEP 17 NBR - 05m ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 17 NBR - 24m	1700-2100 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17m NBR- 16m HFE RBS	0900-1100 ALSEP 17h NBR - 1h16m HFE RBS ALSEP 12 SWS STBY	0900-1100 ALSEP 17m NBR- 15m	NO SUPPORT
DEC 19/354	**20/355**	**21/356**	**22/357**	**23/358**	**24/359**	**25/360**
NO SUPPORT	0900-1100 ALSEP 17 NBR - 16m	2000-2200 ALSEP 17 NBR - 45m HFE RBS	NO SUPPORT	NO SUPPORT	0900-1100 ALSEP 17 NBR- 12m	NO SUPPORT ALSEP 17
DEC 26/361	**27/362**	**28/363**	**29/364**	**30/365**	**31/366**	**JAN 01/001**
NO SUPPORT ALSEP 17 NBR - 07m	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET ALSEP 17m NBR- 03m NBR- 13m	0900-1100 ALSEP 15 ALSEP 17 NBR - 10m LMS - OFF	0900-1100 ALSEP 14 ALSEP 17 NBR- 48m HFE RBS LMS STBY LEAM OFF ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	1600-1800 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 14 C/S HTR OFF	0900-1100 ALSEP 17 NBR - 09m ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 CPLEE STBY PDRs ON ALSEP 15 SIDE STBY

MERRY CHRISTMAS

AND

HAPPY NEW YEAR

APOLLO ALSEP PERFORMANCE SUMMARY REPORT

22 December 1976
G.m.t.: 0400

A Summary Report will not be published on 29 December 1976 in observance of the Holidays. The Report will be published on 5 January 1977 and will review the two week period from 22 December 1976 to 5 January 1977.

Apollo 17 ALSEP

The station is operated in the LSP Format ON (High Bit Rate, 3533.3 bits per second). During real-time support on Mondays, Wednesdays, and Fridays the station is operated briefly in the Data Processor Format ON (Normal Bit Rate, 1060 bits per second) and engineering data from the central station and the other experiments is checked.

The Lunar Seismic Profiling Experiment is ON and is a part of the ALSEP seismic work.

The Heat Flow Experiment is presently operating in the gradient mode and all sensors are being sampled in full sequence. HFE science data is obtained during normal bit rate periods, with a ring bridge survey weekly. On 22 December the lunar surface temperature, as measured by the HFE thermocouples, was 107 ± 8°K. At a depth of 230 cm the subsurface temperatures were 256.8°K at probe #1 and 257.0°K at probe #2.

The Lunar Ejecta and Meteorites Experiment is in STANDBY for lunar night.

Apollo 16 ALSEP

The Central Station DSS-1 (10w) Heater is ON for lunar night operation.

The Passive Seismic Experiment is configured for seismic network congruity (thermal control, AUTO ON; component gain 0 db; and feedback loop filter IN).

The Lunar Surface Magnetometer is ON. Flip calibrations have been discontinued for this lunar night due to the low temperature of the Z-axis sensor head.

Apollo 15 ALSEP

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP).

The Suprathermal Ion Detector/Cold Cathode Gauge Experiment was commanded to operate ON 9 December. It is operating in the Reset SIDE Frame Counter at 39 with the channeltron high voltages ON. The instrument is commanded to full sequencing (0-127 Frames) briefly during each real-time support period. The CCGE high voltage (+4.5 Kvdc) remains OFF.

The Heat Flow Experiment is in STANDBY.

ALSEP PERFORMANCE SUMMARY REPORT (continued)

22 December 1976
G.m.t.: 0400

Apollo 14 ALSEP

Acquisition of Signal of the Apollo 14 ALSEP has continued since 12 November, 1976.

The external 7 and 14 watt power dissipation resistors are OFF. The DSS-1 (10w) Heater is ON for lunar night.

The Passive Seismic Experiment is ON with the thermal control, AUTO ON; component gain 0 db; and feedback loop filter, OUT. The heater is operating in AUTO ON for lunar night.

The Charged Particle Lunar Environment Experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Apollo 12 ALSEP

The Central Station DSS-1 (10w) heater is ON for night operation.

The Passive Seismic Experiment is configured for seismic network congruity (Ref. Apollo 16 ALSEP), except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Performance Summary Report). The Z-motor is ON to maximize heating in the instrument during lunar night. *The instrument assembly temperature (DL-07) was offscale LOW on 20 December at a sun angle of 237.6°.*

The Solar Wind Spectrometer Experiment was commanded to STANDBY on 16 December to increase the temperature of the PSE electronics located in the central station.

It is requested that any organization having comments, questions or suggestions concerning this report contact F. Heinz, Payload Requirements and Operations Branch TC3, telephone 713-333-3481.

ALSEP STATUS	as of week ending 0400 Z (G.m.t.) 22 December 1976				
	Apollo 12 ALSEP 1	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed	1412Z, 11/19/69	1728Z, 2/5/71	1805Z, 7/31/71	1938Z, 4/21/72	0253Z, 12/12/72
Lunar Location	23.5°W, 3.0°S	17.5°W, 3.7°S	3.7°E, 26.1°N	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops	88/2590	73/2014	67/1971	58/1706	50/1471
Phase, Sun Angle	Sunset, 256.6°	Sunset, 262.6°	Midnight, 283.7°	Midnight, 295.5°	Midnight, 310.3°
Cmds - Total/Week	31228/41	17056/18	38478/63	23507/23	36208/30
Spurious Changes	115	96	118	11	0
RTG Initial/Present	73.6w/47.7w	72.5w/59.8w	74.7w/50.1w	70.9w/62.8w	75.4w/64.8w
RTG Reserve Power	10.1w	14.8w	7.2w	14.3w	15.6w
CENTRAL STATION Avg. Therm. Plate	3.5°F	24.7°F	-13.6°F	27.6°F	8.5°F
CENTRAL STATION Transmitter	B, 7/8/74	B, 11/12/76	B, 8/20/76	B, 3/26/73	A, 12/9/74
CENTRAL STATION Processor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR E '74
CENTRAL STATION PCU	1	1	1	1	2
CENTRAL STATION Timer	Inoperative	Inoperative	Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited 12/20/76
CENTRAL STATION Heaters	DSS-1 (10w) - ON 12/15/76	DSS-1 (10w)-ON, 12/15 21wPDR OFF 12/13/76	DSS-1 (10w) - OFF	DSS-1 (10w) - ON 12/12/76	APM STATUS: ON
EXPERIMENTS PSE LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0,0,0db	LSPE -HBR 8/15/76
PSE Heaters Z motor (A1)	Auto On ON, 12/15/76	Auto On, 12/13/76	Auto On	Auto On	NBR Real Time Mon, Wed, Fri.
PSE Filter	IN - 6/29/75	OUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
PSE DL-07 Temp.	LOW, 12/20/76	124.1°F	124.5°F	125.8°F	Data Mon, Wed, Fri, RBS weekly
PSE Uncage Ckt.	Uncaged	Uncaged	Uncaged, 12/14/76	OT	
ACTIVE/OPERABLE	SWS - STBY, 12/16/76 Range: Norm. Ext.	CPLEE- ON, 12/13/76 Anal B Failed 4/71	SIDE - ON, Cycle OFF T2 >85°C CCGE-Failed 7/18/75	LSM -ON X, Y, Z Pos. 180° Flip Cals 1242 Z Failed 3/3/75	LEAM-STBY 12/8/76 Static @ night since 7/16/76
ACTIVE/OPERABLE			HFE Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed No Free Modes or closed Loop Ops
ACTIVE/OPERABLE	Dust Detector - ON	DTREM - ON	DTREM - ON		
INACTIVE/INOPERABLE	SIDE-OFF 5/3/76 Increase reserve power for C/S heat	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since deployment, cable severed.	LACE-STBY 7/22/76 HV failed 10/73
INACTIVE/INOPERABLE	LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired Geophones 2 & 3 bad	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired. Sensors failed.	
PSEP - Apollo 11	Deployed 7/21/69, 23.4°E, 0.7°N- Lost Uplink 8/25/69, Lost Downlink 12/14/69				

REMOTE SITE NON-RECOVERABLE ALSEP
DATA LOSSES FOR WEEK ENDING 12/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
15 December	HAW	Station Problem	LOS 15/1507 AOS 15/1510	A-17	03^m
16 December	MIL	Station Problem	LOS 16/1019 AOS 16/1021	ALL	02^m
16 December	MIL	Station Problem	LOS 16/1657 AOS 16/1659	ALL	02^m
16 December	GDS/HAW	Higher Priority	LOS 16/2052 AOS 16/2138	ALL	46^m
17 December	HAW/ACN	Schedule	LOS 17/0015 AOS 17/0306	ALL	1^h51^m
17 December	MIL	Poor Signal	LOS 17/0824 AOS 17/0835	ALL	11^m
18 December	ORR	Station Problem	LOS 18/0109 AOS 18/0112	ALL	03^m
19 December	ORR	Higher Priority	LOS 19/0240 AOS 19/0300	ALL	20^m
19 December	ACN/MIL	Higher Priority	LOS 19/1030 AOS 19/1040	ALL	10^m
19 December	MIL	Station Problem	LOS 19/1900 AOS 19/1910	A-14 & 17	10^m
20 December	AGO	Station Problem	LOS 20/1105 AOS 20/1108	ALL	03^m
20 December	BDA	Intermittent Data	LOS 20/1443 AOS 20/1524	ALL	41^m
21 December	ACN	Higher Priority	LOS 21/0844 AOS 21/0910	ALL	26^m
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		
			LOS AOS		