ALSEP Performance Summary Reports

1976

ALSEP Performance Summary Reports 1976 Table of Contents

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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 $297 \pm 8^{\circ}$ 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-O4) 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

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G.m.t.,
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4
1975,
December 1975,
19
1300 G.m.t.,
from
status from 1
Operational

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.	smic The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, O db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.	te 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.
Central station	Passive seismic experiment	Lunar surface magnetometer experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Active seismic experiment

Apollo 15 ALSEP

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

Central station Sunrise

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

Commanded OFF 14 June 1974.

spectrometer experiment Commanded OFF 14 June 1974.

magnetometer experiment

Lunar surface

Apollo 14 ALSEP

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

Central station Midnig

Midnight of the 61st lunation occurred on 3 January. Transmitter A signal strength was reported at -138.5 \pm 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 Decem-No significant seismic events were noted during real-time this report ber 1975. period.

Active seismic

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

experiment

Suprathermal ion The instrument status is unknown.

detector/cold

uetector/colu cathode gauge

experiments

Charged particle The experiment is in STANDBY.

lunar

environmental

experiment

Apollo 12 ALSEP

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

Central station Mi

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

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 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 noise is attributed to the third (3rd) least significant bit not setting properly Thisdata recorded by the Helicorders on 31 December during real-time support. 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 Commanded OFF 14 June 1974. magnetometer experiment

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:

28082 327.7° 327.7° 327.7° 57.5w A11 OFF LSM OFF -3.9°F Offscale LOW OFF -16.1°C A.3°C A.3°C A.3°C A.3°C STBY N/A HIGH N/A N/A N/A APOLLO 17 ALSEP 1122 31088 21.9° 67.8w ON OFF LACE/LSPE STBY 71.9°F
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4°K cale HIGH °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	o6 ^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 ^h 19 ^m	GDS	Station Problem
A14,17	01 Jan 76	2157/2316	1 ^h 19 ^m	GDS	Higher Priority
ALL	05 Jan 76	2126/2129	03 ^m	MIL	Station Problem
ALL	06 Jan 76	0955/0957	o2 ^m	ORR	Station Problem
ALL	06 Jan 76	1106/1126	20 ^m	MAD	Station Problem

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PSE C	27/36	0800-1200 ALSEP 12 C/S HTR ON	PSE Z	and the second second	n∰h talam√n a 'n		03/003	NO SUPPORT				10/010	0900-1100 ALSEP 14				
e de la company de la comp	26/360	0900-1100 ALSEP 14	RBS				02/002	0900-1100	RBS			600/60	0900-1100 ALSEP 17 LEAM OFF	HFE RBS	LSM FLIP CAL		
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ITS	25/359	0900-1100 ALSEP 15	ALSEP 12 SIDE ON				JAN 01/001	SUPPORT				08/008	0900- 1350 ALSEP 15 TIMER RST	ALSEP 16 C/S HTR OFF TIMER RST			
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ALS	23/357	00 2 SIDE	8				30/364	ORT				900	ORT 7				
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	22/356	100	12 SIDE	S	IP CAL	200	29/363	00	ω.			05/005	300	10			
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PSE CALS DAILY	17/017	0900-1100 ALSEP 12 & 15 CYCLE SIDES	24/024	31/031	NO SUPPORT	NASA-JSC
A PO A SERVICE AND A SERVICE A	16/016	1200-1400 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL ALSEP 15 SIDE STBY,	23/023 1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	30/030	0900-1100 HFE RBS	
VENTS	15/015	0030-0430 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE SUPT	22/022 0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	29/029	NO SUPPORT	
ALSEP SUPPORT SCHEDULE/EYENTS	14/014	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	21/021 1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	28/028	0900-1100 HFE RBS	
ALSEP S	13/013	0500-0700 ALSEP 12 SIDE OFF	20/020 0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	27/027	0900-1100	
	12/012	HFE RBS LSM FLIP CAL	19/019 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	26/026	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	
TIMES - CST	JAN 11/011	0245-0645 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1600-1700	JAN 18/018 1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	JAN 25/025	12	BEN-20

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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 $385 \pm 8^{\circ}$ 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH but is expected to return onscale 22 January. No significant seismic events were noted during real-time support this report period.	The LSM is ON and recording data. IlOO 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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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 offscale 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

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 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 was returned to its normal configuration at the conclusion of the ring bridge survey 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 on 14 January.

experiment

spectrometer experiment Solar wind

Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

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

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Suprathermal ion	The	The instrument status is unknown	status	<u>:</u>	unknown
detector/cold					
cathode gauge					
experiments					

Charged particle The experiment is in STANDBY. lunar environmental experiment

Apollo 12 ALSEP

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

Central station

tronics 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 $+3.0^{o}$ F by the next support per-Noon of the 77th lunation will occur on 18 January. A signal strength of -139.0 \pm 3.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. However, the Central Station (C/S) temperature never dropped low enough to cause the Wind Spectrometer Experiment (SWS) were commanded to STANDBY to increase the reserve iod with proper operation of the PSE continuing. Detailed analysis of the data colis planned for future lunar night operations to command the SIDE to STANDBY when the continued. On 8 January, the Suprathermal Ion Detector Experiment (SIDE) and Solar lected during the warmup showed that the ADC problem cleared at -0.8°F (AT-05). It power in the Central Station. This added heat caused the Central Station PSE elec-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. 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 Extended tests were conducted to resolve the Passive Seismic Experiment Analog to Digital (RSE A/D) converter anomaly during the real time support periods ending C/S AT-05 temperature approaches +0.3°F.

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

bassive seismic experiment

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. The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP).

> Solar wind spectrometer experiment

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

Apollo 12 ALSEP (continued)

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

At 1556 G.m.t., 8 January the SIDE was commanded to SIANDBY 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. Suprathermal ion experiment

Lunar surface

magnetometer experiment

Commanded OFF 14 June 1974.

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

APOLLO 16 ALSEP 1364 19419 85.1° 65.3w A11 OFF 106.4°F Offscale HIGH 48.2°C N/A N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP 1629 32324 73.2° 60.2w A11 OFF LSM/SWS OFF & SIDE 111.9°F OFFscale HIGH OFF STBY STBY N/A N/A 328.8°K	
APOLLO 14 ALSEP 1805 15648 52.1° 61.7w A11 OFF SIDE/ASE/CPLEE STBY 109.4°F Offscale LOW N/A N/A STBY STBY 65.6°C	ALSEP STBY & LEAM OFF .OW
APOLLO 12 ALSEP 2248 28182 46.1° 55.9w A11 OFF SIDE/LSM OFF 94.2°F 127.4°F 0FF 61.7°C 0FF N/A N/A N/A	APOLLO 17 ALSEP 1129 31239 100.3° 67.4w 0N 0FF LACE/LSPE STBY & 93.5°F 158.6°F 158.6°F 158.6°F 330.4°K 0ffscale LOW 94.1°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CCGE Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
The state of the s			LOS 05/2126		
05 JANUARY	MIL	Station Problem	AOS 05/2129	ALL	03 ^m
		·	LOS 06/0955		
06 JANUARY	ORR	Station Problem	AOS 06/0957	ALL	o2 ^m
			LOS 06/1106		
06 JANUARY	MAD	Station Problem	AOS 06/1126	ALL	20 ^m
res e <u>1133 anni an Saint ann ann ann an an an an an an an an an </u>			LOS 08/2006		
08 JANUARY	MIL	Station Problem	AOS 08/2010	A15	04 ^m
and detecting and the second s			LOS 03/0851		
**03 NOVEMBER '75	VAN	Station Problem	AOS 03/1202	ALL	3 ^h 11 ^m
			LOS 04/1055		,
**04 NOVEMBER '75	VAN	Station Problem	AOS 04/1208	ALL	_{- 1} h ₁₃ m
			LOS 05/0542		
**05 NOVEMBER '75	VAN	Station Problem	AOS 05/0645	A12, 14	1 ^h 03 ^m
			LOS 20/2052		A STATE OF THE STA
**20 NOVEMBER '75	VAN	Station Problem	AOS 20/2400	A15	3 ^h 08 ^m
,			LOS 21/0000		Communication of the English Communication of the C
**21 NOVEMBER '75	VAN	Station Problem	AOS 21/0023	A15	23 ^m
			LOS 13/1025	A12, 14	
13 JANUARY	GWM	Station Problem	AÓS 13/1028	16, 17	03 ^m
			LOS		
			AOS	and the state of t	mentala a supplica algorità libergo, pi pi si conquintipa con l'apparagne sept. "Laine J Ny (1777)
			LOS		
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d Specific actions			LOS		
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PSE CALS DATLY	27/361	0800-1200 ALSEP 12 C/S HTR ON	PSE Z MTR ON				03/003	NO SUPPORT						10/010	0900-1100 ALSEP 14			NASA-JSC
e i i i i i i i i i i i i i i i i i i i	26/360	0900-1100 ALSEP 14	HFE RBS				02/002	0900-1100	HFE RBS					600760	0900-1100 ALSEP 17 LEAM OFF	HFE RBS	LSM FLIP CAL	
EVENTS	25/359	0900-1100 ALSEP 15	ALSEP 12 SIDE ON		The Marian and		JAN 01/001	NO SUPPORT			oo aada aa a	de l'agric de Francisco de Laboratorio de Laborator		08/008	0900- 1350 ALSEP 15 TIMER RST	ALSEP 16 C/S HTR OFF	LMEK KO	
SUPPORT SCHEDILE/EVENTS	24/358	0100-0200 ALSEP 16	ALSEP 16 C/S HTR ON	ALSEP 12 CYCLE SIDE	HFE RBS		31/365	0000-1100	HFE RBS	in 210 massas				//00//	NO SUPPORT ALSEP 16			
ALSEP S	23/357	0600-0800 ALSEP 12 CYCLE SIDE	1600-1700				30/364	NO SUPPORT						900/90	ALSEP 17			
	22/356	0900-1100 ALSEP 17	ALSEP 12 CYCLE SIDE	HFE RBS	LSM FLIP CAL	2100-2200	29/363	0000-1100	HFE RBS			shared as along a second		300750	0300-1300	HFE RBS	TO AS STRUCTURE STRUCTURE	
TIMES - CST	DEC 21/355	0900-1100 ALSEP 12 CYCLE SIDE	ALSEP 15 SIDE ON	and the second s	a de la Constantina del Constantina de la Consta		DEC 28/362	0900-1100		annium anan			4 (() 4 () MAT		NO SUPPOK	· ·		BEN-20

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

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 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 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, O 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.

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Active seismic experiment

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. Tranitter A downlink signal strength is reported between -134.0 and -137.5 dbm by the tracking stations with 30-foot antennas.

Passive seismic

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 0.542G.m.t., 17 January the instrument experienced a spurious command (octal 073) to As the 18-hour timer is presently operating uninhibited no adverse effects were encountered by this spurious command. Therefore, a corrective command was not the uncage/arm fire circuitry as observed by the Ascension Tracking Station. entered. No seismic events were observed during this report period.

detector/cold

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, A special operational test of the SIDE was conducted from 14 to 17 January at the request of the Principal Investigator. SMEAR 47).

> experiment Heat flow

experiments

a temperature of 251.2°K at its lowermost point. Ring bridge surveys are obtained 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 periodically.

> spectrometer experiment Solar wind

Commanded OFF 14 June 1974.

Commanded OFF 14 June 1974.

Lunar surface

experiment

Apollo 14 ALSEP

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

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 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. metry signal at 192924 G.m.t., 18 January. Thirteen commands to turn transmitters The Orroral Valley Tracking Station reported an abrupt loss of the downlink tele-

Central station Noon of

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.

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

experiment

Suprathermal ion The instrument status is unknown. detector/cold

cathode gauge experiments Charged particle The experiment is in STANDBY.

nunal environmental

environment experiment

Apollo 12 ALSEP

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

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. Central station

No significant seismic 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 se events were noted during real-time this report period. Passive seismic

experiment

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

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 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 at the direction of Mission Control. Suprathermal ion experiment

detector

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

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

APOLLO 16 ALSEP 1371 19528 176.1° 64.6w A11 0FF ASE 0FF 45.2°F 140.0°F 31.9°C N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP 1636 32432 164.2° 60.6w A11 OFF LSM/SWS OFF 77.0°F 125.8°F OFF OFF 64.5°C 316.2°K N/A 298.4°K	
APOLLO 14 ALSEP LOS — 18 January 1976 15667 143.1° 61.7w All OFF SIDE/ASE/CPLEE STBY 119.6°F 121.3°F N/A STBY STBY STBY STBY STBY STBY STBY STBY	
APOLLO 12 ALSEP 2255 28221 137.1° 55.9w A11 OFF SIDE/LSM OFF 85.3°F Offscale HIGH OFF 60.0°C OFF N/A N/A	APOLLO 17 ALSEP 1136 31335 191.3° 69.3w 0N 0FF LACE/LSPE STBY 16.2°F -10.0°F -11.9°F -11.9°F 284.6°K 0ffscale LOW 17.5°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-04) CCGE Temp (DI-04) CCGE Temp (DI-04) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		THE RESERVE OF THE PROPERTY OF	LOS 15/0604		
15 JANUARY	AGO/MIL	Higher Priority	AOS 15/0609	ALL	05 ^m
	All the state of t	ң тамарының бек тілікің белі (Мараневру, ағ. қылғардың қайғарға қаға және кезен желен желен жайдарға жағаны же	LOS 15/0800		
15 JANUARY	MIL/ORR	Higher Priority	AOS 15/0835	A14,15	35 ^m
			LOS 16/1850		
16 JANUARY	MAD/ETC	Higher Priority	AOS 16/2228	A12,15	3 ^h 38 ^m
			LOS 16/1850		
16 JANUARY	MAD/ACN	Higher Priority	AOS 16/2306	A14,16.17	4 ^h 16 ^m
			LOS 17/2011		
17 JANUARY	MAD/AGO	Higher Priority	AOS 17/2400	ALL	3 ^h 49 ^m
			LOS 18/0000		
18, JANUARY	MAD/AGO	Higher Priority	AOS 18/0109	ALL	1 ^h 09 ^m
			LOS 18/0916		
18 JANUARY	MIL/ORR	Higher Priority	AOS 18/1038	ALL	1 ^h 22 ^m
		LOSS OF DOWNLINK	LOS 18/1929:24	omes and	
18 JANUARY	ORR	SIGNAL	AOS '	A14	
			LOS 18/2032		
18 JANUARY	ORR/MAD	Higher Priority	AOS 18/2037	ALL	05 ^m
			LOS 19/1107	-	
19 JANUARY	MIL/HAW	Higher Priority	AOS 19/1131	A12	24 ^m
	na acceptance		LOS 20/1254		
20 JANUARY	MIL/ULA	Higher Priority	AOS 20/1453	ALL	1 ^h 59 ^m
			LOS 21/1645		
21 JANUARY	ULA/HAW	Higher Priority	AOS 21/1732	ALL	47 ^m
			LOS		· ·
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PSE CALS DAILY	17/017	0900-1100 ALSEP 12 & 15 CYCLE SIDES	24/024 1000-1200	31/031	NO SUPPORT	NASA-JSC
т di , нове в вида дво вереда на досе в вереда на вереда на постава на постава на постава на постава на постав	16/016	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12 SIDE 15 ON HFE RBS LSM FLIP CAL 2300 ALSEP 15 SIDE STBY,	23/023 1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	30/030	0900-1100 HFE RBS	
ENTS	15/015	0530 ALSEP 15 SIDE STBY, MODE I 1730-1830	22/022 0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	29/029	NO SUPPORT	
ALSEP SUPPORT SCHEDII E/EVENTS	14/014	0923-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL 2130-2230	21/021 1100-1200 ALSEP 17 HFE RBS LSM FLIP CAL 2300-2400	28/028	0900-1100 HFE RBS	
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a Agente de Grande de Agente de La America de Agente de Agente de Grande de	12/012	0900-1100 HFE RBS LSM FLIP CAL	19/019 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	26/026	0000-0400 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS 1300-1400	
TIMES - CST	JAN 11/011	0245-0645 ALSEP 12 C/S HTR 0FF PSE Z MTR 0FF 1600-1700	JAN 18/018 1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	JAN 25/025	0800-1100 ALSEP 14 ALSEP 12	BEN-20

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 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 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain, O db; and feedback loop filter, IN). No significant seismic events were noted this report period.	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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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

G.m.t., 27 January when the central station internal temperature AT-05 dropped to \pm 0.3°F (Ref. Weekly Status Report dated 16 January 1976 and Apollo 12 ALSEP The SIDE is currently in STANDBY. The SIDE was commanded to STANDBY AT 1601 SMEAR 84).

> Lunar surface magnetometer experiment

Commanded OFF 14 June 1974.

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

APOLLO 16 ALSEP	1377 19599 250.6° 65.3w DSS-1 (10w) ON ASE OFF 31.1°F 125.9°F -10.2°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1642 32555 238.7° 59.5w A11 OFF LSM/SWS OFF -3.1°F 124.7°F OFF OFF 7.8°C 112.3°K N/A N/A 283.6°K	
APOLLO 14 ALSEP	1808 15667 217.6° NOTE: LOS 1/18/76 SUN ANGLE 96.7°	
APOLLO 12 ALSEP	2261 28340 211.7° 54.8w DSS-1 (10w) ON SIDE STBY/LSM OFF 5.0°F Offscale LOW OFF -14.8°C STBY N/A N/A	APOLLO 17 ALSEP 1142 31481 265.8° 69.0w 0N 0FF LACE/LSPE STBY 7.8°F -16.1°F -17.4°F 285.4°K 51.9°C
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 24/2045		
24 JANUARY	HAW/VAN	Higher Priority	AOS 24/2200	ALL ·	1 ^h 15 ^m
			LOS 26/0247		
26 JANUARY	VAN	Station Problem	AOS 26/0304	A16	17 ^m
			LOS 27/0553		*
27 JANUARY	VAN	Station Problem	AOS 27/0557	A16	04 ^m
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TIMES - CST		ALSEP S	SUPPORT SCHEDULE/EYENTS	ENTS		PSE CALS DATLY
JAN 11/011	12/012	13/013	14/014	15/015	16/016	710/71
0245-0645 ALSEP 12 C/S HTR 0FF PSF 7 MTP 0FF	0900-1100 HFE RBS	0500-0700 ALSEP 12 SIDE OFF	0923-1100 ALSEP 12 CYCLE SIDE	0530 ALSEP 15 SIDE STBY,	1200-1400 ALSEP 12 & 15 CYCLE SIDE 12	0900-1100 ALSEP 12 & 15 CYCLE SIDES
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00/1-0091	***************************************		HFE RBS		2300	
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			2130-2230		MUDE 1	
JAN 18/018	19/019	20/020	21/021	22/022	23/023	24/024
1000-1200 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 CYCLE SIDE	0900-1100 ALSEP 12 CYCLE SIDE	1100-1200 ALSEP 17	0900-1000 1800-2000	1300-1500 ALSEP 15	1000-1200
ALSEP 17 LEAM ON	ALSEP 15 SIDE ON	2300-2400	HFE RBS	1 NO	ALSEP 12 SIDE ON	
	HFE RBS		CAL	ALSEP 12 CYCLE SIDE	HFE RBS	
	LSM FLIP CAL		2300-2400			
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	0000-1100	<u>0900-1100</u>	NO SUPPORT	0900-1100	NO SUPPORT
<i>></i> 	HFE RBS		HFE RBS		HFE RBS	
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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 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 4 February the lunar surface temperature, as measured by the HFE thermocouples, was $106\pm8^{\circ}\text{K}$. 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-O4) 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

30 January for the 47th lunation. The it operation. The 18-hour timer outagreed operational plan initiated 6 ter B was reported between -134.0 ng stations.
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.
Central station

nal control,	No significant	eriod.
The instrument is configured for seismic network congruity (thermal control,	AUTO ON; component gain, 0 db; and feedback loop filter IN). No	seismic events were noted during real-time support this report period.
Passive seismic	experiment	

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Science data from the Z-axis continues to		
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Lunar surface	magnetometer	experiment
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The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 \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 noted during real-time support this report period.

Suprathermal ion detector/cold

The SIDE is ON. The CCGE high voltage is OFF.

Heat flow

experiment

cathode gauge

experiments

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

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. Midnight of the 77th lunation occurred on 2 February. A signal strength of -138.5 \pm 2.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. The DSS-1 (10 watts) heater is 0N for lunar night operation. Central station Passive seismic 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. spectrometer experiment Solar wind

The SIDE is in STANDBY. (Ref. Performance Summary Report, 16 January 1976, and Apollo 12 ALSEP SMEAR 84). Suprathermal ion experiment detector

Lunar surface Commanded OFF 14 June 1974.

magnetometer

experiment

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

APOLLO 16 ALSEP 1384 19626 334.9° 65.3w (65.3w) A11 ON ASE OFF 30.4°F 125.8°F -10.2°C N/A N/A N/A N/A N/A OFF	ate RTG Lunation
APOLLO 15 ALSEP 1649 32629 323.0° 58.7w (59.1w) A11 OFF LSM/SWS OFF -5.5°F 124.3°F OFF 7.8°C 108.3°K N/A N/A 283.4°K	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
APOLLO 14 ALSEP 1808 15667 301.9° NOTE: LOS 1/18/76 SUN ANGLE 96.7°	Values outputs at a si
APOLLO 12 ALSEP 2268 28350 296.0° 54.5w (55.2w) A11 0N LSM OFF/SIDE STBY 2.1°F Offscale LOW OFF -15.6°C STBY STBY N/A N/A	APOLLO 17 ALSEP 1149 31580 350.1° 68.9w (69.3w) 0N 0FF LACE/LSPE STBY 12.0°F -16.1°F -20.8°F 284.9°K 0ffscale LOW 12.7°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-04) CCGE Temp (DI-04) CCGE Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (DG-04) LSP Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 29/2006		
29 JANUARY	AGO/HAW	Higher Priority	AOS 29/2047	ALL	41 ^m
			LOS 29/2210		
29 JANUARY	HAW/GDS	Higher Priority	AOS 29/2249	A12,15,16	39 ^m
entre Control (Long metal and Control (Long) metal engineering person of the reduced and materials address to be recovered.			LOS 29/2210		
29 JANUARY	НАЖ	Higher Priority	AOS 29/2400	A17	1 ^h 50 ^m
activamente op ₁₀ y 1000 de groministe er Olitain indekt produkt vro us se caronerado de custo envelor de custom se oraz			LOS 29/2345		
29 JANUARY	HAW	Higher Priority	AOS 29/2400	A12,15,16	15 ^m
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30 JANUARY	GDS/HAW	Higher Priority	AOS 30/0152	ALL	1 ^h 52 ^m
			LOS 30/0315		
30, JANUARY	HAW/VAN	Higher Priority	AOS 30/0440	ALL	1 ^h 25 ^m
			LOS 01/0325		
01 FEBRUARY	ORR	Higher Priority	AOS 01/0416	ALL	51 ^m
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03 FEBRUARY	ORR	Higher Priority	AOS 03/0445	ALL	49 ^m
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	JAN 11/011	12/012	13/013	14/014	15/015	16/016	710/71
	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 1000-1200 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON	19/019 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON HFE RBS LSM FLIP CAL	20/020 0900-1100 ALSEP 12 CYCLE SIDE 2300-2400	CAL	22/022 0900-1000 1800-2000 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	23/023 1300-1500 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	24/024 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
	BEN-20						NASA-JSC

PSF CALS DATIV	06/037 07/038	7 4LSE	13/044 14/045	0717-0917	15 STBY, E I	20/051 21/052	1300-1500 LSEP 17 LSEP 17 C/S HTR ON SM FLIP CAL 2300-2400	JSL-VSVN
, STMAN	05/036		12/043	1100-1300 0717-091 ALSEP 12 & 15 ALSEP 12 CYCLE SIDES CYCLE SI ALSEP 15 SIDE ON HFE RBS LSM FLIP	ALSEP 15 SIDE STB MODE I	19/050	0900-1100	
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F C C C C C C C C C C C C C C C C C C C	FEB 01/032	NO SUPPORT	FEB 08/039	0900-1100 ALSEP 17 LEAM OFF		FEB 15/046	0800-1000 ALSEP 12 & 15 CYCLE SIDES	20

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

PRINCIPAL INVESTIGATORS

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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 \pm 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-O4) 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

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

Ring bridge surveys are obtained 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 obtain 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

Commanded OFF 14 June 1974.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

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 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 similar type signals before, they said they had been getting some from a COSMOS The signal strength was extremely variable and again they satellite once in awhile, but according to their tracking data it was 70° away The Ascension Islands (ACN) Tracking Station reported picking up weak signals 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 on the Apollo 14 ALSEP frequency (2279.5 MHz) at 1930 G.m.t., on 7 February. from the moon at this time. under investigation.

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. In tracking sites have been instructed to lock on and track this spurious signal, ? 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 There is some question whether Madrid (MAD) picked up the same signals on 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

mal Plate temperature, this lumar night, was $6.86^{\circ}F$. The Z-motor was commanded OFF for lunar day operation on 9 February. No significant seismic events were noted The minimum Average Ther-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. 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 the experiment was commanded ON at 0215 G.m.t., 10 February, when the ATP increased 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 to 18.6°F. On 11 January, when the SIDE finally turned ON, the ATP was 18.2°F

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 The SIDE is ON with all voltages turned OFF. The purpose of this operation is to 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:

APOLLO 16 ALSEP	1392 19751 72.2° 64.5w A11 OFF STBY ASE OFF 103.9°F Offscale HIGH 45.8°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1657 32780 60.3° 59.8w All OFF LSM/SWS OFF & SIDE S 106.0°F 140.8°F OFF OFF STBY STBY N/A N/A 323.6°K	
APOLLO 14 ALSEP	1808 1567 39.2° NOTE: LOS 1/18/76 SUN ANGLE 96.7°	EAM OFF
APOLLO 12 ALSEP	2276 28485 33.3° 55.2w A11 OFF LSM OFF 89.5°F 126.8°F OFF 54.3°C 64.5°C HIGH N/A	APOLLO 17 ALSEP 1157 31725 87.4° 66.9w 0N 0F LACE/LSPE STBY & LEAM OFF 92.2°F 157.5°F 182.0°F 330.1°K 0ffscale LOW 92.2°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-04) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

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

PSE CALS DAILY	07/038	0900-1100 · ALSEP 15	14/045	0800-1000 NLSEP 12 & 15 CYCLE SIDES		and the state of t		21/052	0800-1000 ALSEP 16 C/S HTR ON		NASA1SC
	750/90	0900-1100 ALSEP 16 C/S HTR 0FF TIMER RST ALSEP 15 TIMER RST HFE RBS	13/044	0717-0917 ALSEP 12 CYCLE SIDE	ALSEP 13 SIDE ON HFE RBS	LSM FLIP CAL	ALSEP 15 SIDE STBY, MODE I	20/051	30 7	HFE RBS LSM FLIP CAL 2100-2200	
YENTS	05/036	ALSEP 17	12/043	1100-1300 ALSEP 12 & 15 CYCLE SIDES				19/050	0700-0900 ALSEP 12 CYCLE SIDE	2100-2200	
ALSEP SUPPORT SCHEDIII E/EYENTS	04/035	0900-1100 HFE RBS	11/042	1000-1200 ALSEP 12 SIDE OFF	ALSEP 15 SIDE STBY	HFE RBS	LSM FLIP CAL	18/049	0700-0900 ALSEP 12 CYCLE SIDE	ALSEP 15 SIDE ON HFE RBS	LSM FLIP CAL
ALSEP S	03/034	NO SUPPORT	10/041	<u>0930-1100</u>				17/048	0800-1000 ALSEP 12 & 15 CYCLE SIDES	ALSEP 17 LEAM ON	
	02/033	0900-1100 HFE RBS	09/040	1730-2130 ALSEP 14	ALSEP 12 C/S HTR OFF	SIDE ON HFE RBS	LSM FLIP CAL	16/047	0800-1000 ALSEP 12 & 15 CYCLE SIDES	HFE RBS LSM FLIP CAL	
TIMES - CST	FEB 01/032	NO SUPPORT	FEB 08/039	<u>0900-1100</u> ALSEP 17 LEAM OFF				FEB 15/046	0800-1000 ALSEP 12 & 15 CYCLE SIDES		BEN-20

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 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 February the lunar surface temperature, as measured by the HFE thermocouples was 257 \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-O4) 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

t the Descartes Site occurred on 14 February for the 48th lunation. The	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 ± 2.0 dbm by the 30-foot antenna tracking stations
Noon at the Descart	18-hour timer outpu	plan initiated 6 Ma	at -136.5 ± 2.0 dbm
Central station			

Lunar surface	The LSM is ON and recording data. 1114 flip calibration sequences have been
magnetometer	executed and verified by the experiment engineering data. Science data from the
experiment	Z-axis has been static this report period.

Apollo 16 ALSEP, SMEAR 27).
The Active Seismic Experiment is currently OFF (Apol
Active seismic experiment

Apollo 15 ALSEP

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

Noon of the 57th lunation occurred at the Hadley Rille Site today 15 February. Transmitter A downlink signal strength is reported at -135.0 \pm 1.0 dbm by the tracking stations with 30-foot antennas. Central station

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 offdata subsystem timer outputs. The instrument assembly temperature (DL-07) was offscale 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 Passive seismic experiment

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 Chameltron high voltages ON. The CCGE high voltage (+ 4.5) vdc) remains OFF. Suprathermal ion cathode gauge detector/cold

experiments

experiment

Heat flow

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. Ring bridge surveys are obtained periodically.

Commanded OFF 14 June 1974. Solar wind

spectrometer experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

The downlink signal strength was reported at -128.0 dbm by Madrid (85-ft antenna) ALSEP 14 valid data was observed at 0246 G.m.t. An emergency real-time support 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. 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 Transmitter A, Power Conditioner Unit 2, Processor Y, and Receiver Crystal B. and at -138.0 dbm by Merritt Island (30-ft antenna). The Passive Seismic Experiod was activated. The configuration of the ALSEP 14 central station was central station (PCV 1, CPLEE STANDBY, PSE Heater FORCED OFF, and DTREM ON). veriment, and Charged Particle Lunar Environmental Experiment were ON, the Vumerous commands were then transmitted to reconfigure the experiments and

Noon at the Apollo 14 site (63rd lunation) occurred on 16 February. Central station

manded IN. No significant seismic events were noted during the real-time period. 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 com-Passive seismic

experiment

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

The instrument status is unknown. Suprathermal ion detector/cold cathode gauge experiments

The experiment is in STANDBY. Charged particle environmental experiment

Apollo 12 ALSEP

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

Noon of the 78th lunation occurred on 17 February. A signal strength of -138.5 \pm 2.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. Central station

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.

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. spectrometer experiment Solar wind

The SIDE is ON with -3.5 K vdc voltage turned OFF. The purpose of this operation is lunar day, when the instrument cools, the $-3.5~\mathrm{K}$ vdc voltage will be commanded ON. This operation is being done at the request of the Principal Investigator. On 18 February the The instrument ared to X10 and -3.5 K vdc OFF inmediately. The instrument was left ON to continue the bakeout. Later in the to bakeout the instrument during lunar day high temperatures. SIDE voltages were commanded ON. The instrument arced to X10 Suprathermal ion experiment detector

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

APOLLO 16 ALSEP	1399 19835 156.1° 64.5w A11 OFF ASE OFF 88.2°F Offscale HIGH 42.4°C N/A N/A N/A OFF	0248 G.m.t.,
APOLLO 15 ALSEP	1664 32918 144.3° 59.8w A11 OFF LSM/SWS OFF 108.9°F Offscale HIGH OFF 61.4°C 355.6°K N/A N/A 323.5°K	**APOLLO 14 ALSEP as of 19 February 1976.
APOLLO 14 ALSEP	1808 119.4° 61.7° A11.0FF SIDE/ASE STBY 95.7°F 113.1°F N/A N/A STBY STBY STBY STBY STBY STBY STBY	*
APOLLO 12 ALSEP	2283 28539 117.2° 55.2w A11 OFF LSM OFF 92.0°F Offscale HIGH OFF 66.1°C 86.9°C HIGH N/A N/A	APOLLO 17 ALSEP 1164 31839 171.4° 67.4w 0N 0FF LACE/LSPE STBY 61.3°F 113.6°F 177.5°F 301.9°K 0ffscale LOW 62.2°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

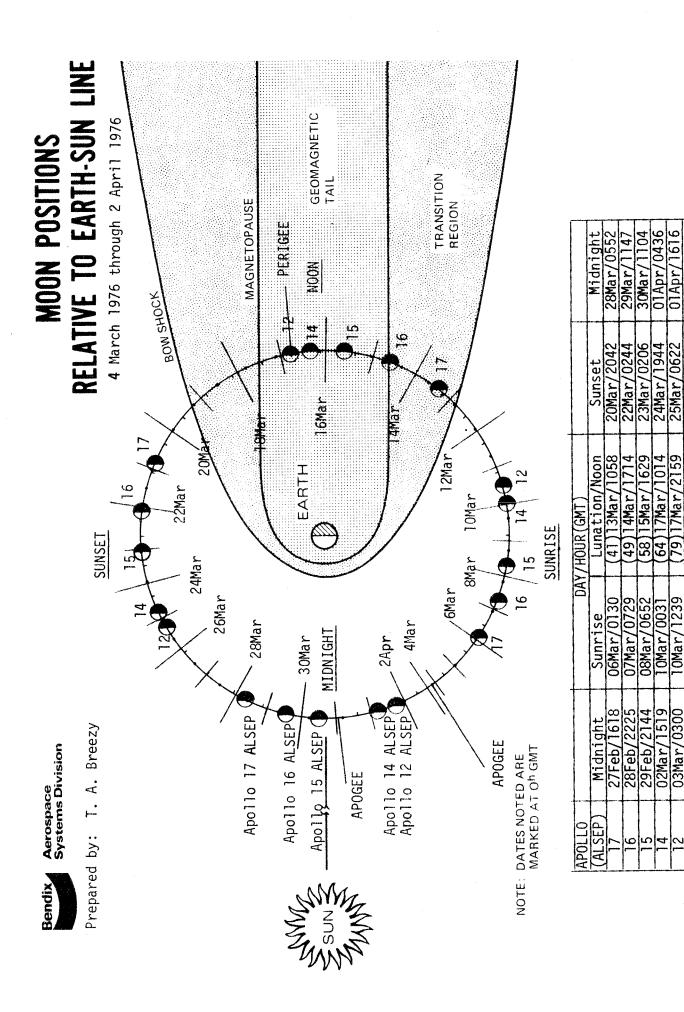
REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 2/19/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS _{12/1538}		
12 FEBRUARY	ORR/ACN	Higher Priority	AOS 12/1649	ALL	1 ^h 11 ^m
			LOS 13/1535		
13 FEBRUARY	ORR/ACN	Higher Priority	AOS 13/1739	ALL	2 ^h 04 ^m
and the specific and th			LOS 17/1449		
17 FEBRUARY	ORR	Higher Priority	AOS 17/1543	ALL	54 ^m
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বিশীবাৰ আৰম্ভি <mark>বিশালকৈ। নাৰ চাৰতি হৈছিল সম্ভাৱ কৰিছিল ক</mark>	ne nationale se agricultura i « (neu estimonismos com a vez en el el transpiro entendir en el este en el estimos della Armanina (MBB STUNDED TO THE ACCUSED ASSESSMENT OF THE POPULAR AND ACCUSED ASSESSMENT THAN A CONTRACT AND ACCUSED ASSESSMENT TO ACCUSE ASSESSMENT ASSESSMENT TO ACCUSE ASSESSMENT TO ACCUSE ASSESSMENT ASSESSME	uuri Tuurin rainin muunidaan olemaan muutin koka siinin malta taunin maanaan maanaan ka tala ka tala ka tala k LOS	COME NO PYTO OF THE STREET COME AND THE COME OF THE CO	and the second s
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			AOS	wine.	

TIMES - CSI		ALSEP SI	SUPPORT SCHEDILLE/EVENTS	(ENTS		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	4	0900-1100 ALSEP 15
					ALSER 13 TIMER RST HFE RBS	
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	0930-1100	1000-1200	1100-1300 ALSEP 15 CYCLE SIDE	01.01	1230-1430 ALSEP 15 CYCLE SIDE
	ALSEP 12 C/S HTR OFF		ALSEP 15 SIDE STBY		ALSEP 15 SIDE ON HFE RBS	
	SIDE ON HFE RBS		HFE RBS		LSM FLIP CAL 2000	
	LSM FLIP CAL		LSM FLIP CAL		ALSEP 15 SIDE STBY, MODE I	
FEB 15/046	16/047	17/048	18/049	19/050	20/051	21/052
0800-1000 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP15 CYCLE SIDE	1000-1200 ALSEP 15 CYCLE SIDE	0700-0900	2200-0130 ALSEP 14 ACQUISITION	30 7	0800-1000 ALSEP 16 C/S HTR 0N
	HFE RBS	ALSEP 17 LEAM ON	ALSEP 15 SIDE ON	30PP0K1	HFE KBS LSM FLIP CAL	
	LSM FLIP CAL		HFE RBS LSM FLIP CAL		2000-2100	
BEN-20						NASA-JSC

PSE CALS DATLY	28/059	NO SUPPORT	990/90	NO SUPPORT		13/073	0900-1100 ALSEP 12 & 15 CYCLE SIDES	NASA-JSC
m v. Pri Priva salangisi da galakan dipulan sapa kamalako mpalin pilankon antikakan manda	27/058	0900-110C HFE RBS	05/065	0900-1100 ALSEP 17	HFE RBS	12/072	0900-1100 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	
FNTS	26/057	0900-1100 ALSEP 12 SIDE STBY	04/064	NO SUPPORT		170/11	0900-1100	
ALSEP SUPPORT SCHEDIII E/EVENTS	25/056	0900-1100 HFE RBS	03/063	0900-1100	HFE RBS	10/070	0800-1200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON HFE RBS LSM FLIP CAL 2000-2100	
ALSEP SI	24/055	1400-1800 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON	02/062	NO SUPPORT		690/60	0900-1100 ALSEP 14 ALSEP 17 LEAM OFF	
	23/054		MAR 01/061	0900-1100	H H R R R S S	890/80	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL	
TIMES - CST	FEB 22/053	0900-1100 ALSEP 15	FEB 29/060	NO SUPPORT		MAR 07/067	0900-1100 ALSEP 16 C/S HTR ON C/S TIMER RST ALSEP 15 TIMER RST	BEN-20

Child Sugar



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 ± 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-O4) 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

9/61 /
, 26 February
26
G.m.t.,
1800
1976, to
February
, 19
G.m.t.
1500
from
status
Operational

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 ± 2.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation.	ic The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature returned onscale 21 February (DL-O7 = 128.5°F at 180.2° sun angle). No significant seismic events were observed during this report period.	The LSM is ON and recording data. Ill6 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.	: The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEr

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

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

Heat flow experiment

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 but had tapered off to about 6°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 SIANDBY. 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.

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 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 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

Apollo 15 ALSEP (continued)

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

Commanded OFF 14 June 1974.

spectrometer experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

.ce commanded ut .er

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

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 signifi-The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP cant 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

The instrument is OFF.

cathode gauge Charged particle

ment experiment

lunar environ-

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 is operating in the manual mode at the -35 vdc range and automatic 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

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. Central station

Passive seismic

experiment

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 offscale LOW at a sun angle of 203.0°. No significant seismic events were noted during the real-time support of this instrument. 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

The instrument is ON. At 0144 G.m.t., 20 February, the instrument was commanded back to the normal range mode. spectrometer

experiment

Solar wind

experiment

detector

The SIDE was commanded to STANDBY for the lunar night at 1631 G.m.t., The SIDE is in STANDBY (Ref. Performance Summary Report, 16 January 1976 and Apollo 12 ALSEP SWEAR 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 arcing. This mode of operation was accomplished at the request of the Principal time operating time above the + 55°C temperature limitation due to high voltage Investigator. 25 February. Suprathermal ion

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

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

APOLLO 16 ALSEP 1406 19971 242.9° 65.2w DSS-1 (10w) ON ASE OFF 31.0°F 125.9°F -10.2°C N/A N/A N/A OFF	
APOLLO 15 ALSEP 1671 33145 231.0° 58.6w A11 OFF LSM/SWS OFF -5.1°F 124.6°F OFF OFF 7.2°C 114.3°K N/A N/A 283.9°K	
APOLLO 14 ALSEP 1815 15786 209.9° 62.4w DSS-1 (10w) ON SIDE OFF/ASE STBY 28.5°F 124.1°F N/A N/A OFF OFF -21.3°C -64.0°C	
APOLLO 12 ALSEP 2290 28630 203.9° 54.4w DSS-1 (10w) ON LSM OFF/SIDE STBY 4.3°F OFF OFF -14.4°C STBY N/A N/A N/A	APOLLO 17 ALSEP 1171 32056 258.1° 68.6w 0N 0FF LACE/LSPE STBY 11.4°F -16.1°F -17.4°F 284.7°K 0ffscale LOW 12.7°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AG-04)

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

	SITE	REMARKS	GIAT	VEHICLE	TIME LOST
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19 FEBRUARY	ORR/MAD	Higher Priority	AOS 19/2319	ALL	2 ^h 14 ^m
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21 FEBRUARY	ORR	Higher Priority	AOS 21/2247	ALL	54 ^m
			LOS 21/2337		
21 FEBRUARY	ORR	Higher Priority	AOS 21/2400	ALL	23 ^m
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22 FEBRUARY	ORR	Higher Priority	AOS 22/0020	ALL	20 ^m
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22 FEBRUARY	ORR	Higher Priority	AOS 22/2250	ALL	50 ^m
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23 FEBRUARY	ORR	Station Problem	AOS 23/1709	A16	03 ^m
,			LOS 24/1504		
24 FEBRUARY	GDS	Higher Priority	AOS 24/1517	A14 & 17	13 ^m
			LOS 25/0211		to the second se
2. EBRUARY	ORR	Higher Priority	AOS 25/0313	ALL	1 ^h 02 ^m
			LOS 26/0156	otti, maga oli ja er musikka gilti-maja tayanin salikuskaanaali-makkakkakkakka terisi kusi, maka olaw 18 - Taranin salikuska salikuska salikuska salikuska salikuska salikuska salikuska salikuska salikuska salikus	
26 FEBRUARY	ORR/ACN	Higher Priority	AOS 26/0410	ALL	2 ^h 14 ^m
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TIMES - CST		ALSEP S	SUPPORT SCHEDUIE/EVENTS	VENTS		PSE CALS DAILY
FEB 01/032	02/033	03/034	04/035	05/036	750/90	07/038
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	0900-1100 ALSEP 15
					ALSEP 15 TIMER RST HFE RBS	
08/039	09/040	10/041	11/042	12/043	13/044	14/045
0900-1100 ALSEP 17 LEAM OFF	1730-2130 ALSEP 14	0930-1100	1000-1200	1100-1300 ALSEP 15 CYCLE SIDE	0900-1100 1300-1500	1230-1430 ALSEP 15 CYCLE SIDE
	ALSEP 12 C/S HTR OFF		ALSEP 15 SIDE STBY		ALSEP 15 SIDE ON HFE RBS	
	SIDE ON HFE RBS	alle approvide handle out out on America	HFE RBS	Marina 1971 specials abstract a	LSM FLIP CAL	
	LSM FLIP CAL		LSM FLIP CAL		ALSEP 15 SIDE STBY, MODE I	
15/046	16/047	17/048	18/049	19/050	20/051	21/052
0800-1000 ALSEP 15 CYCLE SIDE	0800-1000 ALSEP15 CYCLE SIDE	1000-1200 ALSEP 15 CYCLE SIDE	0700-0900	2200-0130 ALSEP 14 ACQUISITION	D830=1030 ALSEP 17	0800-1000 7ALSEP 16 C/S HTR ON
	HFE RBS	ALSEP 17 LEAM ON	ALSEP 15 SIDE ON	SUPPORT 1900-2100	HFE RBS LSM FLIP CAL	
	LSM FLIP CAL		HFE RBS		2000-2200	
			LSM FLIP CAL			
BEN-20						NASA-JSC

CST		ALSEP SI	SUPPORT SCHEDUIE/EVENTS	FNTS		PSE CALS DAILY
FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
	0000-1100	1400-1800 ALSEP 14 C/S HTR ON	0900-1100 ALSEP 12 SIDE STBY	0900-1100	0900-1100	NO SUPPORT
	HFE RBS	ALSEP 12 C/S HTR ON PSE Z MTR ON	HFE RBS		HFE RBS	
29/060	MAR 01/061	02/062	03/063	04/064	05/065	990/90
	<u>0900-1100</u>	NO SUPPORT	0900-1100	NO SUPPORT	0900-1100 ALSEP 17	NO SUPPORT
	HFE RBS		HFE RBS		HFE RBS	
07/067	890/80	690/60	10/070	11/0/11	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	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	0900-1100 ALSEP 12 & 15 CYCLE SIDES
					LSM FLIP CAL	
						NASA-JSC

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 $106 \pm 8^{\circ}\text{K}$. 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, O 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 lunati

Midnight of the 57th lunation occurred at the Hadley Rille Site on 29 February. Transmitter A downlink signal strength is reported at -136.0 \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 noted during real-time support this report period.

Suprathermal ion detector/cold cathode gauge experiments

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 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 February at 1630 G.m.t.

> Heat flow experiment

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. 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

> Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Commanded OFF 14 June 1974.

Lunar surface magnetometer

experiment

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 ½ 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 Irner 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

No significant seismic events were noted during real-time support this report period. 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.

> Active seismic experiment

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

Suprathermal ion

I The instrument is OFF.

detector/cold cathode gauge Charged particle Junar 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

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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 Februaxy, the central station responded to a spurious command (Timer Output Accept, octal 032) as reported by the Merritt Island Tracking Station. and a corrective command (Timer Output Inhibit, octal 033) was sent at 1527 G.m.t., The command was confirmed by mission control during real-time support on I March 1 March, without incident.

Passive seismic experiment

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. The instrument is configured for seismic network congruity (Ref. Apollo 16

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 SWEAR 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

Commanded OFF 14 June 1974.

unar surtace magnetometer experiment

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

APOLLO 16 ALSEP	1412 20004 316.6° 64.8w (65.2w) DSS-1 (10w) ON ASE OFF 30.1°F 125.8°F -10.2°C N/A N/A N/A N/A OFF	indicate RTG evious lunation
APOLLO 15 ALSEP	1677 33231 304.7° 58.2w (59.0w) A11 OFF LSM/SWS OFF -6.1°F 124.6°F OFF OFF OFF N/A N/A N/A 283.6°K	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
APOLLO 14 ALSEP	1821 15807 283.1° 62.0w (N/A) DSS-1 (10w) ON STBY SIDE OFF/ASE STBY 27.7°F 124.1°F N/A N/A OFF OFF -60.1°C -71.4°C	α
APOLLO 12 ALSEP	2296 28651 277.1° 53.7w (54.4w) DSS-1 (10w) ON LSM OFF/SIDE/SWS 1.3°F Offscale LOW OFF -15.6°C STBY N/A N/A N/A	APOLLO 17 ALSEP 1177 32154 331.3° 68.2w (68.9w) 0N 0FF LACE/LSPE STBY 4.6°F -16.1°F -20.8°F 284.8°K 0ffscale HIGH 6.2°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AG-01) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		The second secon	LOS 26/0940	,	A STATE OF THE PROPERTY OF THE
26 FEBRUARY	ACN/MIL	Scheduling	AOS 26/0942	ALL	o2 ^m
			LOS 27/0130		
27 FEBRUARY	ORR	Station Problem	AOS 27/0133	ALL	03 ^m
			LOS 27/0135		
27 FEBRUARY	ORR/ACN	Higher Priority	AOS 27/0506	ALL	3 ^h 31 ^m
			LOS 27/0918		
27 FEBRUARY	ACN/QUI	Higher Priority	AOS 27/0955	ALL	27 ^m
			LOS 28/0134		
28 FEBRUARY	ORR	Higher Priority	AOS 28/0251	ALL	1 ^h 17 ^m
		·	LOS 28/0333	a metalograph.	
28, FEBRUARY	ORR	Higher Priority	AOS 28/0430	ALL	57 ^m
			LOS 28/1019	·	
28 FEBRUARY	AG0	Station Problem	AOS 28/1032	A14	13 ^m
			LOS 29/0121	is Method Carial Communities and American State Community (14 Promotes Carias Community State Community Community Communities Community Communities Co	Product Conference (Conference American Conference of American Security Sec
29 FEBRUARY	ORR	Higher Priority	AOS 29/0414	ALL	2 ^h 53 ^m
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01 MARCH	MAD/ACN	Higher Priority	AOS 01/0900	ALL	25 ^m
			LOS 01/1012		
01 MARCH	ACN/MAD	Higher Priority	AOS 01/1051	ALL	39 ^m
an and the same programmer. But a make the state of the same and the s			LOS 02/0814		
02 MARCH	ORR/ACN	Higher Priority	AOS 02/0839	ALL	25 ^m
			LOS 02/0957		
02 MARCH	ACN/MAD	Higher Priority	AOS 02/1047	ALL	50 ^m
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02 MARCH	MAD/BDA	Higher Priority	AOS 02/1230	ALL	21 ^m
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02 MARCH	BDA/HAW	Higher Priority	AOS 02/2007	ALL	56 ^m
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03 MARCH	HAW/ORR	Higher Priority	AOS 03/0535	ALL	54 ^m
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OC ARCH	ORR/ACN	Higher Priority	AOS 03/0854	ALL	45 ^m
n en	and the control of th	менен том, по немодельной странен на предоставления по пред 10 м нем немодельной пред 10 м немодельной пред 10	LOS 03/1139	CHIER CICLIAN IN THE CONTROL AND AN AREA CONTROL AND AN AREA CONTROL AND A	in villagen interesses i Produktoria, kon kritin diestelle die junktoria al in 12 i.
03 MARCH	ACN	Higher Priority	AOS 03/1214	ALL	35 ^m
A CONTRACTOR OF THE CONTRACTOR		The state of the s	LOS 04/0925		a an an an Aireann agus an Aireann an Airean Tha ann an Aireann Aire
04 MARCH	ORR/ACN	Higher Priority	AOS 04/1012	ALL	47 ^m

TIMES - CST		ALSEP SI	ALSEP SUPPORT SCHEDULE/EYENTS	ENTS		PSE CALS DAILY
FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
0900-1100 ALSEP 15		1400-1800 ALSEP 14 C/S HTR ON	0900-1100 ALSEP 12 SIDE STBY	<u>0900-1100</u>	0900-1100	NO SUPPORT
	HFE RBS	ALSEP 12 C/S HTR ON PSE Z MTR ON	HFE RBS		HFE RBS	
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	990/90
SUPPORT	0900-1100	NO SUPPORT	<u>0900-1100</u>	NO SUPPORT	0900-1100 ALSEP 17	NO SUPPORT
	HFE RBS		HFE RBS		HFE RBS	
MAR 07/067	890/80	690/60	10/070	170/11	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 C/S HTR OFF C/S MTR OFF	<u>0930-1130</u>	1100-1300 ALSEP 12 SIDE OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL	0830-1030 ALSEP 12 & 15 CYCLE SIDES
BEN-20		The contract of the contract o				NASA-JSC

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 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 11 March the lunar surface temperature, as measured by the HFE thermocouples was 336 \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-O4) 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

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.	ic The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.
Central station	Passive seismic 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. The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic Lunar surface magnetometer experiment experiment

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

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

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

Heat flow experiment

experiments

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

Commanded OFF 14 June 1974.

Lunar surface

experiment

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

the 30-foot antenna tracking stations. The DSS-I (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/OI status (AL-08), had indicated no change. The timer was returned to Timer Output Inhibit (octal 033) on 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 9 March.

Passive seismic experiment

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. except feedback filter OUT). Operation of the PSE with the feedback loop filter The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP

Active seismic

experiment

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

Suprathermal ion

The instrument is OFF. detector/cold

cathode gauge experiments

Charged particle

ment experiment

lunar environ-

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

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

Passive seismic experiment

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. has avoided the noise spike anomaly in the PSE seismic data during this lunar night. 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 Between real time support periods of 9 and 10 March a spurious change occurred,

Solar wind spectrometer experiment

The experiment is currently ON. From 3 March until 10 March the instrument was placed 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 in the STANDBY mode to provide additional power to the Central Station to avoid the plate temperature increase in 48 hours from 1.3°F to 5.4°F (Ref. Apollo 12 ALSEP

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:

APOLLO 15 ALSEP APOLLO 16 ALSEP 1685 1420 20087 53.8° 64.1w A11 0FF ASE 0FF 91.0°F 131.7°F 91.0°F 131.7°F 39.3°C N/A N/A N/A N/A N/A N/A N/A N/A N/A OFF	
APOLLO 1685 33389 41.9° 58.9w A11 0FF LSM/SWS 91.0°F 129.2°F 0FF 0FF 0FF N/A N/A 311.2°K	
APOLLO 14 ALSEP 1828 15844 20.8° 61.9W A11 OFF A11 OFF 124.8°F N/A	AM OFF
APOLLO 12 ALSEP 2304 28711 14.9° 54.5w A11 OFF LSM OFF 63.9°F 0FF 29.0°C 33.1°C HIGH N/A N/A	APOLLO 17 ALSEP 1185 33287 69.0° 66.6w 0N 0FF LACE/LSPE STBY/LEAM OFF 86.2°F 148.9°F 185.0°F 327.1°K 0ffscale LOW 86.3°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		get gen gen general de get de	LOS 05/0340		
05 MARCH	HAW	Higher Priority	AOS 05/0550	ALL	2 ^h 10 ^m
			LOS 05/0920		
05 MARCH	ORR/MAD	Higher Priority	AOS 05/0959	ALL	39 ^m
	and the second s		LOS 05/1242		
05 MARCH	ACN/BDA	Higher Priority	AOS 05/1310	ALL	28 ^m
The state of the s			LOS 06/0330		
06 MARCH	HAW	Higher Priority	AOS 06/0420	ALL	50 ^m
			LOS 07/0342	na common su	
07 MARCH	HAW/ORR	Higher Priority	AOS 07/0406	ALL	24 ^m
			LOS 07/0700	outertain 5 pc	,
07, MARCH	HAW/MAD	Higher Priority	AOS 07/1026	ALL	≥ 3 ^h 26 ^m
			LOS 08/0650	-man-raphysian (
08 MARCH	ULA/HAW	Higher Priority	AOS 08/0734	A14, A17	44 ^m
			LOS 09/1213		
0১ ARCH	ORR	Higher Priority	AOS 09/1226	ALL	13 ^m
			LOS 09/1251	www.combag	
09 MARCH	ORR/ACN	Higher Priority	AOS 09/1415	ALL	1 ^h 24 ^m
			LOS 10/1348		
10 MARCH	ORR/ACN	Higher Priority	AOS 10/1437	ALL	49 ^m
		·	LOS		
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			LOS		
	Notes, alle ausseum «Jan 22 no September (1945) «Petit Marie de Afficia (2000) «Petit Marie de Afficia (2000)	egan tarjatan dipukan mangalangga paggan	AOS	gadenaugennau paulikais maa kohtan kennaman moeks kolonoon oli kenne kehiloksi kirke	
			LOS	recurrence	
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	SP VERENE NEW YORK		LOS	ev-constants.	
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TIMES _ CST		ALSEP SI	ALSEP SUPPORT SCHEDIII E/EVENTS	ENTS		PSE CALS DAILY
FEB 22/053	23/054	24/055	25/056	26/057	27/058	28/059
	0900-1100	1400-1800 ALSEP 14 C/S HTR ON	0900-1100 ALSEP 12 SIDE STBY	0900-1100	<u>0900-110C</u>	NO SUPPORT
	HFE RBS	ALSEP 12 C/S HTR ON PSE Z MTR ON	HFE RBS	`	HFE RBS	
FEB 29/060	MAR 01/061	02/062	03/063	04/064	05/065	990/90
NO SUPPORT	0900-1100	NO SUPPORT	<u>0900-1100</u>	NO SUPPORT	0900-1100 ALSEP 17	NO SUPPORT
	HFE RBS		HFE RBS		HFE RBS	
MAR. 07/067	890/80	690/60	10/070	11/0/11	. 12/072	13/073
0900-1100 ALSEP 16 C/S HTR ON 4 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
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DAILY				>							NASA-JSC
PSE CALS DAILY	20/080	0200-0600	1600-1700 ALSEP 17		torquere company	780776	0900-1100	03/094	NO SUPPORT		NAS
	19/079	0900-1100 ALSEP 12 CYCLE SIDE		HFE RBS	LSM FLIP CAL	26/086	0900-1100 0900-1100 HFE RBS	. 02/093	0900-1100	HFE RBS	
FNTS	18/078	0900-1100 ALSEP 12 CYCLE SIDE	ALSEP 15 SIDE ON			25/085	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	APR 01/092	NO SUPPORT		
SUPPORT SCHEDIII EZEVENTS	17/077	0900-1100 ALSEP 12 & 15 CYCLE SIDES	ALSEP 17 LEAM ON	HFE RBS	LSM FLIP CAL	24/084		31/091	0900-1100	HFE RBS	
ALSEP SI	16/076	0900-1100 ALSEP 12 & 15 CYCLE SIDES				23/083	23/003 0900-1100 ALSEP 12 SIDE ON	30/090	NO SUPPORT		
	15/075	0900-1100 ALSEP 12 & 15 CYCLE SIDES		HFE RBS	LSM FLIP CAL	22/082		29/089	<u>0900-1100</u>	HFE RBS	
TIMES - CST	MAR 14/074	0900-1100 ALSEP 12 & 15 CYCLE SIDES	region annual de la companya de la c			MAR 21/081	0500 0500 1500 16 HTR ON	MAR 28/088	NO SUPPORT		BEN-20

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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-O4) 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 Passive seismic	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 ± 2.5 dbm by the 30-foot antenna tracking stations. The instrument is configured for seismic network congruity (thermal control, AUTO
experiment	ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH but is expected to return onscale 21 March. No significant seismic events were noted during real-time support this report period.

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. The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic Lunar surface magnetometer experiment

experiment

Apollo 15 ALSEP

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

u o i	
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-O7) was offscale 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 neriod.	
or se is cy The nang	
The instrument is configured for The uncage-arm fire circuitry idata subsystem timer outputs. scale HIGH on 13 March at a sun 19 March. No significant seism	•
Passive seismic experiment	

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.	
A Special Operincipal Inconter at 3 vdc) remains	•
Suprathermal ion detector/cold cathode gauge experiments	•

M	The instrument is presently operating in the gradient mode and all sensors are being	
ent	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	
	247.7°K at its lowermost point. Ring bridge surveys are obtained periodically.	

Heat flow experiment	The instrument is presently operating in the gradient mode and all ssampled in full sequence. The lunar surface temperature was 349.4°k as measured by the cable thermocouples. The subsurface temperature the bottom of the lowest section of probe #1. Probe #2 indicated a 247.7°K at its lowermost point. Ring bridge surveys are obtained pe	ent mode and all s rature was 349.4°K Irface temperature be #2 indicated a ys are obtained pe
Solar wind spectrometer experiment	Commanded OFF 14 June 1974.	

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

cause is believed similar to the previous shutdowns. After a cooldown period 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 rejects. Subsequent commanding also resulted in spacecraft rejects. Again, playback of the data just prior to LOS showed no abnormalities of the house-ON, were sent Mode I through Merritt Island, but all resulted in spacecraft the possibility exists that downlink and uplink may return as they had done keeping 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 previously

APOLLO 14 ALSEP STATUS AT AOS-LOS

	507	AOS	TOS	AOS	T0S
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 Pl	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	А	А	А	A	A
Receiver	OFF-Xtal A	OFF-Xtal A	OFF-Xtal A	ON-Xtal B	ON-Xtal B
Pcu		2	2	-	
PSE	NO	NO	NO	NO	NO
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	Forced OFF
CPLEE	STBY	STBY	STBY	NO	STBY
SIDE	UNK	UNK	UNK	UNK	0FF
ASE	STBY	STBY	STBY	STBY	STBY
DTREM	NO	NO	NO	0FF	NO

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 $^{\pm}$ 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.

The instrument was OFF at LOS.

Suprathermal ion detector/cold cathode gauge experiments

Charged particle lunar

The experiment was in STANDBY at LOS.

environmental experiment

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 \pm 2.5 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.

Passive seismic

The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP). The instrument assembly temperature (DL-O7) 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 was also operated in the extended range mode to observe an increase The instrument is ON and in the extended range mode as of 1527 G.m.t., 18 March. 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 LECPA voltages OFF immediately. The instrument was left ON to continue the bakeout. Later in the lunar day, when the instrument cools, the $-3.5~\mathrm{K}$ vdc high voltage will be commanded ON. This operation is being done at the request of the Principal In-SIDE high voltages were commanded ON. The instrument arced to high voltages and sestigator.

Lunar surface

magnetometer

experiment

Commanded OFF 14 June 1974.

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

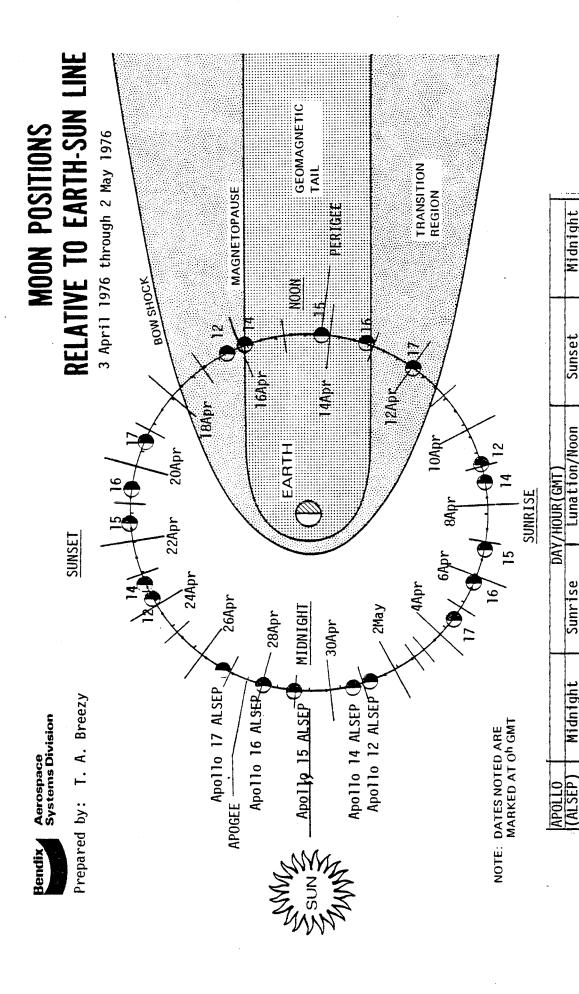
APOLLO 15 ALSEP 1692 33552 126.2° 59.4w All OFF LSM/SWS OFF 109.9°F OFFscale HIGH OFF 63.5°C N/A	LSEP as of 0146 G.m.t.,
APOLLO 14 ALSEP 1834 15878 33552 85.6° 61.90 A11 OFF A11 OFF A11 OFF A11 OFF A11 OFF A12 OFF A132.0°F A14 A152.0°F A16.5°F A17 OFF A18 OFF A18 OFF A18 OFF A18 OFF A18 OFF A19.9° A18 OFF A18 OFF A19.9° A19.9° A18 OFF A18 OFF A19.8° A19.8° A19.8° A11 OFF A11 OFF A11 OFF A12 OFF A13 OFF A14 OFF A15 OFF A16 OFF A17 OFF A18	**APOLLO 14 ALSEP 17 March 1976.
APOLLO 12 ALSEP 2311 28788 99.1° 54.8w A11 OFF LSM OFF 91.4°F Offscale HIGH OFF 66.1°C 86.8°C HIGH N/A N/A	APOLLO 17 ALSEP 1192 32431 153.3° 67.0w 0N 0F LACE/LSPE STBY 64.9°F 120.6°F 165.2°F 306.6°K 0ffscale LOW 65.7°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

PSE CALS DAILY	28/059	NO SUPPORT			990/90	NO SUPPORT		13/073	0830-1030 ALSEP 15 CYCLE SIDE
	27/058	0900-1100	HFE RBS		05/065	0900-1100 ALSEP 17	HFE RBS	12/072	1300-1500 ALSEP 12 SIDE HV OFF ALSEP 15 SIDE STBY HFE RBS LSM FLIP CAL
VENIS	26/057	0300-1100		·	04/064	NO SUPPORT		11/0/11	0930-1130 ALSEP 14 C/S HTR OFF CPLEE STBY
SINAKATA IMIAHIK TAKAKA	25/056	0900-1100 ALSEP 12 SIDE STBY	HFE RBS		690/60	<u>0900-1100</u> ALSEP 12 SWS STBY	HFE RBS	10/070	1630-2030 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE/SWS CN HFE RBS LSM FLIP CAL
ALDEP D	24/055	1400-1800 ALSEP 14 C/S HTR ON	ALSEP 12 C/S HTR ON PSE Z MTR ON		02/062	NO SUPPORT		690/60	0900-1100 ALSEP 14 ALSEP 17 LEAM 0FF
	23/054	0900-1100	HFE RBS		MAR 01/061	<u>0900-1100</u>	HFE RBS	08/068	0900-1100 ALSEP 15 HFE RBS LSM FLIP CAL
TIMFS - USI	FEB 22/053	0900-1100 ALSEP 15			FEB 29/060	NO SUPPORT		MAR 07/067	0900-1100 ALSEP 16 C/S HTR ON TIMER RST ALSEP 15 TIMER RST

	-					<u> </u>					
PSE CALS DAILY	20/080	0200-0600	1600-1700 ALSEP 17	>		27/087	0900-1100 ALSEP 12 SIDE STBY	03/094	NO SUPPORT		NASA-JSC
	19/0/5	0900-1100		HFE RBS	LSM FLIP CAL	26/086	0900-1100 HFE RBS	02/093	0900-1100 ALSEP 12 SWS STBY	HFE RBS	
VENIS	18/078	0900-1100 ALSEP 15 SIDE ON	ALSEP 17 LEAM ON			25/085	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	APR 01/092	NO SUPPORT		
ALSEK SYKKUKI SLHEIIII E/EVENIS	17/077	0900-1100 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	24/084		31/091	<u>0900-1100</u>	HFE RBS	
ALSEY S	16/076	0900-1100 ALSEP 15 CYCLE SIDE				23/083	0900-1100 ALSEP 12 SIDE HV ON	30/090	NO SUPPORT		
	15/075	0900-1100 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	22/082		29/089	<u>0900-1100</u>	HFE RBS	
TIMES - COL	MAR 14/074	0900-1100 ALSEP 15 CYCLE SIDE				MAR 21/081	0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	MAR 28/088	NO SUPPORT		BEN-20

REMOTE SITE NON-RECOVERAL 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	o3 ^m
			LOS 11/1456		
1 MARCH	ORR/ACN	Higher Priority	AOS 11/1528	ALL	32 ^m
			LOS 12/0255		
2 MARCH	MIL	Station Problem	AOS 12/0257	ALL	02 ^m
		·	LOS 12/1801		
12 MARCH	ACN/MAD	Schedule	AOS 12/1804	ALL	03 ^m
			LOS 13/0343		
I3 MARCH	ACN/MIL	Higher Priority	AOS 13/0350	ALL	07 ^m
			LOS 14/1728		
4 MARCH:	ORR/MAD	Higher Priority	AOS 14/1805	ALL	37 ^m
			LOS 14/1805		
4 MARCH	MAD	Station Problem	AOS 14/1817	A15	12 ^m
		LOSS OF	LOS 17/0146:55		
7 MARCH	ACN	DOWNLINK SIGNAL	AOS	A14	
			LOS		
			AOS		
			LOS		
			AOS		
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28Apr/2326

21Apr/1442 23Apr/0815

28Apr/0010 26Apr/181

19Apr/0923

20Apr/1521

13Apr/0556 |4Apr/0519

59)

42)11Apr/2353 50)13Apr/0556

04Apr/1439 05Apr/2036

28Mar/0552

01May/0434 30Apr/1654

23Apr/1857

16Apr/1046 5Apr/2302

09Apr/0132

08Apr/ 06Apr/

> 01Apr/0436 01Apr/1616

30Mar/1104 29Mar/1147

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 ± 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

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. Passive seismic

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. Lunar surface magnetometer

experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 \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. 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

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

Commanded OFF 14 June 1974.

spectrometer experiment 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 10S's on ALSEP 4, the data stopped at Word 26 in the mainframe and appeared normal prior to that

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.

> bassive seism 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 level-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 ling motor is ON to maximize internal heating in the instrument for lunar night real time support of this instrument. operation.

> 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

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 are 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 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, 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 The SIDE is ON and in the full automatic stepping sequence with the Channeltron iovever 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:

APOLLO 16 ALSEP 1434 20307 221.8° 64.8w DSS-1 (10w) ON ASE OFF 31.1°F 125.9°F -10.2°C N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP 1699 33776 209.9° 58.3w A11 OFF LSM/SWS OFF -5.2°F 124.8°F 0FF 7.8°K 116.5°K N/A N/A N/A 283.7°K	
APOLLO 14 ALSEP 1841 15878 188.8° NOTE: LOS 3/17/76 SUN ANGLE 85.6°	
APOLLO 12 ALSEP 2318 28896 182.8° 54.2w DSS-1 (10w) ON LSM OFF 12.8°F 126.3°F OFF 17.0°C 18.2°C HIGH N/A N/A	APOLLO 17 ALSEP 1199 32612 237.0° 68.5w 0N 0FF LACE/LSPE STBY 9.4°F -16.1°F -17.4°F 285.3°K 0ffscale LOW 11.1°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 17/1743	CONTROL OF A CONTROL OF THE CONTROL OF T	de Till de Giller von en mangenes die de Minidae e llebren openen c <u>asiliferatura que qui glanda media</u>
17 MARCH	HAW/GWM	Higher Priority	AOS 17/1812	ALL	29 ^m
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18 MARCH	MIL/HAW	Schedule	AOS 18/0828	ALL	14 ^m
			LOS 18/1841		
18 MARCH	HAW/GWM	Schedule	AOS 18/1910	ALL	29 ^m
			LOS		
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DAILY				>							NASA-JSC
PSE CALS DAILY	20/080	0500-0600	1600-1700 ALSEP 17			27/087	0900-1100 ALSEP 12 SIDE STBY	03/094	NO SUPPORT		NASP
	19/079	0900-1100		HFE RBS	LSM FLIP CAL	26/086	0900-1100 HFE RBS	02/093	0900-1100 ALSEP 12 SWS STBY	HFE RBS	
ENTS	18/078	0900-1100 ALSEP 15 SIDE ON	ALSEP 17 LEAM ON		7	25/085	0300-0700 ALSEP 12 C/S HTR 0N PSE Z MTR 0N ALSEP 14 C/S HTR 0N 1500-1600	APR 01/092	NO SUPPORT		
SUPPORT SCHEDULE/EVENTS	17/077	0900-1100 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	24/084		31/091	0900-1100	HFE RBS	
ALSEP S	16/076	0900-1100 ALSEP 15 CYCLE SIDE				23/083	0900-1100 ALSEP 12 SIDE HV ON	30/090	NO SUPPORT		
	15/075	0900-1100 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	22/082	0900-1100 ALSEP 15 HFE RBS	29/089	<u>0900-1100</u>	HFE RBS	
IIMES _ CST	MAR 14/074	0900-1100 ALSEP 15 CYCLE SIDE				MAR 21/081	0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	MAR 28/088	NO SUPPORT		BEN-20

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 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 31 March the lunar surface temperature, as measured by the HFE thermocouples, was $107\pm8^{\circ}\text{K}$. 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

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.
Central station

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

Apollo 15 ALSEP

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

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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

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

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

experiments

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. 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

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

		ပ္		
lhe inst	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.	
e seismic	iment			

The instrument was commanded to STANDBY on 27 March in an attempt to avoid the	D converter problem due to low temperatures in the PSE electronics (Ref.	12 ALSEP SMEAR 84).
The instrume	PSE A/D conve	Apollo 12 ALS
Solar wind	spectrometer	experiment

Lunar surface Commanded OFF 14 June 1974.
magnetometer
experiment

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

APOLLO 16 ALSEP 1440 20348 297.0° 64.8w (64.8u) DSS-1 (10w) ON ASE OFF 30.1°F 125.8°F -10.2°C N/A N/A N/A N/A OFF OFF	licate RTG ous lunation
APOLLO 15 ALSEP 1705 33907 284.6° 57.8w (58.6w) A11 OFF LSM/SWS OFF -7.9°F 124.6°F OFF OFF 7.2°K 108.3°K N/A N/A N/A 283.4°K	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
APOLLO 14 ALSEP 1841 15878 263.6° LSM OFF NOTE: LOS 3/17/76 SUN ANGLE 85.6°	
APOLLO 12 ALSEP APOI 2324 28957 257.6° 53.4w (54.1w) DSS-1 (10w) ON SIDE/SWS STBY & LSM OFF 4.7°F Offscale LOW SUN ANGE: 1 OFF STBY STBY STBY N/A N/A	APOLLO 17 ALSEP 1205 32731 311.7° 67.8w (68.5w) 0N 0FF LACE/LSPE STBY 17.9°F -16.1°F -16.1°F -17.4°F 285.5°K 0ffscale LOW 20.1°F
Status as of 1600 G.M.C., 31 March 1970, was as of 1600 G.M.C., 31 March 1970, was as of 1600 G.M.C., 31 March 1970, was as of 1600 G.M.C., 324 Total Days of Operation 2324 Total Days of Operation 2324 28957 Sun Angle Input Power Input Powe	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

	SITE	REPARKS	GMT	VEHICLE	TIME LOST
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04 FEBRUARY	ORR	Station Problem	AOS 04/2258	A12	4 ^h 51 ^m
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<i>14 FEBRUARY</i>	MAD	Station Problem	AOS 14/1024	A12	9 ^h 21 ^m
			LOS 26/1939	and the state of t	
26 MARCH	AG0	Higher Priority	AOS 26/2400	ALL	4 ^h 21 ^m
	No over 1 and segment		LOS 27/0000	gergager mentangan galanggan sebagai dan	
27 MARCH	ORR	Higher Priority	AOS 27/0400	ALL	4 ^h oo ^m
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28 MARCH	HAW/ORR	Higher Priority	AOS 28/0357	ALL	1 ^h 20 ^m
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ENTS	18/078	ALSEP 15 SIDE ON	ALSEP 17 LEAM ON			25/085	0300-0700 ALSEP 12 C/S HTR 0N	ALSEP 14	C/S HIR ON 1500-1600		APR 01/092	NO SUPPORT					
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ALSEP S	16/076	ALSEP 15 CYCLE SIDE			•	23/083	0900-1100 ALSEP 12 SIDE HV ON				-30/090	NO SUPPORT					
	15/075	ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	22/082	0900-1100 ALSEP 15	,	HFE RBS		. 29/089	0000-1100	٠	HFE RBS			
TIMES - CST	MAR 14/074	ALSEP 15 CYCLE SIDE				MAR 21/081	0300-0500	ALSEP 16 C/S HTR ON	ALSEP 14 PSE HTR ON	2200-2300	MAR 28/088	NO SUPPORT					BEN-20

	PSE CALS DAILY	10/101	0900-1100 ALSEP 12 SIDE OFF	17/108	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON	24/115	0900-1100	NASA-JSC
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		09/100	0000-0200 HFE RBS LSM FLIP CAL 1400-1600	16/107	0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	. 23/114	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	
	ENTS	660/80	ALSEP 12 C/S HTR OFF C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON ALSEP 14	15/106	0900-1100 ALSEP 12 & 15 CYCLE SIDES	22/113	0900-1100	
	ALSEP SUPPORT SCHEDII E/EVENTS	860//0	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	14/105	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	21/112	0900-1100 ALSEP 15 CYCLE SIDE HFE RBS	
	ALSEP SI	260/90	0900-1100 ALSEP 15 TIMER RST C/S HTR 0FF TIMER RST	13/104	0900-1100 ALSEP 12 & 15 CYCLE SIDES	20/111	0000-0100 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	
		960/90	0900-1100 ALSEP 16	12/103	0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	011/61	0400-0500 ALSEP 17 1500-1600	
	TIMES - CST	APR 04/095	NO SUPPORT ALSEP 17	APR 11/102	0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	APR 18/109	1300-1500	BEN-20

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 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 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-O4) 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were noted during real-time support this report period.	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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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) withof 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. out any difficulty. The test was agreed upon by FOD, S&AD, and the PI as a result

> Heat flow experiment

bottom of the lowest section of probe #1. Probe #2 indicated a temperature of 250.1°K 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 at its lowermost point. Ring bridge surveys are obtained periodically.

Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Commanded OFF 14 June 1974.

Lunar surface magnetometer

experiment

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.

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 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 response.

Apollo 12 ALSEP

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

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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 r 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 instru-

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 Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-04) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	2332 28967 355.3° 53.1w DSS-1 (10w) ON LSM OFF/SWS-SIDE S' 3.0°F OFF OFF STBY STBY N/A N/A	1834 15878 1.3° STBY NOTE: LOS 3/17/76	1713 34058 22.4° 58.3w A11 0FF LSM/SWS 0FF 65.4°F 126.0°F 0FF 0FF 0FF 51.8°C 331.5°K N/A N/A 299.6°K	1448 20397 34.3° 64.1w A11 0FF ASE 0FF 78.0°F 127.0°F 37.3°C N/A N/A N/A OFF
TM POINT	APOLLO 17 ALSEP			
Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)	1213 32856 49.5° 66.6w 0N 0FF LACE/LSPE STBY/LEAM OFF 74.3°F 131.2°F 177.5°F 318.5°K 0ffscale LOW 74.1°F	M 0FF		

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
			LOS 04/0053		
*04 FEBRUARY	ORR	Station Problem	AOS 04/1024	A12	9 ^h 31 ^m
			LOS 14/1807		
*14 FEBRUARY	MAD	Station Problem	AOS 14/2258	A12	4 ^h 51 ^m
			LOS 31/0730		
31 MARCH	ORR/ACN	Schedule	AOS 31/0733	ALL	o3 ^m
			LOS 31/1312		
31 MARCH	ACN	Station Problem	AOS 31/1323	ALL	11 ^m
			LOS 31/2100		
31 MARCH	BDA/HAW	Higher Priority	AOS 31/2119	ALL	19 ^m
			LOS 01/0809		
01 APRIL	ORR/ACN	Higher Priority	AOS 01/0820	ALL	l 11 ^m
			LOS 01/0930	·	-
01 APRIL	ACN	Higher Priority	AOS 01/1033	ALL	1 ^h 03 ^m
			LOS 01/1145		- C
O1 APRIL	ACN/MIL	Higher Priority	AOS 01/1221	ALL	36 ^m
			LOS 02/0555		
02 APRIL	HAW/GWM	Higher Priority	AOS 02/0623	ALL	28 ^m
			LOS 02/0952		
02 APRIL	ACN/MAD	Higher Priority	AOS 02/1010	ALL	18 ^m
			LOS 03/0950		
03 APRIL	MAD	Higher Priority	AOS 03/1043	ALL	53 ^m
	·		LOS 07/0810		
07 APRIL	ORR/HAW	Higher Priority	AOS 07/0822	ALL	12 ^m
			LOS 07/1210		
07 APRIL	GWM	Higher Priority	AOS 07/1247	ALL-	37 ^m
_			LOS 07/1505		
07 APRIL	ACN/BDA	Higher Priority	AOS 07/1549	ALL	44 ^m
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PSE CALS DAILY	20/080	0500-0600	1600-1700 ALSEP 17			27/087	0900-1100 ALSEP 12 SWS STBY	03/094	NO SUPPORT		NASA
an men en e	19/0/5	0000-1100		HFE RBS	LSM FLIP CAL	26/086	<u>0900-1100</u> ALSEP 12 SIDE STBY HFE RBS	02/093	0900-1100 ALSEP 12	HFE RBS	
FNIS	18/078	0900-1100 ALSEP 15 SIDE ON	ALSEP 17 LEAM ON			25/085	0300-0700 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 14 C/S HTR ON 1500-1600	APR 01/092	NO SUPPORT		
ALSEP SUPPORT SCHEDIJ E/EVENTS	12/077	0800-1000 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	24/084	0900-1100 ALSEP 14 CPLEE ON HFE RBS	31/091	0900-1100	HFE RBS	
ALSEP S	16/076	0900-1100 ALSEP 15 CYCLE SIDE				23/083	0900-1100 ALSEP 12 SIDE HV ON	30/090	NO SUPPORT		-
edit i general de de se de	15/075	0900-1100 ALSEP 15 CYCLE SIDE		HFE RBS	LSM FLIP CAL	22/082	0900-1100 ALSEP 15 ALSEP 15	29/089	0900-1100	HFE RBS	
TIMES - CST	MAR 14/074	0900-1100 ALSEP 15 CYCLE SIDE				MAR 21/081	0300-0500 1300-1500 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON 2200-2300	MAR 28/088	NO SUPPORT		BEN-20

PSE CALS DAILY	10/101	0900-1100 ALSEP 12 SIDE OFF	17/108 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON	24/115 0900-1100 NASA-JSC
те и, оферен да радине радене на вередене да вишения и поставления вередене вередене вередене вередене вер	09/100	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL	16/107 0900-1100 ALSEP 12 & 15 CYCLE SIDES ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	23/114 1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS
ENTS	660/80	0900-1100 ALSEP 12 ALSEP 14	15/106 0900-1100 ALSEP 12 & 15 CYCLE SIDES	22/113 0900-1100
ALSEP SUPPORT SCHEDULE/EVENTS	07/098	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	14/105 0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	21/112 0900-1100 ALSEP 15 ALSEP 12 CYCLE SIDE HFE RBS
ALSEP SI	260/90	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR 0FF TIMER RST	13/104 0900-1100 ALSEP 12 & 15 CYCLE SIDES	20/111 0000-0100 0900-1100 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE
	960/50	0900-1100 ALSEP 16	12/103 0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	19/110 0400-0500 ALSEP 17 1500-1600
TIMES - CST	APR 04/095	NO SUPPORT ALSEP 17	APR 11/102 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	APR 18/109 1300-1500 BEN-20

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-O4) 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

Noon a	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 _ 2.0 dbm by the 30-foot antenna tracking stations.
Central station	

AUTO ly re- time
yruity (thermal control,). The instrument assembly of the instrument assembly of the isexpected to serie were noted during real-
or seismic network cong eedback loop filter IN) ffscale HIGH since 11 / inificant seismic events
The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) 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.
Passive seismic experiment

1138 flip calibration sequences have been	nt engineering data. Science data from the	riod.
The LSM is ON and recording data. 1	ed and verified by the exper	Z-axis has been static this report period.
Lunar surface	magnetometer	experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 offscale 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

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. The instrument is in STANDBY. The experiment is presently being cycled from ON

Heat flow

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.

experiment

Commanded OFF 14 June 1974.

spectrometer experiment

Solar wind

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

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

Sunrise of the 80th lunation occurred on 9 April. A signal strength of -139.0 \pm 2.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations. Central station

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. Passive seismic experiment

The experiment was commanded to The instrument is ON in the normal range mode. ON, 9 April, after lunar sunrise. spectrometer

Solar wind

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. Suprathermal ion experiment experiment detector

Commanded OFF 14 June 1974. Lunar surface

magnetometer experiment

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 Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	2339 29105 80.5° 54.5w A11 OFF SIDE/LSM OFF 92.4°F 138.6°F OFF 65.2°C OFF N/A N/A	1834 15878 86.4° NOTE: LOS 3/17/76	1720 34253 107.6° 58.9w A11 OFF LSM/SWS OFF 113.1°F OFF OFF STBY STBY STBY N/A N/A 324.1°K	1455 20514 119.4° 64.1w A11 OFF ASE OFF 99.5°F 0ffscale HIGH 42.4°C N/A N/A N/A OFF
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)	APOLLO 17 ALSEP 1230 33020 134.7° 66.6w 0N 0FF LACE/LSPE STBY/LEAM OFF 78.3°F 139.7°F 188.0°F 317.8°K 0ffscale LOW 78.8°F	4 OFF		

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
The second secon	COMMISSION PROPERTY AND AND COMMISSION PROPERTY AND	METALORI INTERNATIONAL PRINCE	LOS 11/2055		The second section is a second
11 APRIL	MAD/MIL	Higher Priority	AOS 11/2111	ALL	16 ^m
 - Princes design and approximated traction register daily framework and a service recommend. 	The state of the s		LOS 12/2047		
12 APRIL	MAD	Higher Priority	AOS 12/2134	ALL	47 ^m
			LOS		
and a success of the			AOS		
			LOS		
B. J. T. T. T. A. L. T. S. B. L. T. S. B. T. S. B. T. S. B.	n strander at the strander of		AOS		
			LOS		
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			LOS		
O Polytonia saada ayginaan janga sapaan ja qoo ay ay ay ay ah	STATE EMBAN INVOICE CONTROL MAINTENANT (MAINTENANT CONTROL TO THE		AOS		
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TIMES - CST		ALSEP SI	ALSEP SUPPORT SCHEDII EZEVENTS	ENTS		PSE CALS DAILY
APR 04/095	960/50	260/90	07/098	660/80	09/100	10/101
ALSEP 17	0900-1100 ALSEP 16	O900-1100 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 CYCLE SIDE HFE RBS	0900-1100	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS ALSEP 14	0000-1100
BEN-20						NASA-JSC

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 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 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-O4) 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

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 ± 3.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10w) Heater is ON for lunar night operation. Sunset at the Descartes Site occurred on 20 April for the 50th lunation. Central station

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature returned onscale 20 April (DL-O7 = 133.6°F at 178.8° sun angle). No significant seismic events were observed during this report period. Passive seismic experiment

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 LSM is ON and recording data. 1140 flip calibration sequences have been the Z-axis sensor head.

Lunar surface

experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 \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. 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

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.

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. Passive seismic

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.

spectrometer

Solar wind

experiment

experiment

detector

experiment

cleared by commanding the instrument to OFF for cool down prior to turn on during 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 the next support period. Suprathermal ion

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

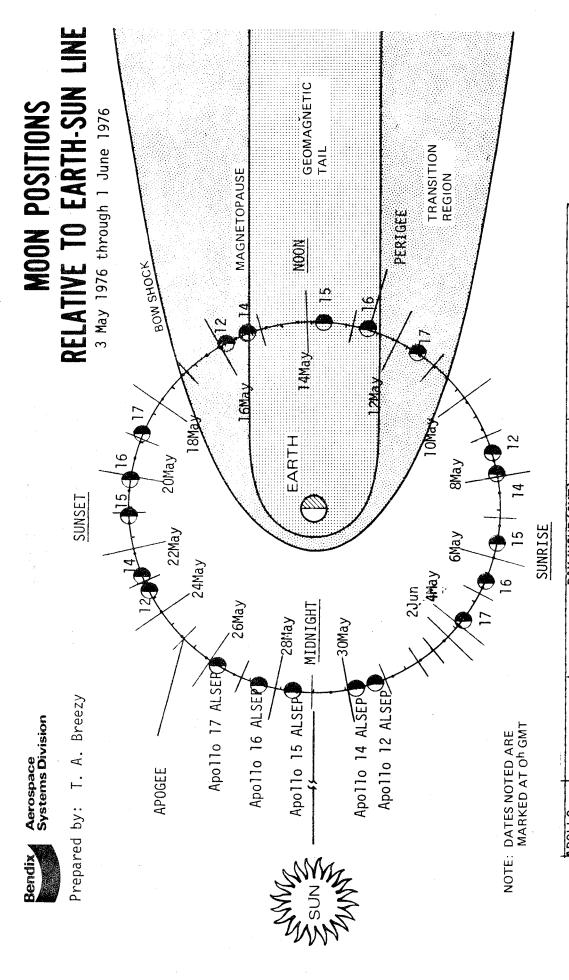
APOLLO 16 ALSEP 1462 20669 204.2° 64.8w DSS-1 (10w) ON ASE OFF 31.9°F 125.9°F -7.7°C N/A N/A N/A N/A OFF OFF	
APOLLO 15 ALSEP 1727 34491 192.4° 58.6w A11 OFF LSM/SWS OFF 0.2°F 124.8°F OFF OFF 7.8°K 125.9°K N/A N/A	
1 1976, was as follows: APOLLO 12 ALSEP APOLLO 14 ALSEP 2346 29151 165.3° 54.5w All OFF LSM OFF 57.3°F NOTE: LOS 3/17/76 139.6°F SUN ANGLE 85.6° OFF HIGH N/A N/A N/A N/A N/A	APOLLO 17 ALSEP 1227 33180 219.5° 67.8w 0N 0N 0F LACE/LSPE STBY 6.3°F -16.1°F -17.4°F 284.7°K 49.5°C 7.8°F
Status as of 1500 G.m.t., 22 April 1976, TM POINT Total Days of Operation Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) LSM Internal Temp (DM-05) LSM Internal Temp (DM-05) CGE Temp (DI-04) CCGE Temp (DI-04) CCGE Temp (AS-03) N/A ASE GLA Temp (AS-03) N/A	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01) LSG Temp (AP-01) LSG Temp (AP-01) LSP Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
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15 APRIL	ORR/MAD	Higher Priority	AOS 15/2116	ALL	16 ^m
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			LOS 18/0700		
18 APRIL	ACN/GDS	Scheduling	AOS 18/0714	A16	14 ^m
			LOS 19/0008		
19 APRIL	ORR/MAD	Higher Priority	AOS 19/0015	ALL	07 ^m
			LOS 20/0235		
20 APRIL	MAD/ACN	Higher Priority	AOS 20/0254	ALL	19 ^m
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PSE CALS DATI Y	10/101	0900-1100 ALSEP 12 SIDE OFF	17/108 0900-1100 ALSEP 12 CYCLE SIDE	24/115 0900-1100	NASA-JSC
	09/100	O000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON SWS ON HFE RBS LSM FLIP CAL	16/107 0930-1130 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE ON ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	23/114 1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS	and the second s
VENTS	660/80	0900-1100 ALSEP 12 ALSEP 14	15/106 0900-1100 ALSEP 12 & 15 CYCLE SIDES	22/113 0700-0900	erinde de la companya de la company
SUPPORT SCHEDIII F/EVENTS	07/098	1430-1630 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	14/105 0900-1100 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL	21/112 0830-1030 ALSEP 15 ALSEP 12 SIDE ON HFE RBS	
ALSEP S	06/097	0900-1100 ALSEP 15 TIMER RST ALSEP 16 C/S HTR 0FF TIMER RST	13/104 0900-1100 ALSEP 12 & 15 CYCLE SIDES	20/111 0000-0100 0700-0900 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE	en e
	05/096	0900-1100 ALSEP 16	12/103 0930-1130 ALSEP 12 & 15 CYCLE SIDES HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT	19/110 0400-0500 ALSEP 17 1600-1700	Andrew Andrews and Andrews And
TIMES _ CST	APR 04/095	ALSEP 17	APR 11/102 0900-1100 ALSEP 12 CYCLE SIDE ALSEP 15 SIDE STBY	APR 18/109 1300-1500 ALSEP 12 CYCLE SIDE	BEN-20

PSE CALS DAILY	MAY 01/122	NO SUPPORT		08/129	0800-1000 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SIDE ON 2000-2100	15/136	0900-1100 ALSEP 12 & 15 CYCLE SIDES	ALSEP 17 LEAM ON			NASA-JSC
	30/121	0900-1100	HFE RBS	07/128	0800-1000 ALSEP 17 LEAM OFF HFE RBS LSM FLIP CAL	14/135	0900-1100 ALSEP 12 & 15 CYCLE SIDES	HFE RBS	LSM FLIP CAL		
ENIS	29/120	NO SUPPORT		06/127	0900-1100 ALSEP 15	13/134	0900-1100 ALSEP 12 & 15 CYCLE SIDES				
SUPPORT SCHEDIILE/EYENTS	28/119	0000-1100	HFE RBS	05/126	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST TIMER RST HFE RBS	12/133	0700-1100 ALSEP 12 CYCLE SIDE	ALSEP 15 SIDE SUPT	HFE RBS	LSM FLIP CAL	
ALSEP SI	27/118	NO SUPPORT		04/125	NO SUPPORT	11/132	0900-1100 ALSEP 12 & 15 CYCLE SIDES		- Common		
	26/117	0000-1100	HFE RBS	03/124	0900-1100 ALSEP 17 HFE RBS	10/131	0900-1100 ALSEP 12 SIDE OFF	ALSEP 15 SIDE STBY	HFE RBS	LSM FLIP CAL	
TIMES - CDI	APR 25/116	0000-1100		MAY 02/123	NO SUPPORT	MAY 09/130	1000-1200				BEN-20



APOLLO		25	/HOUR(GMT)		
(ALSEP)	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			22May/1956	30May/0424
12	01May/0434	08May/1332	(81)15May/2237	23May/0642	30May/1601
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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 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 April the lunar surface temperature, as measured by the HFE thermocouples, was $107 \pm 8^{\circ}$ 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

instrument is configured for seismic network congruity (thermal control,	. No significant	ort period.
rk congruity	ON; component gain, O db; and feedback loop filter IN).	seismic events were noted during real-time support this report period.
ismic netwo	feedback lo	al-time supp
gured for se	, Odb; and	ed during re
nt is confi	oonent gain	ts were note
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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 ± 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

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 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 The instrument was commanded to STANDBY at 1619 G.m.t., 28 April, to conduct α 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 periodically.

experiment

Commanded OFF 14 June 1974. spectrometer experiment Solar wind

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

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

of the 80th lunation occurred on 23 April. A signal strength of -139.0 $\dot{\pm}$	from transmitter B, was reported by the 30-foot antenna tracking	is. The DSS-1 (10 watts) heater is ON for lunar night operation.
Sunset of the	3.0 dbm, from	stations. The
Central station		

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. Passive seismic 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.

spectrometer

Solar wind

experiment

The SIDE is in STANDBY for the same requirement as the SWS. Suprathermal ion experiment detector

Lunar surface Commanded OFF 14 June 1974.
magnetometer
experiment

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Status

APOLLO 16 ALSEP 1468 20710 277.6° 64.5w (64.5w) DSS-1 (10w) ON ASE OFF 30.1°F 125.8°F -10.2°C N/A N/A N/A N/A OFF	te RTG Lunation
APOLLO 15 ALSEP 1733 34600 265.7° 58.1w (57.8w) A11 0FF LSM/SWS 0FF -6.6°F 124.6°F 0FF 7.7°K 110.2°K N/A N/A N/A 283.4°K	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
NOTE: LOS 3/17/76	Values outputs at a si
28 April 1976, was as follows: APOLLO 12 ALSEP APOI 2352 238.6° 53.0w (53.7w) DSS-1 (10w) ON SIDE/SWS STBY & LSM OFF 5.1°F Offscale LOW OFF STBY STBY STBY STBY N/A N/A N/A N/A	APOLLO 17 ALSEP 1233 33285 292.8° 67.7w (68.1w) 0N 0FF LACE/LSPE STBY -0.9°F -16.1°F -17.4°F 285.4°K 52.9°C 0.3°F
Status as of 1500 G.m.t., 28 / TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-04) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
	and the second control comments and the second control of the seco	a 20 mentakan dibengan dibengan dibengan kanan dibengan dibengan dari dibengan seberah dibengan dibengan dibeng	LOS 22/0912		о от нем на при на пр
22 APRIL	ACN/GDS	Higher Priority	AOS 22/0949	ALL	37 ^m
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22 APRIL	GDS/ORR	Higher Priority	AOS 22/1720	ALL	2 ^h 20 ^m
			LOS 22/2200		
22 APRIL	ORR/GWM	Higher Priority	AOS 22/2226	ALL	26 ^m
			LOS 23/0530	·	
23 APRIL	ACN/MAD	Higher Priority	AOS 23/0533	ALL	o3 ^m
			LOS 23/0930		
23 APRIL	MAD/ACN	Higher Priority	AOS 23/1013	ALL	43 ^m
			LOS 23/1527	Monagaran	
23 APRIL	HAW	Station Problem	AOS 23/1532	A12	05 ^m
			LOS 23/1532		
23 APRIL	HAW	Station Problem	AOS 23/1535	A17	o3 ^m
			LOS 24/0530		
24 . RIL	ACN	Higher Priority	AOS 24/0601	ALL	31 ^m
			LOS 26/2055	e-sa, contra	
26 APRIL	ORR	Station Problem	AOS 26/2156	ALL	1 ^h 01 ^m
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PSE CALS DAILY	10/101	0900-1100 ALSEP 12 SIDE OFF			17/108	0900-1100 ALSEP 12 CYCLE SIDE		31176	0900-1100 ALSEP 12 SIDE STBY SWS STBY
and the second s	09/100	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	SIDE ON SWS ON HFE RBS	LSM FLIP CAL 1400-1600	16/107	0930-1130 ALSEP 12 CYCLE SIDE ALSEP 15	SIDE ON ALSEP 17 LEAM ON HFE RBS LSM FLIP CAL	V L L / C C	1700-2100 ALSEP 12 C/S HTR ON PSE Z MTR ON HFE RBS
ENTS	660/80	0900-1100 ALSEP 12	ALSEP 14		15/106				0700-0900
SUPPORT SCHEDIII E/EVENTS	07/098	1430-1630 ALSEP 17 LEAM OFF	HFE RBS LSM FLIP CAL		7 O E / A E	0900-1100 ALSEP 12 & 15 CYCLE SIDES	HFE RBS LSM FLIP CAL		21/112 0830-1030 ALSEP 15 ALSEP 12 SIDE ON HFE RBS
ALSEP SU			ALSEP 16 C/S HTR OFF TIMER RST			13/104 0900-1100 ALSEP 12 & 15 CYCLE SIDES	. •		20/111 0000-0100 0700-0900 ALSEP 16 C/S HTR ON ALSEP 12 CYCLE SIDE
	05/096					12/103 0930-1130 ALSEP 12 & 15 CYCLE SIDES	HFE RBS LSM FLIP CAL 1900-2300 ALSEP 15 SIDE SUPT		19/110 0400-0500 ALSEP 17 1600-1700
100	TIMES - COL	APR 04/095 NO SUPPORT ALSEP 17				APR 11/102 0900-1100 ALSEP 12 CYCLE SIDE	ALSEP 15 SIDE STBY		APR 18/109 1300-1500 ALSEP 12 CYCLE SIDE

TIMES - CDT		ALSEP SI	SEP SUPPORT SCHEDUIE/EVENTS	INTS		PSE CALS DAILY
5/	26/117	27/118	28/119	29/120	30/121	MAY 01/122
000-1100	0900-1100	⊢	0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON	NO SUPPORT
	HFE RBS		,		HFE RBS	од опу _{пурудн} у далгоўся абтародня вістомнятог
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	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0700-1100 ALSEP 12 CYCLE SIDE	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 & 15 CYCLE SIDES	0900-1100 ALSEP 12 CYCLE SIDE
	ALSEP 15 SIDE STBY		ALSEP 15 SIDE SUPT		HFE RBS	ALSEP 15 SIDE ON
	HFE RBS		HFE RBS		LSM FLIP CAL	ALSEP 17 LEAM ON
	LSM FLIP CAL		LSM FLIP CAL			
BEN-20						NASA-JSC

BEN-20

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 0FF on 5 May for lunar day operation.
Passive seismic experiment	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O 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. Trans mitter 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

shortly after lunar sunrise last December 1975, but recovered. Since then, the temperatures have drifted progressively lower each lunation and have not recovered. The HFE absolute temperature data is no longer valid. This anomaly first appeared ON at 1201 G.m.t., 30 April, for an electronics cool down of the instrument during to NASA. The HFE was commanded to STANDBY at 1619 G.m.t., 28 April, then back to The details of this anomaly are covered in Dr. Mark Langseth's letter of 26 April 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% on 6 May as measured by the cable thermocouples. #1. Probe #2 indicated a temperature of 249.3°K at its lowermost point. Ring bridge The subsurface temperature was 249.4°K at the bottom of the lowest section of probe surveys are obtained periodically.

Solar wind spectrometer experiment

Commanded OFF June 1974.

Lunar surface Commanded OFF June 1974. magnetometer experiment

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-O7) 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 SIANDBY 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:

ALSEP APOLLO 16 ALSEP 1476 20748 15.9° 64.1w A11 0FF ASE 0FF 50.2°F 126.3°F 28.0°C N/A N/A N/A 0FF 0FF 0FF 0FF 0FF 0FF	
APOLLO 15 ALSEP 1741 34714 4.0° 57.4w A11 OFF LSM/SWS OFF -8.9°F 124.2°F OFF OFF 7.8°C 106.5°K N/A N/A 283.5°K	
APOLLO 14 ALSEP 1834 15878 342.9° NOTE: LOS 3/17/76	
APOLLO 12 ALSEP 2360 29239 336.9° 52.7w DSS-1 (10w) ON SIDE & LSM OFF 8.5°F Offscale LOW OFF -15.6°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1241 33398 31.1° 66.2w 0N 0FF LACE/LSPE STBY 64.7°F 173.8°F 303.7°K 0ffscale LOW 64.9°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-05) CCGE Temp (AS-03) HFE Temp Ref I (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

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

DATE Mentioner resources and relative between the control of the	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 28/2100	el della comita della	CONTRACTOR OF THE CONTRACTOR O
28 APRIL	MIL/GWM	Higher Priority	AOS 28/2220	ALL	1 ^h 20 ^m
			LOS 30/0500		
30 APRIL	GWM	Higher Priority	AOS 30/0533	ALL	33 ^m
			LOS 06/0329		
06 MAY	ORR	Station Problem	AOS 06/0333	ALL	04 ^m
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TIMES - CDT	26/117	ALSEP S	ALSEP SUPPORT SCHEDULE/EVENTS	ENTS. 29/120	30/121	PSE CALS DAILY
01	0000-1100	NO SUPPORT	28/119 0900-1100 ALSEP 15 HFE STBY	NO SUPPORT	307 121 0900-1100 ALSEP 15 HFE ON	NO SUPPORT
	HFE RBS				HFE RBS	
	03/124	04/125	05/126	06/127	07/128	08/129
·	0900-1100 ALSEP 17 ALSEP 12 SIUE UFF 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
ı	10/131	11/132	12/133	13/134	14/135	15/136
	0900-1100	0900-1100 ALSEP 15 CYCLE SIDE	0700-1100	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE
	ALSEP 15 SIDE STBY		ALSEP 15 SIDE SUPT		HFE RBS	ALSEP 15 SIDE ON
	HFE' RBS		HFE RBS		LSM FLIP CAL	ALSEP 17 LEAM ON
	LSM FLIP CAL		LSM FLIP CAL			
1						NASA-JSC

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 $368 \pm 8^{\circ}$ 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-O4) 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

al control, AUTO ument assembly pected to re- ring real-time
The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) has been offscale HIGH since Il 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.
The instrument is configured for ON; component gain 0 db; and feetemperature (DL-07) has been off turn onscale 20 May. A significant support at 1540 G.m.t., 9 May, L
Passive seismic experiment

have been	da La Trom
sednences	SCIENCE
1146 flip calibration	ment engineering data. port period.
The LSM in ON and recording data. 1146 flip calibration sequences have been	the Z-axis has been static this report period.
Lunar surface	experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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. Trans-mitter 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 offseismic event was observed at 1540 G.m.t., 9 May, lasting approximately 45 minutes. scale HIGH on 13 May and is expected to return onscale 19 May. A significant

Suprathermal ion detector/cold cathode gauge experiments

the lunar day (Apollo 15 ALSEP, SWEAR 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 The instrument is in STANDBY. The experiment was to be continuously operated during 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

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 The instrument is presently OFF. Due to the absolute temperature measurement 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. 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

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. Central station

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. Passive seismic experiment

The instrument is ON in the normal gain mode and is recording solar wind plasma spectrometer Solar wind

spectrometer data. experiment Suprathermal ion Commanded OFF 3 May 1976. detector experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

SEP APOLLO 16 ALSEP	1483 20866 101.2° 64.1w A11 OFF ASE OFF 102.8°F Offscale HIGH 44.7°C N/A N/A N/A N/A OFF		
APOLLO 15 ALSEP	1748 34878 89.4° 58.2w A11 OFF 110.3°F Offscale HIGH OFF OFF STBY STBY N/A N/A N/A N/A 322.9°K		
APOLLO 14 ALSEP	1834 15878 68.2° NOTE: LOS 3/17/76		STBY, LEAM OFF
APOLLO 12 ALSEP	2367 29321 62.3° 53.5w A11 OFF SIDE & LSM OFF 90.6°F 129.8°F 0FF 0FF 0FF N/A N/A	APOLLO 17 ALSEP	1248 33531 116.5° 66.2w 0N 0FF LACE/LSPE STBY, 1 84.1°F 149.7°F 194.0°F 324.3°K 0ffscale LOW 85.0°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
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06 MAY	ORR/MAD	Higher Priority	AOS 06/1219	ALL	19 ^m
			LOS 11/1615		
11 MAY	ORR/GWM	Higher Priority	AOS 11/1620	ALL	05 ^m
			LOS 12/1457		
12 MAY	HAW/GWM	Higher Priority	AOS 12/1541	ALL	44 ^m
			LOS		
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TIMES - CDT	71117	AL SEP	SUPPORT SCHEDIII E/EVENTS	021/50	30/121	PSE CALS DAILY MAY 01/122
0000	0001-0060	NO SUPPORT	ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON	NO SUPPORT
<u>u</u> T	RBS		A		HFE RBS	
	03/124	04/125	05/126	06/127	07/128	08/129
ALSEP ALSEP SIG OF SIS OF HFE RB	ALSEP 17 ALSEP 12 SIUE UFF SIIS 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
	10/131	11/132	12/133	13/134	14/135	15/136
110	1100-1300	0900-1100	0730-0930	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE
to manifeld the second of the second		an against an ann an	ALSEP 15 SIDE STBY	HFE OFF	HFE RBS	
出	HFE RBS		HFE RBS		LSM FLIP CAL	ALSEP 17 LEAM ON
LSN	LSM FLIP CAL		LSM FLIP CAL			
-	And the second s					NASA-JSC

TIMES - CDT		ALSEP SI	ALSEP SUPPORT SCHEDULE/EVENTS	ENTS		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	1100-1300 ALSEP 17	1800-1000 1800-2000 ALSEP 16 C/S HTR ON	0900-1100 ALSEP 15	0900-1100 HFE RBS	0000-1100
	LSM FLIP CAL	2300-2400	HFE RBS			
	2300-2400		LSM FLIP CAL			
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	0900-1100 HFF RRS	0300-1100	0900-1100 HFF BRS	NO SUPPORT	0900-1100 HFF RRS	NO SUPPORT
1600-1700		,				
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
BEN-20						NASA-JSC

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 ± 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

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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 0N for lunar night operation. Sunset at the Descartes Site occurred on 20 May for the 51st lunation.

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

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 Central station

dbm by the tracking stations with 30-foot antennas.

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. Passive seismic experiment

A Special Operational Test of the SIDE is continuing at the request of the Prin-cipal 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. Suprathermal ion detector/cold cathode gauge

experiments

experiment

Heat flow

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. Stabilisation 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 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. 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.

Commanded OFF 14 June 1974. spectrometer experiment Solar wind

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

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

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. Central station

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.

Passive seismic

experiment

The instrument is ON in the normal gain mode and is recording solar wind plasma spectrometer Solar wind

experiment

Commanded OFF 3 May 1976. Suprathermal ion

experiment detector

Commanded OFF 14 June 1974.

magnetometer Lunar surface experiment

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

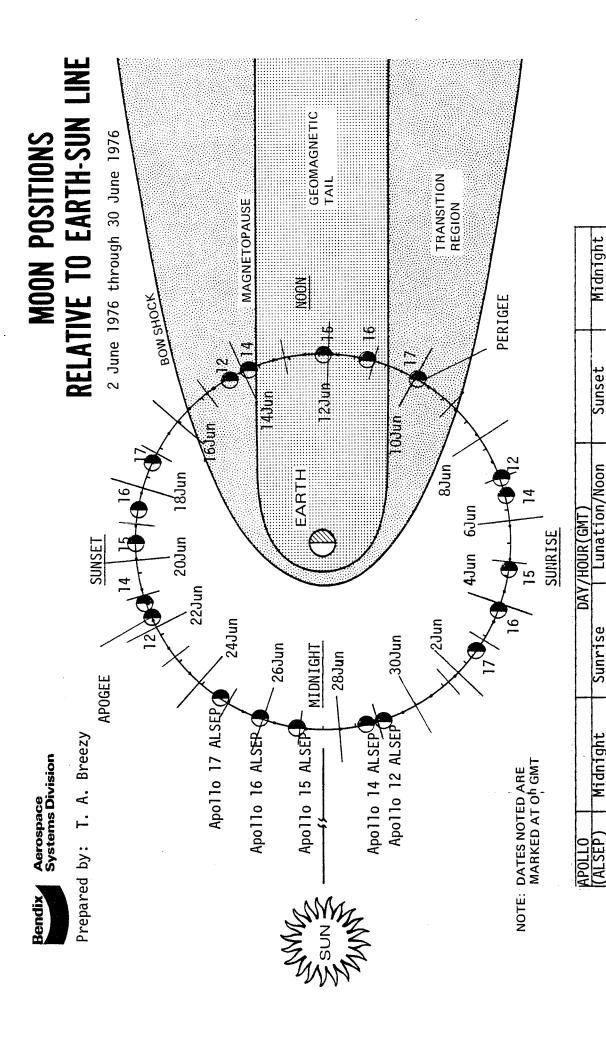
APOLLO 16 ALSEP	1490 21017 186.6° 64.8w DSS-1 (10w) ON ASE OFF 36.9°F 126.2°F 3.8°C N/A N/A N/A N/A OFF		
APOLLO 15 ALSEP	1755 35040 174.7° 58.6w A11 OFF LSM/SWS OFF 55.4°F 125.2°F OFF OFF A8.3°C 287.6°K N/A N/A		
APOLLO 14 ALSEP	1834 15878 153.6° NOTE: LOS 3/17/76		
APOLLO 12 ALSEP	2373 29345 147.6° 53.8w A11 OFF SIDE/LSM OFF 77.9°F OFF 64.3°C OFF N/A N/A	APOLLO 17 ALSEP 1255 33715 201.8° 67.8w 0N 0F LACE/LSPE STBY 11.4°F -14.0°F -17.4°F -17.4°F 284.7°K 0ffscale LOW 12.7°F	
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AG-11) LSG Temp (DG-04) LSG Temp (AP-01)	

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
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13 MAY	GWM/MAD	Higher Priority	AOS 13/1944	ALL	1 ^h 14 ^m
	THE STATE OF THE STA	en e	LOS 13/2210		
13 MAY	MAD	Higher Priority	AOS 13/2252	ALL	40 ^m
			LOS 16/1021		
16 MAY	MIL	Station Problem	AOS 16/1026	ALL	05 ^m
			LOS 16/2246		
16 MAY	GWM/MAD	Higher Priority	AOS 16/2251	ALL	05 ^m
			LOS		
> 18-14-18-185-188-rochworptie ear-tracenegy-region majorqui (- i-tropa geneticates - es regionalizates		nn samulaine na a-chainn an ann ann ann ann ann ann ann ann	AOS		
			LOS	ST-MELEONING	
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			LOS	-	
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TIMES - CDT		ALSEP SI	SUPPORT SCHEDILIE/EYENTS	ENTS		PSE CALS DAILY
APR 25/116	26/117	27/118	28/119	29/120	30/121	MAY 01/122
0900-1100	0900-1100	NO SUPPORT	<u>0900-1100</u> ALSEP 15 HFE STBY	NO SUPPORT	0900-1100 ALSEP 15 HFE ON	NO SUPPORT
	HFE RBS				HFE RBS	
MAY 02/123	03/124	04/125	05/126	06/127	07/128	08/129
NO SUPPORT	0900-1100 ALSEP 17 ALSEP 12 SIUE UFF SWS ON HFE RBS	NO SUPPORT	0900-1100 ALSEP 16 C/S HTR 0FF 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	1100-1300	0000-1100	0730-0930	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 15 CYCLE SIDE
1000-1200	-		ALSEP 15 SIDE STBY	HFE OFF	HFE RBS	
	HFE' RBS		HFE RBS		LSM FLIP CAL	ALSEP 17 LEAM ON
	LSM FLIP CAL		LSM FLIP CAL			
BEN-20						NASA-,1SC

PSE CALS DAILY	22/143	0000-1100					29/150	NO SUPPORT				05/157	0900-1100 ALSEP 17 LEAM OFF			NASA-JSC.
	21/142	, 0900 <u>-1100</u>	HFE RBS				28/149	0900-1100	HFE RBS			04/156	0900-1100 ALSEP 15 TIMER RST	ALSEP 16 C/S HTR OFF TIMER RST	LSM FLIP CAL	
VENTS	20/141	0900-1100 ALSEP 15					27/148	NO SUPPORT				03/155	NO SUPPORT ALSEP 16			-
SUPPORT SCHEDULE/EYENTS	19/140	0900-1000 1800-2000	ALSEP 16 C/S HTR ON	HFE RBS	LSM FLIP CAL	ALSEP 15 HFE ON	26/147	0000-1100	HFE RBS			02/154	0900-1100 ALSEP 17	HFE RBS		
ALSEP SI	18/139	1100-1300 ALSEP 17		2300-2400			25/146	0000-1100				JUN 01/153	NO SUPPORT			
	17/138	0000-1100	HFE RBS	LSM FLIP CAL	2300-2400		24/145	0900-1100	HFE RBS			31/152	0000-1100	HFE RBS		
TIMES - CDI	MAY 16/137	0900-1100 ALSEP 15 SIDE ON		→ ∄			MAY 23/144	0400-0800 L ALSEP 12 C/S HTR ON PSF 7 MTR ON		1600-1700		MAY 30/151	NO SUPPORT			BEN-20



26Jun/2159

19Jun/133

2Jun/0430

03Jun/2010 04Jun/1926

06Jun/1259

/0424

30May/

30May/160

27May/1144

9

26May/0543

28May/1059

07Jun/0047

24Jun/1656

17Jun/0818 18Jun/1413

44)09Jun/2308

02Jun/141

52 67 67

28Jun/1524

29Jun/0302

21Jun/1752

14Jun/0949

82)

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 realtime 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 $108\pm8^{\circ}\text{K}$. 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

ation 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 opera- tional 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.	ismic The instrument is configured for seismic network congruity (thermal control, AUTO tooms component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period.	ace The LSM is ON and recording data. Science data from the Z-axis remained static ter this report period. Flip calibration sequences have been discontinued for the t remainder of this lunar night due to the low temperature of the Z-axis sensor head.	smic The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). t
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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 \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 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

Heat flow experiment

23 May, when the instrument was OFF. The experiment was ON from 0910 to 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. Attempts to regain proper operation of the instrument through cool down periods have Cool down periods were conducted from 22 to 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 shown promise.

couples. 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 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. I lunar surface temperature was 98.1°K on 26 May as measured by the cable thermoaforementioned anomaly.

> olar wind spectrometer experiment

Commanded OFF 14 June 1974.

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

sor 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). at 2333 G.m.t. to reconfigure the experiments and central station (PCV 1 Proces-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 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 The Ornoral Valley Tracking Station in Australia reported that the Apollo 14

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

The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain O db. The internal temperature (DL-O7) was reading offscale LOW and had increased to 124.6°F on 21 May with the heater in instrument component gains were LP XY - 30 db, LP Z -20 db, and SP Z -20 db. cal status was LP ON and SP OFF and the arm/fire circuit status was UNCAGED. 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 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.

Apollo 14 ALSEP (continued)

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

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 0N for lunar night operation. Central station

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. Passive seismic experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma data. spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

APOLLO 16 ALSEP	1496 21073 259.9° 64.1w (64.5w) DSS-1 (10w) ON ASE OFF 30.1°F 125.8°F -10.2°C N/A N/A N/A N/A OFF	ndicate RTG ious lunation
APOLLO 15 ALSEP	1761 35156 248.1° 57.4w (58.2w) A11 OFF LSM/SWS OFF -7.9°F 124.5°F OFF OFF 7.2°C 112.2°K N/A N/A 283.8°K	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
APOLLO 14 ALSEP	1840 15989 226.9° 62.3w (N/A) DSS-1 (10w) N SIDE OFF/ASE STBY 28.6°F 124.1°F N/A N/A OFF OFF -22.7°C -69.9°F	Vali outl at c
APOLLO 12 ALSEP	2280 29439 221.0° 52.7w (53.1w) DSS-1 (10w) ON SIDE/LSM OFF 9.4°F 126.2°F OFF -15.2°C OFF N/A N/A	APOLLO 17 ALSEP 1261 33846 275.2° 67.7w (68.1w) 0N 0FF LACE/LSPE STBY 3.7°F -16.1°F -17.4°F 285.6°K 0ffscale LOW 4.6°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref I (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 20/1901		
20 MAY	WAH	Station Problem	AOS 20/1903	A12	02 ^m
are no secure control of the control			LOS 21/2347		
21 MAY	ORR	Higher Priority	AOS 21/2400	ALL	13 ^m
			LOS 22/0000		
22 MAY	ORR	Higher Priority	AOS 22/0110	ALL	1 ^h 10 ^m
	·		LOS 24/0325		
24 MAY	ORR/ACN	Scheduling	AOS 24/0333	ALL	. 08 ^m
ACCOUNTY OF THE PROPERTY OF TH			LOS 25/2251		
25 MAY	GDS/ORR	Scheduling	AOS 25/2255	ALL	04 ^m
			LOS 26/0525		
26 MAY	MAD/ACN	Higher Priority	AOS 26/0537	ALL	12 ^m
			LOS 27/0350		
27 MAY	ORR	Station Problem	AOS 27/0354	ALL	04 ^m
			LOS 27/0524		
27 MAY	ORR/MAD	Higher Priority	AOS 27/0554	ALL	30 ^m
			LOS 27/0830		
27 MAY	MAD/ACN	Higher Priority	AOS 27/0850	ALL	20 ^m
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DOE CALC DATE	202700	0900-1100 ALSEP 14 ALSEP 15 HFE OFF		29/150	NO SUPPORT		- No	· · · · · · · · · · · · · · · · · · ·	05/157	1400-1600 ALSEP 17 LEAM OFF			NASA-JSC
	071716	0900-1100 ALSEP 17 HFE RBS		28/149	0900-1100 ALSEP 17 HFE RBS				04/156	1400-1600 ALSEP 15 TIMER RST	ALSEP 16 C/S HTR OFF TIMER RST LSM FLIP CAL	ALSEP 17 HFE RBS	
ENTS	10/141	0900-1100 ALSEP 15 1700-2200 ALSEP 14 AOS, 1550		27/148	NO SUPPORT				03/155	NO SUPPORT ALSEP 16			
SUPPORT SCHEDIJI F/FVFNTS	19/1/0	\Rightarrow	HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	26/147	0900-1100 ALSEP 17 HFE RBS				02/154	1400-1600 ALSEP 17 HFE RBS			
ALSEP SI		1300		25/146	0900-1100				Jun 01/153	NO SUPPORT			
	17/138	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	2300-2400	24/145	0900-1100 ALSEP 17 HFE RBS	ALSEP 15 HFE ON			31/152	NO SUPPORT		- Annecessary - Annecessary - Anne	
IIMES - CDI	May 16/137	0900-1100 ALSEP 15 SIDE ON		May 23/144	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	May 30/151	0900-1100			BEN-20

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 $105\pm8^{\circ}\text{K}$. 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

Passive seismic experiment Lunar surface magnetometer experiment	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 0N but will be commanded OFF on 5 June for lunar day operation. 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. The LSM is ON and recording data. Science data from the Z-axis remained static this report period.
experiment	ine accive seismic Experiment is currently off (Apollo 16 ALSEP, SMEAK Z/).

Apollo 15 ALSEP

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

of the 61st lunation will occur tomorrow at the Hadley Rille Site. Trans-	\ downlink signal strength is reported between -135.0 and -139.0 dbm by	the tracking stations with 30-foot antennas.
Sunrise of the	mitter A downli	the tracking st
Central station		

experiment	The uncage-arm fire circuitry is cycling normally as a result of the central station data subsystem times outbuts. No significant coicmic overta

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.
A Spec Invest at 39 remair
Suprathermal ion detector/cold cathode gauge experiments

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 a	\mathcal{I}	The HFE was commanded to STANDBY at 1405 G.m.t., 30 May until sunrise, when it will
	q	be commanded OFF. It will remain OFF until just prior to sunset when it will be
	t	

The HFE was commanded to STANDBY at 1405 G.m.t., 30 May is be commanded OFF. It will remain OFF until just prior to turned back ON. This cool down period is to attempt to the absolute temperature measurement data.	Commanded OFF June 1974.
Heat flow experiment	Solar wind spectrometer experiment

Commanded OFF June 1974. Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

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. Central station

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. Passive seismic experiment

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

The instrument was commanded to OFF on 21 May 1976. Suprathermal ion detector/cold cathode gauge experiments

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. The experiment is ON and operating in the manual mode at the -35 vdc range Charged particle environmental

Apollo 12 ALSEP

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

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. Central station

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. A significant seismic events were noted during the real-time support of this instrument. Passive seismic experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector

experiment

Lunar surface Commanded OFF 14 June 1974.

magnetometer experiment

APOLLO 15 ALSEP 1768 35196 335.3° 56.7w A11 OFF LSM/SWS OFF-HFE/STBY ASE OFF 2.5°F 124.5°F OFF OFF N/A	
APOLLO 14 ALSEP 1847 16003 314.2° 61.9w DSS-1 (10w) ON SIDE OFF/ASE STBY 27.5°F 124.1°F N/A N/A N/A OFF OFF OFF OFF OFF OFF N/A	
APOLLO 12 ALSEP 2287 29445 308.2° 52.4w DSS-1 (10w) ON SIDE/LSM OFF 8.1°F Offscale LOW OFF -15.6°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1268 33924 2.4° 67.3w 0N 0FF LACE/LSPE STBY -5.5°F -16.1°F -17.4°F 285.9°K 52.9°C -5.0°F
Status as of 1900 G.m.t., 2 June 1976, TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) LSM Module 300 Temp (DW-13) SIDE Temp (DI-04) CGE Temp (DI-04) CCGE Temp (AC-06) N/A ASE GLA Temp (AS-03) N/A HFE Temp Ref I (DH-13) N/A	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 27/2009		
27 MAY	GDS	Station Problem	AOS 27/2012	A12	o3 ^m
			LOS 28/0826		
28 MAY	MAD/ACN	Higher Priority	AOS 28/0904	ALL	38 ^m
			LOS 28/0949		-
28 MAY	MAD/ACN	Higher Priority	AOS 28/1034	ALL	45 ^m
			LOS 31/0943		
31 MAY	GWM/ACN	Higher Priority	AOS 31/1026	ALL	43 ^m
			LOS 01/1110		
01 JUNE	GWM/ACN	Higher Priority	AOS 01/1209	ALL	59 ^m
			LOS 01/2253		
01 JUNE	GDS	Station Problem	AOS 01/2303	ALL	10 ^m
			LOS 02/1257		
02 JUNE	ACN/BDA	Higher Priority	AOS 02/1337	ALL	40 ^m
			LOS 02/1425		
02 JUNE	BDA	Higher Priority	AOS 02/1536	ALL	Julu -
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			AOS		
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TIMES - CDT	e de la companya del la companya de	ALSEP SI	ALSEP SUPPORT SCHEDIII E/EVENTS	ENTS		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	000	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 PSF Z MTR ON	0900-1100 ALSEP 17 HFE RBS	0900-1100	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
ALSEP 14 C/S HTR ON PSE HTR ON	ALSEP 15 HFE ON		1000-1020 LSPE HBR		-	
ALSEP 15 HFE ON/STBY 1600-1700		-				
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 C/S HTR OFF TIMER RST LSW FLIP CAL ALSEP 17 HFE RBS	1400-1600 ALSEP 17 LEAM OFF
BEN-20		-				NASA-JSC

PSE CALS DAILY	12/164	1400-1600 ALSEP 15 CYCLE SIDE	171/61	1400-1600 ALSEP 15	26/178	NO SUPPORT	NASA-JSC
	11/163	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE ALSEP 17 HFE RBS	18/170	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON C/S HTR ON LSM FLIP CAL	25/177	1400-1600 ALSEP 17 HFE RBS	
VENTS	10/162	1800-2200 ALSEP 15 CYCLE SIDE	17/169	0600-0700 ALSEP 17 1500-1600	24/176	NO SUPPORT	
ALSEP. SUPPORT. SCHEDUI E/EVENTS	191/60	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	16/168	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	23/175	1400-1600 ALSEP 17 HFE RBS	
ALSEP S	08/160		15/167	1400-1600 ALSEP 15 SIDE ON	22/174	1400-1600	
	07/159	0000-0200 ALSEP 12 C/S HTR 0FF PSE Z MTR 0FF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	14/166	1400-1600 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	21/173	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	
TIMES - CDI	1		JUN 13/165	1400-1600 ALSEP 15 CYCLE SIDE	JUN 20/172	<u>1400-1600</u>	BEN-20

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 \pm 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 realtime 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 $367 \pm 8^{\circ}$ 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-O4) 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

Sunrise at the Descartes Site occurred on 3 June for the 52nd lunation. The	8-hour timer output pulses continue to be inhibited per the agreed operational	plan initiated 6 May 1972. A signal strength of -136.5 ± 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 Junar day operation.
Central station				

,101	ınt	
instrument is configured for seismic network congruity (thermal control,	No significant	nic events were noted during real-time support this report period.
congruity	ON; component gain 0 db; and feedback loop filter IN).	rt this rep
network	k loop	e suppo
seismic	feedbac	real-tim
ed for s	db; and	during 1
configur	gain O	o noted
ent is o	mponent	nts were
The instrum	AUTO ON; cor	seismic even
Passive seismic	experiment	

emained static	for this lunar	periment engineer-	
from the Z-axis re	have been resumed	verified by the exp	
ata. Science data	ibration sequences	been executed and	
The LSM is ON and recording data. Science data from the Z-axis remained static	s report period. Flip cal	and a total of 1158 have	data since deployment.
	er	experiment day	pur

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

Apollo 15 ALSEP

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

Sunrise of the 61st lunation occurred on 4 June at the Hadley Rille Site. Transmitter M downlink signal strength of -136.5 \pm 2.5 dbm is reported from transmitter A by the tracking stations with 30-foot antennas. Central station

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. Passive seismic

experiment

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. Suprathermal ion cathode gauge

experiment

experiment

Heat flow

The HFE was commanded to OFF at 1934 G.m.t., ? 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

Commanded OFF June 1974.

spectrometer experiment Solar wind

Commanded OFF June 1974.

experiment

Lunar surface

Apollo 14 ALSEP

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

The downing 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 down link signal strength from transmitter B was -138.0 dbm at the time of LOS. The The Guan 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 command-This is the fourth LOS for cause is believed similar to the previous shutdowns. the Apollo 14 ALSEP

APULLO 14 ALSEP STATUS AT AOS-LOS

		AOS	T0S	AOS	F0S	AOS	SOT	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 Avg Therm.	108.1°	159.3°	95.2°	117.5°	85.6°	156.1°	23.40	45.80
Pľate	115.8°F	62.9°F	119.6°	95.7°F	116.5°F	58.5°F	71.5°E	77.30F
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	А	A	А	А	A	A	B	В
Receiver	ON-Xtal A	0FF	0FF	ON-Xtal B	ON-Xtal B	ON-Xtal B	ON-Xtal B	ON-Xtal B
PCU	_	2	2	2	 	2	7	87
PSE	NO	NO	NO	NO	NO	S	NO.	1110
PSE Htr	Forced OFF	Forced OFF	Forced OFF	Auto ON	Forced OFF	Auto ON	Auto ON	Auto ON
CPLEE	STBY	STBY	STBY	NO	STBY	NO	110	NO
SIDE	UNK	UNK	UNK	UNK	0FF	NNK	OFF	OFF
ASE	STBY	STBY	STBY	STBY	STBY	STBY	STBY	STBY
DTREM	NO	NO	NO	0FF	NO	0FF	MO	OIV
		-				i	# #	

Central Station Sunr

(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. The DSS-1 Sunrise at the Apollo 14 site (67th lunation) occurred on 6 June.

Apollo 14 ALSEP (continued)

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

The experiment was in STANDBY (Apollo 14 ALSEP, SMEAR 86) at LOS.

experiment

The instrument was commanded to OFF on 21 May 1976.

cathode gauge detector/cold

Suprathermal ion

experiments

Charged particle

The experiment was ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode at LOS.

environmental

experiment

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 axm/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. with full modulation was reacquired at 0706 G.m.t., 10 June. After reconfiguration for ALSEP 14, valid data was observed at 0708 G.m.t. An emergency realtime support period was activated. The configuration of the ALSEP 14 central The Goldstone Tracking Station reported that the Apollo 14 ALSEP downlink signal 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

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.

Apollo 14 ALSEP (continued)

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

The	filt
Passive seismic	me

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 ${\it UNCAGED}$. No significant seismic events were noted during the reading offscale LOW and had increased to 119.7°F after five (5) hours with the heater in the Auto OV mode. At AOS the instrument formal formal hours with the instrument is ON and configured to thermal control, Auto ON; Feedback loop real-time period.

Active seismic experiment

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

Suprathermal ion

The instrument was commanded to OFF on 21 May 1976.

detector/cold cathode gauge experiments

voltage and the experiment had switched from -0 vdc to the + 350 vdc manual mode. 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, analyser A

Charged particle environmental experiment Junar

Apollo 12 ALSEP

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

The DSS-1 (10 watt) heater was	A signal strength of -139.0 ±	-foot antenna tracking stations.
Sunrise of the 82nd lunation occurred on 7 June. The DSS-1 (10 watt) heater was	commanded OFF on 7 June for Junar day operation. A signal strength of -139.0 ±	4.0 dbm, from transmitter B, is reported by the 30-foot antenna tracking stations.
Central station		

6 ALSEP), Performance 7 June for al-time
(Ref. Apollo 1 5 Dec 75 ALSEP ommanded OFF on noted during re
twork congruity at -20 db (Ref. ive motor was c ic events were
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.
is configured rt period Z-ax). The long parions. No si
The instrument is configured for seexcept the short period Z-axis gain Summary Report). The long period Ilunar day operations. No signification support during this report period.
Passive seismic experiment

support during this report period.
support during this report period.
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suppor

Solar wind spectrometer experiment	The instrument is ON, in the normal gain mode, and recording solar wind plasma data.
Suprathermal jon	Commanded OFF 3 May 1976.

,6,	1974.
<u>6</u> ∕æ	June
n ∑	14 (
4	0FF
Commanded	Commanded OFF 14 June 1974.
Suprathermal 10n Commanded UFF 3 May 1976. detector experiment	Lunar surface magnetometer experiment

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

TM POINT APOLL	APOLLO 12 ALSEP	APOLLO 14 ALSEP *	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CCGE Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	2394 29511 32.7° 53.1w A11 OFF SIDE/LSM OFF 78.0°F 126.5°F 0FF 0FF 0FF N/A N/A	1853 16054 45.8° 59.2w A11 OFF SIDE OFF/ASE STBY 77.3°F Offscale LOW N/A N/A OFF OFF S1.3°C 54.3°C	1775 35342 59.8° 57.8w A11 OFF LSM/SWS/HFE OFF - 99.7°F 133.4°F OFF OFF STBY STBY STBY N/A N/A OFF	1510 21204 71.7° 64.1w A11 OFF ASE OFF 100.0°F Offscale HIGH 41.4°C N/A N/A N/A N/A OFF
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AG-01) LSG Temp (AP-01)	APOLLO 17 ALSEP 1275 34050 86.9° 65.7w 0N 0F LACE/LSPE STBY - LEA 84.0°F 172.8°F 172.8°F 326.3°K 0ffscale LOW 84.3°F	*Data from AOS 10 June 1976. LEAM OFF	m AOS at 070625 G.m.t.,	n •

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		THE CONTRACT OF THE CONTRACT O	LOS 02/1425	Did did hamilian gara makan salah	ala da
02 JUNE	BDA	Higher Priority	AOS 02/1541	ALL	1 ^h 16 ^m
	Confidence of the confidence o	and the second of the second o	LOS 07/1758		
07 JUNE	ACN/BDA	Higher Priority	AOS 07/1850	ALL	52 ^m
•			LOS 08/1745		
08 JUNE	ACN	Higher Priority	AOS 08/1851	ALL	1 ^h 06 ^m
			LOS 08/2030		
08 JUNE	ACN	Higher Priority	AOS 08/2118	ALL	48 ^m
			LOS 09/1730		
09 JUNE	GWM/AGO	Higher Priority	AOS 09/2106	ALL	3 ^h 36 ^m
			LOS		Agricus Care Caranter (1994), Fred Landers and Caracter (1997) (1997) (1997)
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PSE CALS DAILY	22/143	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	29/150	NO SUPPORT	05/157	1400-1600 ALSEP 17 LEAM OFF	NASA
	21/142	0900-1100 ALSEP 17 HFE RBS	28/149	0900-1100 ALSEP 17 HFE RBS	04/156	1400-1600 ALSEP 15 TIMER RST ALSEP 16 C/S HTR OFF TIMER RST LSW FLIP CAL ALSEP 17 HFE RBS	
SINS	20/141	0900-1100 ALSEP 15 1700-2200 ALSEP 14 AOS, 1550	27/148	NO SUPPORT	03/155	NO SUPPORT ALSEP 16	
SUPPORT SCHEDII E/EYENTS	19/140	ON CAL	26/147	0900-1100 ALSEP 17 HFE RBS 1000-1020 LSPE HBR	02/154	1200-1400 ALSEP 17 HFE RBS	
ALSEP SU	18/139	$\overline{}$	25/146	0900-1100	Jun 01/153	NO SUPPORT	
	17/138	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2300-2400	24/145	0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE ON	31/152	NO SUPPORT	
TIMES - CDT	May 16/137		May 23/144	0400-0800 ALSEP 12 C/S HTR ON ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 15 HFE ON/STBY	May 30/151	0900-1100 ALSEP 15 HFE STBY	BEN-20

DATEY	,				ĺ		-JSC
PSE CALS D		1400-1600 ALSEP 15 CYCLE SIDE	19/171	0900-1100 ALSEP 15	26/178	NO SUPPORT	NASA-JSC
	11/163	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE ALSEP 17 HFE RBS	18/170	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	25/177	0900-1100 ALSEP 17 HFE RBS	
/ENTS	10/162	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY ALSEP 15 SIDE SUPT	17/169	0600-0700 ALSEP 17 1500-1600	24/176	NO SUPPORT	
SEP SUPPORT SCHEDIII E/EVENTS	. 191/60	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	16/168	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	23/175	<u>0900-110</u> 0 ALSEP 17 HFE RBS	
ALSEP S	08/160	0554 ALSEP 14 LOSS OF SIGNAL 1400-1600	15/167	0900-1100 ALSEP 15 SIDE ON	22/174	0900-1100	
	07/159	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSH FLIP CAL ALSEP 15 HFE OFF	14/166	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	21/173	1600-2000 ALSEP 14 C/S HTR ON · PSE HTR ON C/S HTR ON C/S HTR ON PSE Z MTR ON ALSEP 17 HFE RBS	
TIMES - COT	1/1	0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	JUN 13/165	1400-1600 ALSEP 15 CYCLE SIDE	JUN 20/172	0900-1100	BEN-20

The state of the s

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., The ALSEP receiver was operating and ground commands were transmitted and executed. This is the fourth AOS after 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. an abrupt loss of signal (LOS).

APOLLO 14 ALSEP STATUS AT AOS - LOS

	10 Jun 76 45,8°								
507	8 Jun 76 23.40	71.50E	33.04w	ON-Xtal	NO	Auto ON	OFF	STBY	NO
AOS	20 May 7 6 156.1°	58.5°F	31.37×	ON-Xtal B	NO.	Auto ON	S S S S	STBY	0FF
T0S	17 Mar 76 85.6°	116.5°F 61.94w	36.94w	ON-Xtal B	NO.	Forced OFF	OFF	STBY	S
AOS	19 Feb 76	95.7°F 62.12w	30.49w	ON-Xtal B	i No	Auto ON	S S	STBY	OFF
708	18 Jan 76 95.2°	119.6°F 61.74w	36.51W	OFF 2	NO	Forced OFF	ON S	STBY	N
	5 Mar 75 159.3°					LL.			
507	1 Mar 75	115.8°F 63.63w	39.11w	ON-Xtal A	NO	Forced OFF STRY	N. O.	STBY	S
	Date Sun Angle Ava	Therm Pl RTG Power	Res. Power	Receiver PCU	PSE	PSE Htr CPI FF	SIDE	ASE	つ に 不 配

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 $128\pm8^\circ\text{K}$. 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

on 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.	ic The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH and is expected to return onscale 18 June. No significant seismic events were observed during this report period.	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.	c The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEP

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

Passive seismic	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP).
experiment	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.

A Special Operational Test of the SIDE is continuing at the request of the Prin- cipal 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 < vdc) remains OFF.
A Special Ope cipal investi	Counter at 39 with K vdc) remains OFF.
Suprathermal ion detector/cold	cathode gauge experiments

n 18	to re-	
currently OFF. It will remain OFF until just prior to sunset on 18	it will be turned back ON. This cool down period is to attempt to re-	
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st pr	erioc	ureme
II ju	d umo	meas
unti	o] dc	ture
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OFF.	turned	ber operation of the absolute temperature measurement data.
tly (pe	tion
urren	Will	opera
is	an it	per
HFE	June when	n pro
The	Jun	gai
Heat flow	experiment	
主	_	

ort on 17 June the ex-	racking Station for	roblem the experiment	'une,
During real time supp	th the Orroral Valley I	ound station command p	i OFF later today, 17 J
The experiment is currently in STANDBY. During real time support on 17 June the ex-	periment 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
Solar wind	spectrometer	experiment	

Lunar surface	Commanded OFF 1516 G.m.t., 17 June 1976, after receipt of a spurious functional
magnetometer	command to STANDBY (octal 043) from the Goldstone Tracking Station.
experiment	

Apollo 14 ALSEP

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

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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. being received, however after approximately 20 seconds at 1621:51 G.m.t. the down-link signal returned with normal modulation and no change in experiment status or 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 Wode I transmitter 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 ON commands (octal 013) were executed by the station with spacecraft rejects

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

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

experiment

The instrument was commanded to OFF on 21 May 1976.

Suprathermal ion detector/cold cathode gauge experiments

Charged particle The experiment is in STANDBY for lunar day.

lunar environmental experiment

Apollo 12 ALSEP

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

Solar wind	The ins	strument i	S	it is ON i	n t	ON in the norma	l gain	mode	and	is	normal gain mode and is recording solar wind plasma	solar	wind	plasma
spectrometer	data.													
experiment														

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

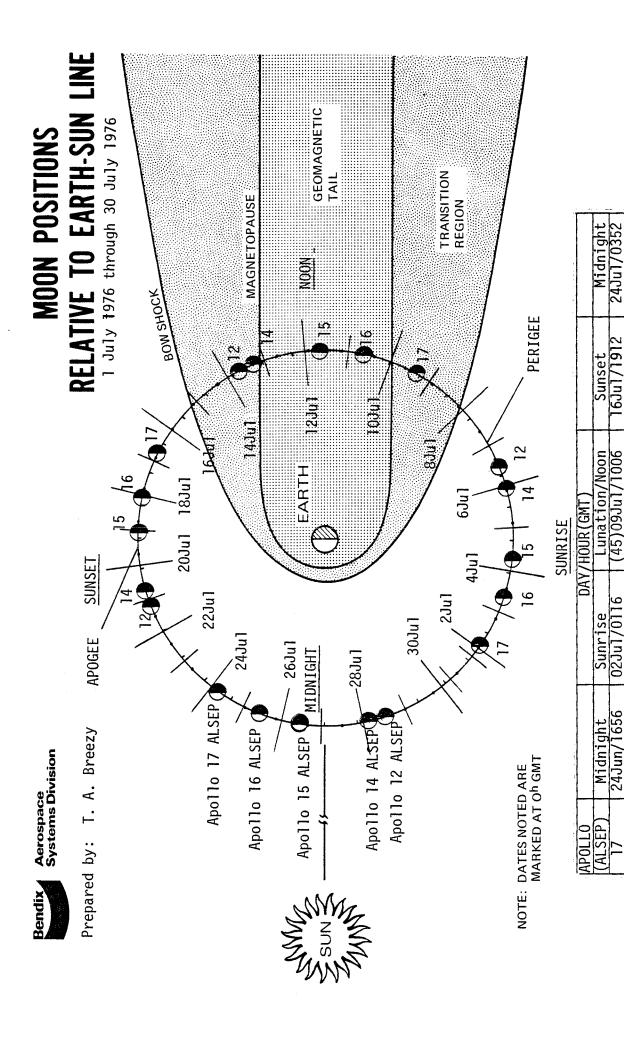
Status as of 1200 G.m.t., 17 June 1976, was as follows:

APOLLO 16 ALSEP 1518 21316 166.7° 64.1W A11 0FF 62.2°F 00fscale HIGH 37.3°C N/A N/A N/A N/A 00FF 00FF	
APOLLO 15 ALSEP 1783 35467 154.8° 57.8WF LSM/HFE OFF-SWS 85.3°F 125.7°F OFF OFF 71.0°C 323.8°K N/A N/A	
APOLLO 14 ALSEP 1860 16098 133.7° 61.9w A11 OFF 93.7°F 129.9°F N/A N/A N/A OFF STBY 82.0°C	
APOLLO 12 ALSEP 2402 29580 127.7° 53.4w A11 OFF SIDE/LSM OFF 89.6°F OFF 60.9°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1283 35196 181.9° 67.4w 0N 0FF LACE/LSPE STBY 33.7°F 13.4°F -1.3°F -1.3°F 284.2°K 0ffscale LOW 36.0°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 10/0025	TENTOCE	11112 2031
10 JUNE	AGO/GDS	Higher Priority	AOS 10/0113	ALL	48 ^m
			LOS 10/1827		+0
10 JUNE	GWM/ACN	Higher Priority	AOS 10/1839	ALL	12 ^m
			LOS 10/2123	/122	
10 JUNE	ACN	Higher Priority	AOS 10/2219	ALL	56 ^m
			LOS 11/2118		
11 JUNE	ACN	Higher Priority	AOS 11/2211	ALL	53 ^m
			LOS 12/2110		
12 JUNE	ACN	Higher Priority	AOS 12/2201	ALL	51 ^m
			LOS 13/0218		† - <u> </u>
13 JUNE	ACN/AGO	Higher Priority	AOS 13/0253	ALL	35 ^m
			LOS 13/2126		
13 JUNE	GWM/ACN	Higher Priority	AOS 13/2156	ALL	30 ^m
			LOS 17/0110	755	30
17 JUNE	ACN	Higher Priority	AOS 17/0326	ALL	2 ^h 16 ^m
·			LOS 17/1125		
17 JUNE	GDS	Station Problem	AOS 17/1232	A12	1 ^h 07 ^m
			LOS		
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			Los		
		and the second second	AOS		
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		,	LOS		
			AOS	7	

	07/159	ALSEP SU 08/160	EDILLE/EN	ENTS 10/162 02/5-0725	11/163	PSE CALS DAILY 12/164
00000-0200 ALSEP 12 C/S HTR 0FF LOSS 0F PSE Z MTR 0FF 1400-1600	0554 ALSEP 14 LOSS 0F	SIGNAL	230 16 17 17 85	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY ALSEP 15 SIDF SUPT	1400-1600 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	1400-1600 ALSEP 15 CYCLE SIDE
ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF			ALSEP 15 SIDE STBY		ALSEP 17 HFE RBS	
14/166	<u></u>	15/167	16/168	17/169	18/170	171/61
0900-1100 ALSEP 17 ALSEP 15 ALSEP 15 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	0900-1 AL SEP SIDE		0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	0600- 1100 ALSEP 17 1500-1600	00000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	0900-1100 ALSEP 15
21/173 22	22	22/174	23/175	24/176	25/177	26/178
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	7	d	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT	0900-1100 ALSEP 17 HFE RBS	NO SUPPORT
		•				NASA-JSC



26Ju1/0856

8Ju1/0108 9Ju1/0026

53)10Ju1/1604

03Ju1/0708 04Ju1/0625

> 26Jun/2159 28Jun/1524 29Jun/0302

> > 4

25Jun/2247

62) 68)

28Ju]/

/1757

20Ju]/

0449

25Ju1/0942

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

instrument is configured for seismic network congruity (thermal control,	ON; component gain O db; and feedback loop filter IN). No significant	
k congruit	filter IN	period.
seismic networ	feedback loop	mic events were observed during this report period.
igured for	in Odb; and	served duri
trument is conf	; component gai	events were ob
The ins	AUTO ON	seismic
Passive seismic	experiment	

The LSM is ON and recording data. Science data from the Z-axis remained	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	head.
The LSM is	static thi	for the re	sensor head.
Lunar surface	magnetometer	experiment	

SMEAR 27).	
16 ALSEP,	
(Apo11o	
currently OFF	
The Active Seismic Experiment is	
Active seismic	experiment

Apollo 15 ALSEP

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

Central station Sunse

Sunset of the 61st lunation occurred at the Hadley Rille Site on 19 June. Transmitter A downlink signal strength was reported between -137.0 \pm 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

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

ments 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) Attempts to regain proper operation of the instrument through cool-down periods have December 1975. However, after a short period of near normal operation, the measureshown promise. Each operation after cool-down has indicated that the absolute and thermocouple temperature measurements have been near the measurements prior to on 22 June and will remain in STANDBY until the next lunar sunrise.

ting 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 thermo-couples. 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 The following data is provided for information. The instrument is presently operaaforementioned anomaly.

Apollo 15 ALSEP (continued)

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 \pm 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations

> Passive seismic experiment

filter, OUT; and component gain O 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 The instrument is ON and configured to thermal control, Auto ON; Feedback loop events were noted during the real-time period.

Active seismic

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

experiment

The instrument was commanded to OFF on 21 May 1976. Suprathermal ion

detector/cold cathode gauge

experiments

The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

environmental

experiment

Charged particle

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) commanded OFF (Octal 021) on 18 June and the DIREM ON (Octal 027) on 20 June the Dust Detector Experiment was commanded OFF (Octal 031). The PDR was during real-time support periods.

Passive seismic

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

The instrument is ON, in the normal gain mode, and recording solar wind plasma

spectrometer experiment Suprathermal ion Commanded OFF 3 May 1976.

uetector experiment Commanded OFF 14 June 1974.

Lunar surface magnetoneton

magne come ce experiment

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

APOLLO 15 ALSEP 1789 35596 229.7° 56.9w A11 OFF LSM & SWS OFF/HFE 2.4°F 124.6°F 7.7°C N/A	
APOLLO 14 ALSEP 1866 16147 208.6° 61.8w DSS-1 (10w) ON SIDE OFF/ASE STBY 28.6°F 124.1°F N/A N/A N/A OFF -21.9°C -62.5°F N/A	
APOLLO 12 ALSEP 2408 29670 202.6° 52.4w DSS-1 (10w) ON SIDE & LSM OFF 9.7°F 126.3°F OFF -13.9°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1289 34340 256.8° 66.9w 0N 0FF LACE & LSPE STBY 6.3°F -16.1°F -17.4°F 285.1°K 0ffscale LOW
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CGE Temp (DI-05) CCGE Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (DG-04)

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

	STEE STEEL	REMARKS		VEHICLE	TIME LOST
The state of the s	The second secon	And the second s	LOS 17/1125		A COLOR OF THE PROPERTY OF THE
17 JUNE	GDS	Station Problem	AOS 17/1243	A12	1 ^h 18 ^m
			LOS 17/2303		The second secon
17-18 JUNE	GWM/ACN	Higher Priority	AOS 18/0002	ALL	59 ^m
			LOS 18/0115	anuirpused.co	
18 JUNE	ACN	Higher Priority	AOS 18/0205	ALL	50 ^m
3.0 7118:27			LOS 19/0142	anny sight Plant	
19 JUNE	GWM/ACN	Higher Priority	AOS 19/0210	ALL	28 ^m
			LOS 22/0946	outernature and	-
22 JUNE	ACN	Station Problem	AOS 22/0950	A12	O4 ^m
			LOS	**************************************	
g. Den Direktyky vojavnet je drojektory stationie o koje videog da den jamen o beter dan obster e stade stationie			AOS	der Utäden Schausser der der der des gegenne der der der der der der der der der de	
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DAILY				rheedroth-riftshamh.				>		Andrew State of the Control of the C						NASA-JSC
PSE CALS DAILY	12/164	1400-1600 ALSEP 15 CYCLE SIDE				19/171	0900-1100 ALSEP 15	ALSEP 14) 			1 1	NO SUPPORT			NAS
	11/163	NO SUPPORT				18/170	0000-0100	0900-1100 ALSEP 17	HFE RBS ALSEP 16	C/S HTR ON LSM FLIP CAL	ALSEP 15 HFE ON	25/177	0900-1100 ALSEP 17 HFE RBS			ann årnd det er er en detta kan som i de de kan for år de er de, parken som for generalen er er er er de parken som er
FNTS	10/162	0245-0725 ALSEP 14 AOS SUPT CPLEE STBY	1800-2200 ALSEP 15 SIDE SUPT			17/169	0600- 1100 ALSEP 17	1500-1600				24/176	NO SUPPORT			
ALSEP SUPPORT SCHEDULE/EVENTS	191/60	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17	HFE RBS ALSEP 15 SIDE STBY			16/168	0900-1100 ALSEP 17		LSM FLIP CAL			23/175	<u>)800-1000</u> ALSEP 17 HFE RBS			
AL SEP SI	08/160	IGNAL	1400-1600			15/167	100 15	SIDE ON				22/174	<u>0900-1100</u> ALSEP 15 HFE STBY	•		
	07/159	0000-0200 ALSEP 12 C/S HTR 0FF PSE Z MTR 0FF	1400-1600 ALSEP 17 HFE RBS	ALSEP 16 LSM FLIP CAL	ALSEP 15 HFE OFF	14/166	100	LEAM UN HFE RBS	ALSEP 16 LSM FLIP CAL	ALSEP 15 CYCLE SIDE		21/173	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	
TIMES - CDI	JUN 06/158	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ALSEP 12			JUN 13/165	200	CYCLE SIDE				JUN 20/172	0900-1100			BEN-20

FUJ - SEWIT		ALSEP SI	SUPPORT SCHEDUL F/FVFNTS	SENSI		PSE CALS DAILY
=	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	161/60	10/192
0900-1100 ALSEP 15	ALSEP 17 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	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 A <u>LSEP 15</u> 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
BEN-20						NASA-JSC.

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 $106\pm8^\circ\text{K}$. 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period.	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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEP

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

Trans-Midnight of the 61st lunation occurred on 26 June at the Hadley Rille Site. Tra mitter A downlink signal strength was reported between -134.0 and -138.5 dbm **by** the tracking stations with 30-foot antennas. Central station

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. Passive seismic experiment

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. Suprathermal ion detector/cold cathode gauge experiments

This cool down period is another attempt to regain proper operation of the absolute 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. temperature measurement data.

experiment

Heat flow

Solar wind Commanded OFF June 1974.

spectrometer experiment Commanded OFF June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

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 ½ 2.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
Midnight at the DSS-1 (10 watts) -137.0 ± 2.0 dbm stations.
Central station

ity (Ref. Apollo	ismic events were	
network congrui	significant sei	
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.
Passive seismic	experiment	

1976.			
May			
21			
- on			
E			
t			
commandec			
was			
The instrument was commanded to OFF on 21 May 1976.			
The			
Suprathermal ion	detector/cold	cathode gauge	experiments

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	oltage to 2280 vdc, at which time the instrument will be commanded to	
The experim	and automat	in this con	voltage to	STANDBY.
Charged particle	lunar	environmental	experiment	

Apollo 12 ALSEP

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

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. Central station

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 realtime support of this instrument. Passive seismic experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma. data. experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector

experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

APOLLO 16 ALSEP	1532 21440 333.5° 64.1w (64.1w) DSS-1 (10w) ON ASE OFF 28.9°F 125.8°F -10.2°C N/A N/A N/A OFF OFF	dicate RTG angle during
APOLLO 15 ALSEP	1797 35644 321.9° 55.9w (56.7w) ALL OFF LSM & SWS OFF/HFE 1.1°F 124.3°F OFF OFF 7.7°C 106.4°K N/A N/A STBY	Values in parentheses indicate RTG outputs at a similar sun angle durthe previous lunation.
APOLLO 14 ALSEP	1874 16161 300.9° 61.5w (61.8w) DSS-1 (10w) ON SIDE OFF/ASE STBY 27.2°F 124.1°F N/A N/A OFF OFF -22.6°C -70.7°F	Vali outj the
APOLLO 12 ALSEP	2416 29690 294.8° 51.7w (52.4w) DSS-1 (10w) ON SIDE & LSM OFF 7.2°F 126.1°F OFF OFF OFF N/A N/A	APOLLO 17 ALSEP 1297 34497 349.2° 66.6w (67.3w) 0N 0FF LACE & LSPE STBY 12.7°F -16.1°F -20.8°F 285.5°K 0ffscale LOW 11.4°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
	·		LOS 24/0425		
24 JUNE	GWM/ACN	Station Problem	AOS 24/0433	ALL	08 ^m
			LOS 25/0100		
25 JUNE	GWM	Higher Priority	AOS 25/0145	ALL	45 ^m
			LOS 25/0418		
25 JUNE	GWI4/ACN	Higher Priority	AOS 25/0523	ALL	1 ^h 05 ^m
			LOS 26/0107		
26 JUNE	GDS/ULA	Higher Priority	AOS 26/0237	ALL	1 ^h 30 ^m
			LOS 26/0425	//-	1
26 JUNE	ULA/ACN	Higher Priority	AOS 26/0645	ALL	2 ^h 20 ^m
			LOS 26/1041		
26 JUNE	ACN/GDS	Higher Priority	AOS 26/1223	ALL	1 ^h 42 ^m
			LOS 27/0627	·	
27 JUNE	ORR/ACN	Higher Priority	AOS 27/0705	ALL	38 ^m
			LOS 27/1047		
27 JUNE	ACN7ROS	Higher Priority	AOS 27/1124	ALL	37 ^m
			LOS 27/1300		
27 JUNE	ROS/GDS	Higher Priority	AOS 27/1320	ALL	20 ^m
			LOS 28/0906		
28 JUNE	GWM/BDA	Higher Priority	AOS 28/1136	ALL	2 ^h 30 ^m
			LOS 28/1344		
28 JUNE	ACN/GDS	Higher Priority	AOS 28/1416	ALL	32 ^m
	·		LOS 29/0247		
29 JUNE	GDS	Station Problem	AOS 29/0249	ALL	o2 ^m
			LOS 29/0815		
29 JUNE	ORR/BDA	Higher Priority	AOS 29/1123	ALL	3 ^h 08 ^m
•			LOS 29/1234		
29 JUNE '	BDA/ROS	Higher Priority	AOS 29/1311	ALL	37 ^m
		,	LOS 30/0915		
30 JUNE	ORR/ACN	Higher Priority	AOS 30/1132	ALL	2 ^h 17 ^m
			LOS		
			AOS		
			LOS		
			AOS		
			LOS		
		••	AOS		

PSE CALS DAILY	12/164	1400-1600 ALSEP 15 CYCLE SIDE	19/171	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON	26/178	NO SUPPORT	NASA-JSC
	11/163	NO SUPPORT	18/170	0000-0100 0900-1100 ALSEP 17 HFE RBS ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 15 HFE ON	25/177	0900-1100 ALSEP 17 HFE RBS	
(ENTS	10/162	0245-0725 ALSEP 14 A0S SUPT CPLEE STBY 1800-2200 ALSEP 15 SIDE SUPT	17/169	0600- 1100 ALSEP 17 1500-1600	24/176	NO SUPPORT	
ALSEP SUPPORT SCHFINI E/EVENTS	191/60	1030-1230 ALSEP 16 LSM FLIP CAL ALSEP 17 HFE RBS ALSEP 15 SIDE STBY	16/168	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL 2000-2100	23/175	<u>3800-1000</u> <u>ALSEP 17</u> HFE RBS	
ALSEP SI	08/160	IGNAL	15/167	0900-1100 ALSEP 15 SIDE ON	22/174	d. >	4
	07/159	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	14/166	0900-1100 ALSEP 17 LEAM ON HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	21/173	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	
TIMES - CDT	JUN 06/158	0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12	JUN 13/165	1400-1600 ALSEP 15 CYCLE SIDE	JUN 20/172	0900-1100	BEN-20

TIMES - CDT		ALSEP SI	ALSEP SUPPORT SCHEDII EZEVENTS	ENTS		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 0FF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	161/60	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 0FF PSE Z MTR 0FF ALSEP 12 C/S HTR 0FF C/S HTR 0FF PSE Z MTR 0FF	1500-1730 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	<u>0900-1100</u>	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
BEN-20						NASA-JSC

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 $364\pm8^{\circ}K$. At a depth of 230 cm the subsurface temperatures were $256.7^{\circ}K$ at probe #1 and $257.0^{\circ}K$ 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-O4) 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN. No significant seismic events were noted during real-time support this report period.	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 engineer- ing data since deployment.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEP

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

Sunrise of the 62nd lunation occurred on 4 July 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. Central station

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. Passive seismic 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. Suprathermal ion

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 neasurement data. cathode gauge detector/cold

experiment

experiment

Heat flow

Commanded OFF June 1974. spectrometer Solar wind

Lunar surface experiment

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

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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 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 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 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-O7) 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

The experiment is OFF.

experiment

The instrument was commanded to OFF on 21 May 1976. Suprathermal ion

detector/cold

cathode gauge experiments

Charged particle The experiment is OFF.

lunar environmental

experiment

Apollo 12 ALSEP

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

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 O71) command. During real-time support the Y-motor was commanded OFF (octal O71) 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.
Passive seismic experiment

Solar wind	The instrument is ON, in the normal gain mode, and recording solar wind plasma
spectrometer	data.
experiment	

1976.		
May		
က		
OFF 3 May		
Commanded		
ion		
Suprathermal ion	detector	experiment

Lunar surface Commanded OFF 14 June 1974.
magnetometer
experiment

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was as follows:
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8 July
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Status

Status as of 1500 G.m.t., 8 July 19/6, TM POINT APOLI	1976, was as follows: APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-05) CCGE Temp (AI-04) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	2423 29812 26.1° 52.4w A11 OFF SIDE & LSM OFF 70.4°F 126.3°F 0FF 0FF 0FF N/A N/A	1881 16209 32.1° 61.5w A11 OFF SIDE, ASE & CPLEE OFF 80.0°F 125.2°F N/A OFF OFF OFF	1804 35774 53.2° 56.9w A11 OFF F LSM,SWS, & HFE OFF 130.5°F OFF OFF 0FF N/A N/A OFF	1539 21549 65.1° 63.6w A11 OFF ASE OFF 98.1°F 133.4°F 40.3°C N/A N/A N/A OFF
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)	APOLLO 17 ALSEP 1304 34638 80.3° 65.3% 0N 0F LACE & LSPE STBY 76.0°F 149.7°F 194.0°F 325.8°K 0ffscale LOW 76.1°F			

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

DATE The second control of the second contr	SITE	REMARKS	GMT	VEHICLE	TIME LOST
,			LOS 01/0652		ed debe vinely in common to be minimized memorina in the side of t
01 JULY	GWM	Higher Priority	AOS 01/0738	ALL	46 ^m
— 200 г. п.	\$	den makala Padalan - Malai P. Malai V. daparamadak dapangkan menganyang pangsanggan <u>di makabangan dapa</u>	LOS 01/1129		
01 JULY	GWM	Higher Priority	AOS 01/1320	ALL	51 ^m
The Particular and the control of th	A CONTRACTOR OF THE CONTRACTOR		LOS 06/1035		The state of the s
06 JULY	ORR/GWM	Higher Priority	AOS 06/1044	ALL	o9 ^m
an Talanda (Maria Caranda Maria Angara A Maria Angara Caranda (Maria Angara Angara Caranda (Maria Angara Caranda (Maria Angara Angara Caranda (Maria Angara Angara Caranda (Maria Angara	PACIFICATION AND PROPERTY OF THE PROPERTY OF T	один Ма же том (Мент об (Остобо 1979 г. тотор), повое простот в изумули рискурализму на однов в изотобывани на о	LOS 06/1700		
06 JULY	ACN/MAD	Higher Priority	AOS 06/1734	ALL	34 ^m
			LOS 07/2330		And the second s
07 JULY	ROS	Station Problem	AOS 07/2347	ALL	17 ^m
			LOS	об в вестория (-) в в се образования в в се образования в в се образования в се образования в образования в о	
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TIMES - CDT		ALSEP SI	ALSEP SUPPORT SCHEDIII E/EVENTS	ENTS		PSE CALS DAILY
1.	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 0FF TIMER RESET ALSEP 15 TIMER RESET
JUL 04/186	05/187	06/188	07/189	08/190	191/60	10/192
0900-1100 ALSEP 15	O900-1100 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	O900-1100 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
BEN-20					Annual services and services and services and services are services and services and services are services and services and services are services and services are services and services are services and services are services are services and services are services ar	NASA-JSC

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

on	4
occurred	
Site	200
Noon at the Descartes Site occurred on .	+114110
the	+
at	
Noon	10
station	
Central station	

Passive seismic

AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH and is expected to return onscale 18 July. No significant seismic events were noted during real-time support this report period. The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument

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

Noon of the 62nd lunation occurred on 11 July at the Hadley Rille Site. Transmitter A downlink signal strength of -137.0 \pm 3.0 dbm is reported from transmitter A by the tracking stations with 30-foot antennas. Central station

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. Passive seismic 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 SIANDBY (Octal 053) through the Goldstone Tracking Station.

Suprathermal ion

detector/cold cathode gauge The HFE is OFF. It will remain OFF until just prior to sunset on 19 July when it will be turned back 0N. This cool down period is to attempt to regain proper operation of the absolute temperature measurement data.

Commanded OFF June 1974. spectrometer Solar wind

Commanded OFF June 1974. Lunar surface magnetometer

experiment

experiment

Heat flow

experiment

Apollo 14 ALSEP

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

Central station

+1 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 in reserve power and temperatures. The additional data is necessary for fur-Seismic and Charged Particle Lunar Environmental Experiments were commanded stations. On 9 July, a trouble shooting test was conducted to attempt to evaluate the AOS/LOSs previously experienced by this station. The Active 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 ther analysis into this problem.

Passive seismic experiment

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 The instrument is ON and configured for seismic network congruity (Ref. Apollo time support period.

Active seismic

The experiment was commanded to STANDBY 9 July.

experiment

The instrument was commanded to OFF on 21 May 1976.

Suprathermal ion cathode gauge detector/cold experiments The experiment was commanded to STANDBY 9 July, Charged particle

environmental Junar

experiment

Apollo 12 ALSEP

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

ion
stati
Central

Uncaged/OT status to OT. At 1429 G.m.t., 14 July, the central station was commanded back to PCV 1 which returned the PSE to the short period calibration OFF and the 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 Incaged/OI status to Uncaged, however the Suprathermal Ion Detector (SIDE) went to support, 12 July, and the beginning of real time support on 14 July which caused 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 \pm 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 STANDBY Power ON. At 1436 G.m.t., 14 July, the SIDE was commanded OFF.

Passive seismic experiment

No significant seismic 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 sei 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

Suprathermal ion

n Commanded OFF 3 May 1976.

detector experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Status as of 1600 G.m.t., 15 July 1976,	ly 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	A11 OFF		All OFF
Experiment Status	SIDE & LSM OFF	SIDE OFF, ASE-CPLEE		ASE OFF
Avg Thermal Plate Temp	93.7°F	102.5°F STBY		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)	0FF	0FF	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	0FF	0FF
TM POINT	APOLLO 17 ALSEP			

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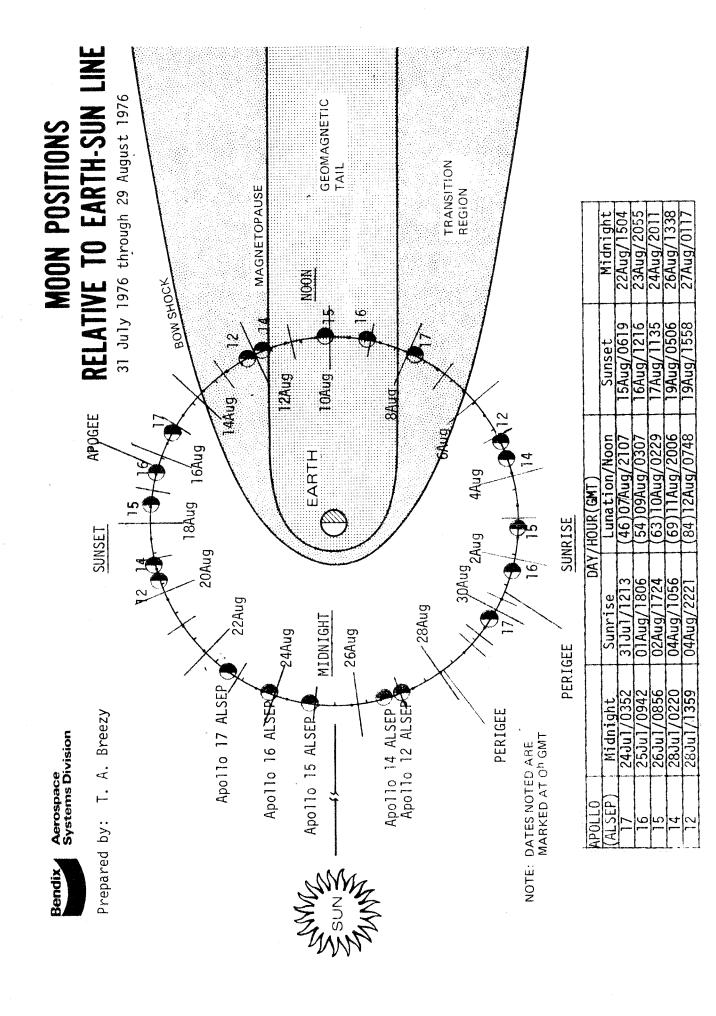
	ON OFF LACE & LSPE STBY		299.5°K Offscale LOW 77.5°F
Total Days of Operation	APM Status (AB-13) Power Dump Status (AB-14) Experiment Status	Avg Thermal Plate Temp	HFE Temp Ref 1 (DH-13)
Total Commands to Date		LACE Temp (AM-41)	LSG Temp (DG-04)
Sun Angle		LEAM Temp (AJ-11)	LSP Temp (AP-01)

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

DATE TO THE PROPERTY OF THE PR	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 08/1520		
08 JULY	ORR/ACN	Higher Priority	AOS 08/1623	ALL	1 ^h 03 ^m
			LOS 08/1955		
08 JULY	MAD/AGO	Higher Priority	AOS 08/2020	ALL	25 ^m
			LOS 08/2136	and the state of t	
08 JULY	AGO	Station Problem	AOS 08/2152	ALL	16 ^m
			LOS 09/0114	muosidine) viid	
09 JULY	AGO	Station Problem	AOS 09/0125	ALL	11 ^m
			LOS 09/1410		
09 JULY	HAW/GWM	Higher Priority	AOS 09/1422	ALL	12 ^m
			LOS 10/1912		
10 JULY	GWM/MAD	Schedule	AOS 10/1915	ALL	03 ^m
			LOS 11/2008	·	
11 JULY	GWM/ACN	Higher Priority	AOS 11/2021	ALL	13 ^m
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PSE CALS DAILY	03/185	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET	10/192	0000-1600 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE	17/199	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON	NACAICC
	02/184	NO SUPPORT	161/60	1300–2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY CPLEE STBY ASE STBY	16/198	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	en des constantes de des las populações de la populações de la composiçõe de la constante de la constante de l
VENTS	JUL 01/183	ALSEP 17	08/190	0900-1100	15/197	0900-1100	
SEP SUPPORT SCHEDULE/EYENTS	30/182	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	07/189	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE 0FF ASE 0FF	14/196	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	
ALSEP SI	29/181	NO SUPPORT	06/188	1000-1200 ALSEP 14 C/S HTR OFF PSE Z MTR OFF 2000-2100 ALSEP 12 C/S HTR OFF C/S HTR OFF	13/195	0900-0930 1200-1300	
	28/180	0900-1100 ALSEP 17 HFE RBS	05/187	ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 HFE OFF	12/194	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	
TIMES - CDT	JUN 27/179	NO SUPPORT	JUL 04/186	0900-1100 ALSEP 15	JUL 11/193	0900-1100 ALSEP 15 CYCLE SIDE	מבא_סח

	VII.Y				Character 1	manage and an extra	and the second s	-3SC
	PSE CALS DAILY	24/206	NO SUPPORT	31/213	NO SUPPORT ALSEP 17	07/220	0900-1100 ALSEP 15 SIDE STBY	NASA-JSC
		23/205	0900-1100 ALSEP 17 HFE RBS	30/212	0900-1100 ALSEP 17 HFE RBS	06/219	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	en der
	ENTS	22/204	0900-1100	29/211	NO SUPPORT	05/218	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	
•	ALSEP SUPPORT SCHEDII E/EVENTS	21/203	0300-0700 ALSEP 17 HFE RBS ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	28/210	0900-1100 ALSEP 17 HFE RBS	04/217	0900-1100 ALSEP 14 C/S HTR OFF PSE HTR OFF ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	
	ALSEP SU	20/202	N LE	27/209	NO SUPPORT	03/216	0900-1100 ALSEP 17 LEAM OFF	
		19/201	000.35 SS 0N	26/208	0900-1100 ALSEP 17 HFE RBS	02/215	0900-1100 ALSEP 15 ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	
	TIMES - CDI	JUL 18/200	ON 0	JUL 25/207	NO SUPPORT	AUG 01/214	NO SUPPORT ALSEP 16	BEN-20



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 $110\pm8^{\circ}\text{K}$. 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-O4) 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 STAND-BY 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

set at the Descartes Site on 18-hour timer output pulses rational plan initiated 6 Miter B, is reported between cking stations. The DSS-1 n.	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.	
~ ~ ~ ~ ~	uset at the Descartes Site of 18-hour timer output pulses trational plan initiated 6 Miter B, is reported between ocking stations. The DSS-1 on.	

(thermal control,	. No significant	
The instrument is configured for seismic network congruity (thermal control,	AUTO ON; component gain O db; and feedback loop filter IN). No significant	seismic events were observed during this report period.
Passive seismic	experiment	

p.	tinued	Z-axis	
emajne	discon	of the	
cience data from the Z-axis	ibration sequences have been	t due to the low temperature	
ata. So	lip call	ar night	
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.
Lunar surface	magnetometer	experiment	

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 \pm 3.5 dbm by the tracking stations with 30-foot antennas.

Passive seismic

feedback loop filter OUT from 0515 to 1506 G.m.t. on 17 July. No significant seismic events were observed during this report period. 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

Suprathermal ion detector/cold cathode gauge

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

experiments

Each operation after cool-down has indicated that the absoprior 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. Attempts to regain proper operation of the instrument through cool-down periods lute and thermocouple temperature measurements have been near the measurements The absolute and thermocouple measurements have been normal since 19 July. bridge survey was performed on 21 July and all readings appeared normal. have shown promise.

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 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 22 251.2°K at its lowermost point.

> Solar wind spectrometer experiment

Commanded OFF 14 June 1974.

Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

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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 O 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

ported 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 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 re-The experiment is ON and operating in the manual mode at the -35 vdc range present operational mode.

Apollo 12 ALSEP

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

uly. A signal strength between has reported by the 30-foot antenna	cing stations. The DSS-1 (10 watt) heater was commanded ON for lunar night ation on 21 July.
21 J	heat
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) operation on 21 July.
Central station	

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. Passive seismic experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma data. spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
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19 JULY	ACN	Higher Priority	AOS 19/0253	ALL	38 ^m
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20 JULY	GWM/ACN	Higher Priority	AOS 20/0302	ALL	16 ^m
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21 JULY	ACN	Higher Priority	AOS 21/0533	ALL	53 ^m
			LOS 22/0456		
22 JULY	ACN	Higher Priority	AOS 22/0541	ALL	45 ^m
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PSE CALS DAILY	03/185	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET	10/192	0000-1600 ALSEP 17 LEAM SUPPORT ALSEP 15 CYCLE SIDE	17/199	0000-0200 1000-1200 2000-2200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	NASA-JSC
	02/184	NO SUPPORT	161/60	1300-2400 ALSEP 17 HFE RBS LEAM SUPPORT ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE STBY ALSEP 14 CPLEE STBY ASE STRY	16/198	0000-0200 1400-1600 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	
VENTS	JUL 01/183	NO SUPPORT ALSEP 17	08/190	0900-1100	15/197	0900-1100	
SUPPORT SCHFFULE/EVENTS	30/182	0900-1100 ALSEP 17 HFE RBS 1800-2300 SCE VAL TEST	07/189	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE OFF ASE OFF	14/196	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 SIDE ON	
ALSEP SI	29/181	NO SUPPORT	06/188	1000-1200 ALSEP 14 C/S HTR OFF 2000-2100 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	13/195	0900-0930 1200-1300	
	28/180	0900-1100 ALSEP 17 HFE RBS	05/187	0900-1100 ALSEP 14 ALSEP 17 HFE RBS ALSEP 16 FLIP CAL ALSEP 15 HFE 0FF	12/194	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	
TIMES - C'T	JUN 27/179	NO SUPPORT	JUL 04/186	0900-1100 ALSEP 15	JUL 11/193	0900-1100 ALSEP 15 CYCLE SIDE	BEN-20

DAILY		And the second s						NASA-JSC
PSE CALS	24/206	NO SUPPORT		31/213	NO SUPPORT ALSEP 17	07/220	0900-1100 ALSEP 15 SIDE STBY	NAS
	23/205	0900-1100 ALSEP 17 nFE RBS		30/212	0900-1100 ALSEP 17 HFE RBS	06/219	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	reference in responsibility of educations of the college of the co
ENTS	22/204	0000-1100		29/211	NO SUPPORT	05/218	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF 1100-1200	
SUPPORT SCHEDILLE/EVENTS	21/203	0300-0700 ALSEP 17 & 15 HFE RBS	ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600	28/210	0900-1100 ALSEP 17 HFE RBS	04/217	0900-1100 ALSEP 14 C/S HTR OFF ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	
ALSEP SI	20/202	0900-1100 ALSEP 14 C/S AIR GR	ALSEP 12	. 27/209	NO SUPPORT	03/216	0900-1100 ALSEP 17 LEAM OFF	
-	19/201	0900-1100 ALSEP 17	ALSEP 14 CPLEE ON ALSEP 15 HFE ON	26/208	0900-1100 ALSEP 17 HFE RBS	02/215	O900-1100 ALSEP 15 ALSEP 17 ALSEP 17 HFE RBS ALSEP 16 C/S HTR OFF TIMER RST	
TIMES - CDT	JUL 18/200	0900-1100 ALSEP 15		JUL 25/207	NO SUPPORT	AUG 01/214	NO SUPPORT ALSEP 16	BEN-20

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 $107 \pm 8^{\circ}$ 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

Midnight at the Descartes Site occurred on 25 July for the 53rd lunation.	ine is-nour timer output puises continue to be innibited per the agreed opera- tional plan initiated 6 May 1972. A signal strength, from transmitter B, of	-135.5 ½ 2.5 dbm was reported by the 20-foot antenna tracking stations. The DSS-1	(10 watt) Heater is ON for lunar night operation.
Central station			

y (thermal control, AUTO	o significant seismic	
The instrument is configured for seismic network congruity (thermal control, AUTO	ON; component gain O db; and feedback loop filter IN). No significant seismic	events were observed during this report period.
Passive seismic	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	
The LSM is	this repor	remainder	head.
Lunar surface	magnetometer	experiment	

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

Apollo 15 ALSEP

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

Central station

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 normal with the exception of the transmitter B parameters. As the average thermal (ATP) temperature was $-13.64^{\circ}F$ at the time, it was believed that the anomaly was maintain decom lock. The signal strength from transmitter A was -148.0 dbm at the Midnight of the 62nd lunation occurred on 26 July at the Hadley Rille Site. During The engineering and science data were not normal and the transmitter B parameters were still offscale LOW. Processor I was reselected and all data was After the change to transmitter B, the signal strength increased to -142.0 current parameters for transmitter B were all reading officale LOW (octal reading caused by low temperatures in the central station. The HFE was then commanded to Detailed analysis has shown that proces-At the beginning of real-time support on 28 July, the temperature, RF power, and 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 sor X is reading one (1) PCM count low which accounts for the data not appearing 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 STANDBY, resulting in a 5 watt increase in the reserve power, in an attempt to 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 per-+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. Further analysis indicates that the F-08 protective fuse, providing dom and a gain of one (1) watt in reserve power was noted. place more heat in the central station. processor I. time.

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.

Apollo 15 ALSEP (continued)

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

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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-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 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. Atfigured to the present operational mode.

Heat flow experiment

The instrument is currently in STANDBY. The lunar surface temperature was $84.7^{\circ}K$ on 28 July as indicated by the cable thermocouples. The subsurface temperature was $252.6^{\circ}K$ 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

king
The th of
at the Apollo 14 site occurred on 28 July for the 68th lunation. The Owatts) heater is ON for lunar night operation. A signal strength of 3.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking.
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28 July . ght opera reported l
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Midnight a DSS-1 (10 -137.0 ± 3 stations.
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strument is ON and configured for seismic network conbruity (Ref. Apollo EP), except feedback loop filter OUT. No significant seismic events were during the real time support periods.
The instrument is ON and configured for seismi 16 ALSEP), except feedback loop filter OUT. N noted during the real time support periods.
Passive seismic experiment

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SMEAR 8	
o 14 ALSEP, SMEAR 86)	
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Y (Apollo	
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Active seismic 1	eriment
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The instrument was commanded to OFF on 21 May 1976.	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.
Suprathermal ion	Charged particle
detector/cold	lunar
cathode gauge	environmental
experiments	experiment

Apollo 12 ALSEP

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

Central station

Station. The 7 watt PDR was turned OFF (Octal 021) by Mode I command from the 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 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

command (PSE Thermal Control Mode to Auto OFF, Octal 076) as observed by the Gold-stone 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 0N to maximize heating in the instrument during lunar 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 night. No significant seismic events were noted during the real-time support of The experiment received a spurious functional this instrument.

> spectrometer Solar wind

The instrument is ON, in the normal gain mode, and recording solar plasma data.

experiment

Commanded OFF 3 May 1976. Suprathermal ion

experiment detector

Commanded OFF 14 June 1974.

Lunar surface magnetometer

experiment

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

APOLLO 16 ALSEP 1559 21805 310.0° 63.6w (64.1w) DSS-1 (10w) 0N ASE OFF 28.8°F 125.8°F -10.2°C N/A N/A N/A N/A N/A OFF	ate RTG gle during
APOLLO 15 ALSEP 1824 36171 298.1° 55.4w (55.9w) ALL OFF LSM & SWS OFF/HFE -13.6°F STBY 124.6°F OFF OFF OFF N/A N/A N/A 283.7°K	Values in parentheses indicate outputs at a similar sun angle the previous lunation.
APOLLO 14 ALSEP 1901 16320 277.0° 61.0w (61.5ω) DSS-1 (10w) 0N SIDE OFF/ASE STBY 26.5°F 124.1°F N/A N/A N/A OFF OFF -22.7°C -70.7°F	Values output the pr
APOLLO 12 ALSEP 2443 29975 271.0° 51.3w (51.7w) DSS-1 (10w) ON SIDE & LSM OFF 6.5°F OFF OFF -15.6°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1324 35050 325.2° 66.6w (66.6w) 0N 0F LACE & LSPE STBY -0.1°F -16.1°F -20.8°F 284.9°K 0ffscale LOW 0.3°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CCGE Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 23/0516	regionalistic de la recipion de la r	
23 JULY	GWM/ACN	Higher Priority	AOS 23/0603	ALL	47 ^m
			LOS 23/0935		
23 JULY	ACN/AGO	Higher Priority	AOS 23/0941	ALL	06 ^m
			LOS 24/0600		
24 JULY	GWM/ACN	Higher Priority	AOS 2 4/0609	ALL	o9 ^m
			LOS 25/0044		
25 JULY	GWM	Station Problem	AOS 25/0055	ALL	11 ^m
27 JULY	GDS	Station Problem	LOS 27/2304		
		Judion Fronten	AOS 27/2312	ALL	08 ^m
00 3111 14			LOS 28/1020		
28 JULY	ACN	Higher Priority	AOS 28/1106	ALL	46 ^m
			LOS		
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TIMES - CDI		ALSEP SI	SUPPORT SCHEDULE/EYENTS	ENTS		PSE CALS DATLY
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	0900-1100 ALSEP 14 C/S HTR ON	0300-0700 ALSEP 17 & 15 HFE RBS	0900-1100	0900-1100 ALSEP 17 & 15 HFE RBS	NO SUPPORT
	ALSEP 14 CPLEE ON ALSEP 15 HFE ON	ALSEP 12	ALSEP 12 C/S HTR ON PSE Z MTR ON 1500-1600			•
JUL 25/207	26/208	27/209	28/210	29/211	30/212	31/213
S	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	ALSEP 17
AUG 01/214	02/215	03/216	04/217	05/218	06/219	07/220
NO SUPPORT ALSEP 16	ALSEP 15 ALSEP 15 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 1 ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	0000-0200 ALSEP 12 C/S HTR 0FF PSE Z MTR 0FF 1100-1200	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	0900-1100 ALSEP 15 SIDE STBY
BEN-20						NASA-JSC

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 $327 \pm 8^{\circ}$ 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-O4) 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

ion 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.		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.	ic The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEP

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

Central station

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 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. engineering data appeared more normal, and Apollo 12, 14, and 16 ALSEPs were operating in Data Processor I also. No difficulty has been experienced since 10 April Sunrise of the 63rd lunation occurred on 2 August at the Hadley Rille Site. Trans mitter B downlink signal strength of -136.5 \pm 4.5 dbm is reported from transmitter B by the tracking stations with 30-foot antennas. The central station experienced with the operation or data received.

Passive seismic experiment

timer outputs. No significant seismic events were observed during this report period. 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

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.

leat flow experiment

down period is a further attempt to regain proper operation of the absolute temperature 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 measurement data.

Apollo 15 ALSEP (continued)

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

Commanded OFF June 1974. Solar wind spectrometer experiment

Commanded OFF June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

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

The	0 £	track-	
ugust.	trength	antenna	
ise of the 69th lunation at the Apollo 14 site occurred on 4 August.	l (10 watt) heater is OFF for lunar day operation. A signal strength of	.5 ± 4.5 dbm, from transmitter B, was reported by the 30-foot antenna track-	
nation at the Apo	is OFF for lunal	transmitter B, v	
Sunrise of the 69th lun	DSS-1 (10 watt) heater	-138.5 ± 4.5 dbm, from	ing stations.
Central station			

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 sen-	sor temperature (DL-07) approaches 127.0°F at which time it will be commanded to	ed OFF. No significant seismic events were noted during real time support	Spo
The instr ALSEP), e	sor tempe	Forced OF	nerinda
Passive seismic experiment			

SMEAR 86).	1976.
ALSEP,	l May
4	.2
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(A	ţ
STANDBY	commanded
·L	15 0
-6-	. Wê
The experiment is in STANDBY (Apollo 14 ALSEP, SMEAR 86).	The instrument was commanded to OFF on 21 May 1976.
ic	ion
Active seismic experiment	Suprathermal ion

The instrument was commanded to OFF on 21 May 1976.	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.
Suprathermal ion	Charged particle
detector/cold	lunar
cathode gauge	environmental
experiments	experiment

Apollo 12 ALSEP

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

-137.0 ± 4.0 dbm, from transmitter B, is reported by the 30-foot antenna track-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 ing stations. Central station

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. Passive seismic experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector

experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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

APOLLO 16 ALSEP	1567 21874 42.7° 63.6w ALL OFF ASE OFF 85.5°F 127.3°F 36.4°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1832 36287 30.8° 56.2w ALL OFF LSM,SWS,& HFE OFF 76.9°F 126.0°F 0FF 0FF 62.5°C 339.4°K N/A N/A 0FF	
APOLLO 14 ALSEP	1909 16336 9.8° 61.0w ALL OFF SIDE OFF/ASE STBY 60:2°F 124.2°F N/A N/A OFF OFF 7.5°C -26.0°C	
APOLLO 12 ALSEP	2451 30007 3.8° 51.7w ALL OFF SIDE & LSM OFF 28.2°F 126.3°F OFF OFF N/A N/A N/A	APOLLO 17 ALSEP 1332 35244 57.9° 64.9w 0N 0FF LACE & LSPE STBY 68.0°F 137.3°F 200.0°F 320.4°K 0ffscale LOW 67.4°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) LEAM Temp (AJ-11) LSG Temp (BG-04) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GirlT	VEHICLE	TIME LOST
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02 AUGUST	GWM/ACN	Higher Priority	AOS 02/1233	ALL	37 ^m
			LOS 02/1328		
02 AUGUST	ACN	Higher Priority	AOS 02/1351	ALL	23 ^m
			LOS 03/2046		
03 AUGUST	ACN	Station Problem	AOS 03/2048	ALL	o2 ^m
			LOS 04/1239		
04 AUGUST	ORR	Higher Priority	AOS 04/1244	ALL	05 ^m
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	23/205	0900-1100 ALSEP 17 & 15 HFE RBS		30/212	0900-1100 ALSEP 17 HFE RBS		06/219	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 14 CPLEE STBY	
ENTS	22/204	0900-1100		29/211	1000-1100. ALSEP 1 3 SPCL SPT		05/218	0000-0200 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF 1100-1200	
SUPPORT SCHEDULE/EVENTS	21/203	0300-0700 ALSEP 17 & 15 HFE RBS ALSEP 12 C/S HTR ON	PSE Z MTR ON 1500-1600	28/210	0900-1100 ALSEP 17 HFE RBS ALSEP 15	HFE STBY	04/217	0900-1100 ALSEP 14 ALSEP 12 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	
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TIMES - CDT	JUL 18/200	0900-1100 ALSEP 15		JUL 25/207	NO SUPPORT		AUG 01/214	16 \\ 16 \\	BEN-20

TIMES - CDI	A THE STREET, AND ASSESSMENT OF THE STREET,	ALSEP SI	SYPPORT SCHEDILLE/EYENTS	ENIS		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	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS	0900-1100
	ALSEP 16 FLIP CAL		ALSEP 16 LSM FLIP CAL		ALSEP 16 LSM FLIP CAL	
	ALSEP 15 CYCLE SIDE		ALSEP 15 CYCLE SIDE		ALSEP 15 SIDE ON	
AUG 15/228	16/229	17/230	18/231	19/232	20/233	21/234
0000-0100 ALSEP 17 1300-1400	0900-1100 ALSEP 16 C/S HTR ON LSM FLIP CAL	0900-1100 ALSEP 15	0900-1100 ALSEP 17 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON	0900-1100 ALSEP 17 HFE RBS	0900-1100
2300-2400	ALSEP 17 HFE RBS ALSEP 14 PSE HTR ON			ALSEP 12 C/S HTR ON PSE Z MTR ON		
AUG 22/235	23/236	24/237	25/238	26/239	27/240	28/241
NO SUPPORT	0900-1100 ALSEP 17 HFE RBS		0900-1100 ALSEP 17 HFE RBS			NO SUPPORT
BEN-20	:					NASA-JSC

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-O4) 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH and is expected to return onscale 16 August. No significant seismic events were noted during real-time support this report period.	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 ¥erified by the experiment engineering data since deployment.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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.

eing cycled from STAND- an internal temperature he instrument is operated voltages ON. The CCGE
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.
The instrument is in STANDBY. The expe BY to ON during real-time support perio of 85°C (Apollo 15 ALSEP, SMEAR 47). D in the Reset SIDE Frame Counter at 39 w high voltage (+ 4.5 K vdc) remains OFF.
Suprathermal ion detector/cold cathode gauge experiments

The HFE	is OF	OFF. I	t wil	1 rem	ain C	FF ur	ıtil j	ust pr	rior	ಭ	sunset o	L	It will remain OFF until just prior to sunset on 16 August when	
it will	oe tu	rned	back	No	This	cool	down	perioc	is is	to	attempt	to	turned back ON. This cool down period is to attempt to regain proper	
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magnetometer				
experiment				

Apollo 14 ALSEP

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

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.	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.
Central station	Passive 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.
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The instrument was commanded to OFF on 21 May 1976.	The experiment was commanded to STANDBY 9 July.
	
Suprathermal ion detector/cold cathode gauge experiments	Charged particle lunar environmental experiment

Apollo 12 ALSEP

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

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. Central station

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. Passive seismic

experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Commanded OFF 3 May 1976. Suprathermal ion detector

experiment

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

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

APOLLO 16 ALSEP	1574 21974 133.1° 63.6w ALL OFF ASE OFF 92.9°F Offscale HIGH 38.3°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1839 36381 121.3° 56.2w ALL OFF LSM,SWS,&HFE OFF/ 107.9°F SIDE STBY OFF STBY STBY N/A N/A OFF	
APOLLO 14 ALSEP	1916 16491 100.1° 61.5w ALL OFF SIDE OFF/ASE & CPLEE 109.1°F N/A N/A N/A OFF OFF STBY 78.8°C	
APOLLO 12 ALSEP	2458 30091 94.2° 52.1w ALL OFF SIDE & LSM OFF 91.6°F Offscale HIGH OFF OFF N/A N/A N/A	APOLLO 17 ALSEP 1339 35363 148.3° 64.9w 0N 0F LACE & LSPE STBY 63.5°F 124.7°F 192.5°F 308.1°K 0ffscale LOW 64.0°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref I (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 09/0738		
09 AUGUST	MIL	Station Problem	AOS 09/0743	A-17	05 ^m
			LOS 10/0648		
10 AUGUST	MIL	Station Problem	AOS 10/0650	ALL	o2 ^m
			LOS 11/2030		
11 AUGUST	ORR/ACN	Higher Priority	AOS 11/2050	ALL	20 ^m
			LOS 11/2050		
11 AUGUST	ACN	Station Problem	AOS 11/2055	A-17	O5 ^m
			LOS 11/2238		
11 AUGUST	ACN	Higher Priority	AOS 11/2325	ALL	47 ^m
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19/20]		20/202	ALSEP SUPPORT SCHEDULE/EVENTS	22/204	23/205	
1000-1200	C1 1		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
26/208 27/209	27/209		28/210	29/211	30/212	31/213
0900-1100 ALSEP 17 & 15 HFE RBS	SUPPORT		0900-1100 ALSEP 17 HFE RBS ALSEP 15 HFE RBS HFE STBY	1000-1100 ALSEP 1 5 SPCL SPT	0900-1100 ALSEP 17 HFE RBS	ALSEP 17
02/215 03/216	03/216		04/217	05/218	06/219	07/220
0900-1100 ALSEP 15 ALSEP 15 ALSEP 15 ALSEP 17 HFE 0FF ALSEP 16 C/S HTR 0FF TIMER RST	0900-1100 ALSEP 15 HFE OFF	Producti alfinia estantica de ambienta de la como de la composició de anticidad estante en compositores el porque de	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
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TIMES - CDT		. ALSEP SI	ALSEP SUPPORT SCHEDIII E/EVENTS	ENTS	e en	PSE CALS DAILY
3/5	09/222	10/223	11/224	12/225	13/226	14/227
1600-2000 ALSEP 15 SIDE SUPPORT	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS	0900-1100 ALSEP 15 CYCLE SIDE	0900-1100 ALSEP 17 HFE RBS	0900-1100
	ALSEP 16 LSH FLIP CAL		ALSEP 16 LŞM FLIP CAL		ALSEP 16 LSM FLIP CAL	
	ALSEP 15 CYCLE SIDE		ALSEP 15 CYCLE SIDE		ALSEP 15 SIDE ON	
AUG 15/228	16/229	17/230	18/231	19/232	20/233	21/234
0000-0100 ALSEP 17	0900-1100 ALSEP 16 C/S HTR ON	0900-1100 ALSEP 15	0900-1100 ALSEP 17 & 15 HFE RBS	2000-2400 ALSEP 14 C/S HTR ON	0900-1100 ALSEP 17 & 15 HFE RBS	0000-1100
2300-2400	LSM FLIP CAL ALSEP 17 HFE RBS		ALSEP 14 CPLEE ON	ALSEP 12 C/S HTR ON		
	ALSEP 14 PSE HTR ON	,		PSE Z MTR ON		
	ALSEP 15 HFE ON					
AUG 22/235	23/236	24/237	25/238	26/239	27/240	28/241
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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 ± 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

tation 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.	eismic The instrument is configured for seismic network congruity (thermal contro int AUTO ON; component gain O db; and feedback loop filter IN). No significa
Central station	Passive seismic experiment

ngruity (thermal control,	ter IN). No significant	iod.	
The instrument is configured for seismic network congruity (thermal control,	AUTO ON; component gain O db; and feedback loop filter IN).	seismic events were observed during this report period.	
ive seismic	eriment		

The LSM is ON and recording data. Science data from the Z-axis remained	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	
The LSM is ON and red	static this report po	for the remainder of	sensor head.
Lunar surface	magnetometer	experiment	

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ic Experiment is cu	
The Active Seismic	
Active seismic	experiment

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 \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 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

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 Each operation after cool-down has indicated that the abso-Attempts to regain proper operation of the instrument through cool-down periods prior to December 1975. The instrument was operated in STANDBY from 28 July to have shown promise. Each operation after cool-down has indicated that the absolute and thermocouple temperature measurements have been near the measurements survey was performed and all readings appeared normal.

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 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 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

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 ½ 7.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.	The instrument is ON and configured to thermal control, Auto ON; Feedback loop filter, OUT; and component gain O 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.	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).	The instrument was commanded to OFF on 21 May 1976.
Central station	Passive seismic experiment	Active seismic experiment	Suprathermal ion detector/cold cathode gauge experiments

The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Charged particle lunar

environmental experiment

Apollo 12 ALSEP

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

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.
The instrument i except the short mance Summary Re returned onscale mize heating in were noted durir
Passive seismic experiment

in the normal gain mode, and recording solar wind plasma		
gain mode, ar		
n the normal		
The instrument is ON, i	data.	
Solar wind	spectrometer	experiment

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Commanded (
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Suprathermal	detector	experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

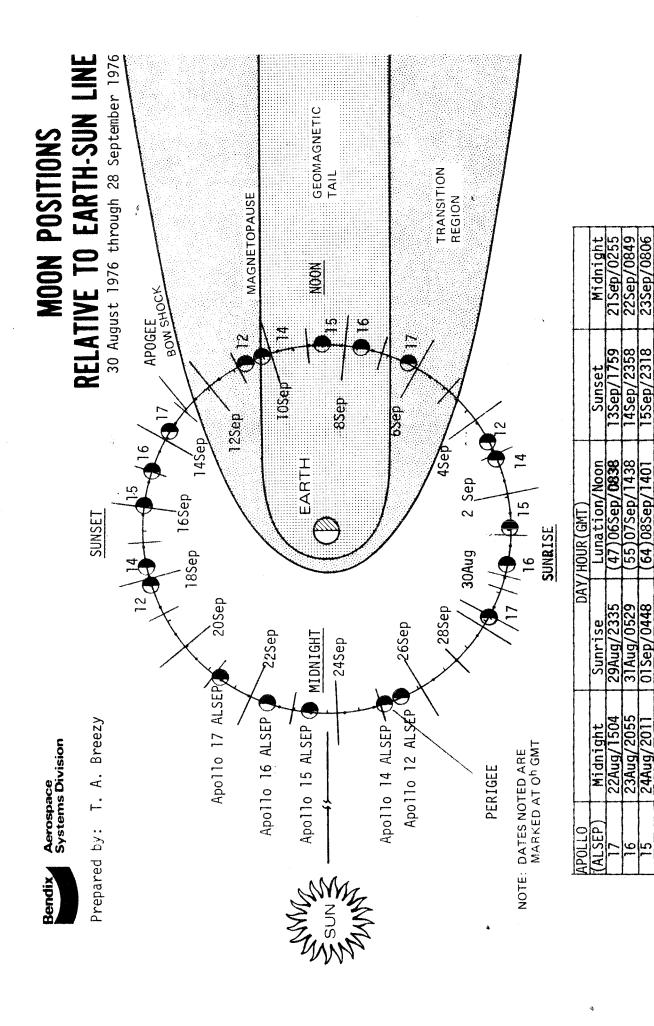
Status as of 1600 G.m.t., 18 August 1976, was as follows:

APOLLO 16 ALSEP	1580 22088 206.5° 64.1w DSS-1 (10w) ON ASE OFF 'Y 30.4°F 125.9°F -8.9°C N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP	1845 36551 194.5° 55.4w ALL OFF LSM & SWS OFF/SIDE -8.9°F 124.7°F OFF OFF 7.7°C 123.4°K N/A N/A 285.1°K	
APOLLO 14 ALSEP	1922 16429 173.2° 62.0w ALL OFF SIDE OFF/ASE STBY 56.1°F 125.5°F N/A N/A OFF OFF 0.18°C 65.6°C	
APOLLO 12 ALSEP	2464 30137 167.8° 52.1w ALL OFF SIDE & LSM OFF 61.7°F 136.6°F 0FF 0FF N/A N/A	APOLLO 17 ALSEP 1345 35437 221.6° 66.8w 0N 0FF LACE & LSG STBY 15.2°F -16.1°F -58.0°F 284.6°K STBY 20.1°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-05) CCGE Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 12/2244		
12 AUGUST	ACN	Higher Priority	AOS 12/2334	ALL	50 ^m
			LOS 13/1901		,
13 AUGUST	HAW/ORR	Higher Priority	AOS 13/1950	ALL	49 ^m
And the state of t	.5		LOS 13/2303		
13 AUGUST	GWM/ACN	Higher Priority	AOS 13/2337	ALL	34 ^m
	·		LOS 16/0220		-
16 AUGUST	ACN/MIL	Higher Priority	AOS 16/0340	ALL	1 ^h 20 ^m
			LOS 17/0336		
17 AUGUST	ACN/MIL	Higher Priority	AOS 17/0408	ALL	32 ^m
			LOS 17/2230		
17 AUGUST	GWM	Higher Priority	AOS 17/2319	ALL	49 ^m
			LOS 18/0024		
18 AUGUST	GWM	Station Problem	A0S 18/0028	A17	O4 ^m
			LOS 18/0303		
18 AUGUST	ACN	Higher Priority	AOS 18/0345	ALL	42 ^m
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PSE CALS DATLY	14/227	0900-1100			21/234	0900-1100	28/241 NO SUPPORT	NASA-JSC
	13/226	0900-1100 ALSEP 17 HFE RBS	ALSEP 16 LSM FLIP CAL	ALSEP 15. SIDE ON	20/233	0900-1100 ALSEP 15 HFE RBS	27/240 0900-1100 ALSEP 15 HFE RBS	
ENTS	12/225	0900-1100 ALSEP 15 CYCLE SIDE			19/232	2000-2400 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON	26/239 NO SUPPORT	
SUPPORT SCHEDULE/EVENTS	11/224	0900-1100 ALSEP 17 HFE RBS	ALSEP 16 LSM FLIP CAL	ALSEP 15 CYCLE SIDE	18/231	0900-1100 ALSEP 17 NBR ON LEAM ON ALSEP 17 & 15 HFE RBS	25/238 0900-1100 ALSEP 17 & 15 HFE RBS	
ALSEP S	10/223	0900-1100 ALSEP 15 CYCLE SIDE			17/230	0900-1100 ALSEP 15 HFE ON ALSEP 14 CPLEE ON	24/237 NO SUPPORT	
	09/222	0900-1100 ALSEP 17 HFE RBS	ALSEP 16 LSH FLIP CAL	ALSEP 15 CYCLE SIDE	16/229	ALSEP 16 C/S HTR ON LSM FLIP CAL ALSEP 14 PSE HTR ON	23/236 0900-1100 AL SEP 15 HFE RBS	
TIMES - CDI	AUG 08/221	1600-2000 ALSEP 15 SIDE SUPPORT			AUG 15/228	0000-0100 ALSEP 17 LEAM STBY LSG STBY LSPE ON HBR ON 1300-1400 2300-2400	AUG 22/235 NO SUPPORT	BEN-20



25Sep/1316

23Sep/0806 25Sep/0136

> 7Sep/1653 8Sep/0342

0Sep/0742 64)08Sep/1401

01Sep/0448

24Aug/201

02Sep/2223

OSep/

85

03Sep/1006

27Aug/011

26Aug/1

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

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. Midnight at the Descartes Site occurred on 23 August for the 54th lunation.

Passive seismic

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O 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 approxinately 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

Active seismic

experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).

Apollo 15 ALSLY

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

Central station

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 lieved that the fluctuations of the transmitter A downlink signal anomaly may be caused B parameters are caused by the blown F-08 protective fuse in the circuit. Engineering watts, the HFE was commanded to STANDBY, resulting in a 5 watt increase in the reserve 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. $During\ real$ -It is be-After the change to transmitter B_s the signal strength was steady at -142.0 dbm and two (2) watts increase in reserve power was noted. As had been previously observed when the Hawaii Tracking Station reported downlink signal fluctuations. The signal by low temperatures in the central station. At the time the Average Thermal Plate strength from transmitter A was fluctuating from -141,0 to -150.0 dbm at the time. (AIP) temperature was -13.64°F. On 21 August, with the reserve power approaching time support on 20 August, a change was made from transmitter A to transmitter B Midnight of the 63rd lunation occurred on 24 August at the Hadley Rille site. and science data from the central station, PSE, SIDE, and HFE are normal. On 23 August the ATP temperature had increased to -2.2°F. power.

Passive seismic experiment

during real time support at 1426 G.m.t., 25 August, lasting approximately 30 minutes. 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

Suprathermal ion detector/cold cathode gauge

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.

cathode gauge experiments

The instrument is currently in STANDBY.

Heat flow experiment

spectrometer

Solar wind

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

tion 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., 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 ing 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. calibration ON/OFF commands were transmitted with a functional response, but no Com-(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) X Processor Select (octal 034) at 1051 G.m.t., and Y Processor Select (octal 034) -136.0 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna trackmand Verification Word (CVW) was received in the downlink. A High Bit Rate OFF DSS-1 (10 watts) heater is ON for lunar night operation. A signal strength of Midnight at the Apollo 14 site will occur later today for the 69th lunation. command being received by the ALSEP 14 station on 24 August.

Passive seismic

The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. Iwo 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

configuration pending possible degradation of AC-03, analyzer A voltage to 2280 vdc, at which time the instrument will be commanded to STANDBY. 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

Apollo 12 ALSEP

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

Central station

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 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 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) signal was received. The central station will remain in this mode of operation. tracking stations. The DSS-1 (10 watt) heater is ON for lunar night operation. Midnight of the $84 {\rm th}$ lunation will occur on 27 August. A signal strength of -139.0 \pm 3.0 dbm, from transmitter B, was reported by the 30-foot antenna station.

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 significant seismic event was observed during real-time support at 1426 G.m.t., 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 25 August, lasting approximately 30 minutes.

Solar wind

The instrument is ON, in the normal gain mode, and recording solar wind plasma data

spectrometer experiment Suprathermal ion Commanded OFF 3 May 1976.

detector experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer

experiment

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

APOLLO 16 ALSEP	1587 22136 221.9° 63.6w (63.6w) DSS-1 (10w) ON ASE OFF 28.8°F -10.2°C N/A N/A N/A OFF	es indicate RTG r sun angle during on.
APOLLO 15 ALSEP	1852 36625 280.1° 54.7w (55.4w) ALL OFF LSM & SWS OFF/HFE -3.1°F STBY 0FF 7.7°C 108.3°K N/A N/A STBY	Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.
APOLLO 14 ALSEP	1929 16459 258.9° 60.6w (61.0w) DSS-1 (10w) ON SIDE OFF/ASE STBY 25.9° 124.1°F N/A N/A N/A OFF OFF -22.7°C -71.4°C	TBY
APOLLO 12 ALSEP	2471 30196 253.0° 50.4w (51.3w) DSS-1 (10w) ON SIDE & LSM OFF 5.9°F 124.5°F OFF -15.6°C OFF N/A N/A	APOLLO 17 ALSEP 1352 35497 307.2° 66.4w (66.6ω) 0N 0FF LACE, LSG & LEAM STBY 13.7°F -16.1°F -58.0°F 285.4°K STBY 17.5°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-05) CCGE Temp (AS-03) HFE Temp Ref I (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

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

	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		AND THE PROPERTY OF THE PROPER	LOS 20/0528	an da ang ang ang ang ang ang ang ang ang an	
20 AUGUST	ACN/MIL	Higher Priority	AOS 20/0623	ALL	55 ^m
	(APPEN 9-24-1-4-1-4-1-4-1-4-1-4-1-4-1-4-1-4-1-4-		LOS 21/0446		
21 AUGUST	GWM/ACN	Higher Priority	AOS 21/0530	ALL	44 ^m
The second control of			LOS 22/0700	The state of the s	
22 AUGUST	ACN/MIL	Higher Priority	AOS 22/0812	ALL	1 ^h 12 ^m
			LOS 23/0654		·
23 AUGUST	ACN	Higher Priority	AOS 23/0726	ALL	32 ^m
			LOS 24/0925		
24 AUGUST	ACN/MIL	Higher Priority	AOS 24/1017	ALL	52 ^m
			LOS 24/1017		deficies. Set active in 1974 in College of 1974 in his rown mediates supplying applying supplying the part
24 AUGUST	MIL	Loss of Modulation	DNAOS 24/1052	A14	35 ^m
			LOS		
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Please insert as corrected sheet for Apollo 15 ALSEP in the APOLLO ALSEP PERFORMANCE SUMMARY REPORT dated 19 August 1976 to 26 August 1976.

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

PSE CALS DATLY	04/248	0000-1100				11/255	0900-1100 ALSEP 15 SIDE ON			0,00	18/202 0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON
	03/247	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	ALSEP 17 NBR	ALSEP 16' LSM FLIP CAL	2300-2400	10/254	0900-1100 ALSEP 17 NBR	ALSEP 16		F.307 F.F	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 ALSEP 17
ENTS	02/246	0900-1100 ALSEP 14 C/S HTR 0FF				09/253	0900-1100 ALSEP 15 CYCLE SIDE				0900-1100
SUPPORT SCHEDIL E/EYENTS	SEP 01/245	0900-1100 ALSEP 17 NBR	ALSEP 16 LSM FLJP CAL	*		08/252	0900-1100 ALSEP 17 NBR	ALSEP 16 LSM FLIP CAL	ALSEP 15 CYCLE SIDE	()	15/259 0900-1100 ALSEP 15 ALSEP 17 NBR
ALSEP SI	31/244	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST	ALSEP 15 TIMER RST	•		07/251	0400-0800 ALSEP 15 SIDE SUPPORT				14/258 0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON
	30/243	0900-1100 ALSEP 17 NBR				06/250	0900-1100 ALSEP 17 NBR	ALSEP 16 LSM FLIP CAL	ALSEP 15 CYCLE SIDE		1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL
TIMES - CDT	AUG 29/242	NO SUPPORT ALSEP 17		medical design of a 1 with distribution		SEP 05/249	0900-1100 ALSEP 15 SIDE STBY	alone is any approximation of the control of the co			0900-1100

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 ± 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 ± 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

Apollo 15 ALSEP

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

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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 Sunrise of the 64th lunation occurred on l September at the Hadley Rille Site. Tr mitter B downlink signal strength of -138.5 $^\pm$ 2.5 dbm is reported by the tracking control.

Passive seismic

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 10?) 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

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 ± 4.0 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations. **Central** station

The instrument is ON and configured for seismic network congruity (Ref. Apollo 16 ALSEP), except feedback loop filter OUT. No significa**nt** seismic events were noted during the real time support periods. Passive seismic experiment

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

The instrument was commanded to OFF on 21 May 1976. Suprathermal ion Charged particle detector/cold cathode gauge experiments

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. The experiment is ON and operating in the manual mode at the -35 vdc range environmental

experiment

Apollo 12 ALSEP

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

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. Central station

experiment

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 indi-cations is being conducted. The Z-motor is ON to maximize heating in the instrument remained onscale this lunar night as it did during the 26 June to 6 July 1976 lunar during lunar night. No significant seismic events were noted during the real-time 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) night. The previous onscale indications, for the sensor temperature during lunar might, were 26 May to 10 June 1973. The short period Z-axis sensor has returned support of this instrument. Passive seismic

The instrument is ON, in the normal gain mode, and recording solar plasma data.

spectrometer experiment Solar wind

Commanded OFF 3 May 1976.

Suprathermal ion experiment detector

Commanded OFF 14 June 1976.

Lunar surface magnetometer experiment

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

APOLLO 16 ALSEP	1595 22195 29.8° 63.2w ALL OFF ASE OFF 72.5° 126.8°F 38.3°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1860 36710 17.9° 55.0w ALL OFF LSM/SWS/HFE OFF 57.2° 125.8°F OFF 0FF 35.3°C 323.8°K N/A 0FF	
APOLLO 14 ALSEP	1937 16481 356.8° 60.2w DSS-1 (10w) ON SIDE OFF/ASE STBY 25.0° 124.1°F N/A N/A OFF OFF -22.7°C -71.4°C	STBY
APOLLO 12 ALSEP	2479 30212 350.8° 49.7w DSS-1 (10w) ON SIDE & LSM OFF 3.5°F 124.4°F OFF -16.0°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1 September 1976 1359 35535 45.0° 64.9w 0N 0F LACE, LSG & LEAM S 60.6°F 107.5°F 165.2°F 305.1°K STBY 63.1°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AM-11) HFE Temp (AG-01) LSG Temp (AP-01)

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

	SITE	REMARKS	GM	VEHICLE	TIME LOST
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26 AUGUST	ACN	Higher Priority	AOS 26/1029	ALL	49 ^m
		The state of the s	LOS 26/1156		in make a mannan mannan ana mannan ana maka mak
26 AUGUST	ACN/MIL	Higher Priority	AOS 26/1237	ALL	41 ^m
			LOS 27/0800		
27 AUGUST	ORR/ACN	Higher Priority	AOS 27/0843	ALL	43 ^m
07 1110110			LOS 27/0944		
27 AUGUST	ACN	Higher Priority	AOS 27/1034	ALL	50 ^m
			LOS 28/1026	M-72-28-72.	
28 AUGUST	GWM/ACN	Higher Priority	AOS 28/1058	ALL	32 ^m
			LOS 29/1117	-	
29.AUGUST	GWM/ACN	Higher Priority	AOS 29/1152	ALL	35 ^m
			LOS		
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ALSEP 15 ALSEP 17 ALSEP 15
18/231
24/237 25/238 SUPPORT 0900-1100 NO SAL SEP 17 NRR - 12 ^m

PSE CALS DAILY	48	00 4 STBY	55	0	.62	000 2 2 MTR ON 000
PSE C	04/248	0900-1100 ALSEP 14 CPLEE ST	11/255	0900-1100 ALSEP 15 SIDE ON	18/262	, ALSEP 12 C/S HTR ON PSE Z MTR C 1400-1600
	03/247	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF ALSEP 17 NBR ALSEP 17 NBR ALSEP 16 LSM FLIP CAL 2300-2400	10/254	0900-1100 ALSEP 17 ALSEP 17 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	17/261	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 12 ALSEP 17
ENTS	02/246	0900-1100 ALSEP 14 ALSEP 15 HFE 0FF	09/253	0900-1100 ALSEP 15 CYCLE SIDE	16/260	0900-1100
ALSEP SUPPORT SCHEDII E/EVENTS	SEP 01/245	0900-1100 ALSEP 17 NBR - 56 ^{III} HFE RBS ALSEP 16 LSM FLIP CAL	08/252	0900-1100 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	15/259	0900-1100 ALSEP 15 ALSEP 17 NBR HFE RBS ALSEP 14 CPLEE ON
ALSEP SI	31/244	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	07/251	0400-0800 ALSEP 15 SIDE SUPPORT	14/258	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON
	30/243	0900-1100 ALSEP 17 NBR - 13 ^m	06/250	0900-1100 ALSEP 17 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	13/257	1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL
TIMES - CDT	AUG 29/242	NO SUPPORT ALSEP 17	SEP 05/249	0900-1100 ALSEP 15 SIDE STBY	SEP 12/256	0900-1100

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 $364 \pm 8^{\circ}\text{K}$. 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

tation
Central s
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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

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH and is expected to return onscale 15 September. No significant seismic events were noted during real-time support this report period.

Lunar surface magnetometer

experiment

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 The LSM is ON and recording data. Science data from the Z-axis remained static 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

Noon of the 64th lunation occurred on 8 September at the Hadley Rille Site. Trans- mitter B downlink signal strength was reported between -133.0 and -142.0 dbm by the tracking stations with 30-foot antennas.
Noon of the 64th luna mitter B downlink sig the tracking stations
Central station

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.
The BY to of Ein to high
Suprathermal ion detector/cold cathode gauge experiments

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 Commanded OFF June 1974. magnetometer experiment

Apollo 14 ALSEP

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

Central station S (unrise 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 ±	.5 dbm, from transmitter B, was reported by the 30-foot antenna tracking stations.
	Central station)	7

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 charge (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. Passive seismic experiment

Active seismic The experiment is in STANDBY. experiment

The instrument was commanded to OFF on 21 May 1976. Suprathermal ion detector/cold

The Experiment was commanded to STANDBY 5 September. Charged particle cathode gauge environmental experiments lunar

experiment

Apollo 12 ALSEP

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

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.	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 Perfor-
Central station	Passive seismic experiment

1Ve sersmic	The instrument is configured for seismic network congruity (Ref. Apollo 16 ALSEP),
eriment	except the short period Z-axis gain is set at -20 db (Ref. 5 Dec 75 ALSEP Perfor-
	mance Summary Report). No significant seismic events were noted during real-time
	support this report period.

Solar wind	instrument is ON,	in the normal	gain mode,	and recording	in the normal gain mode, and recording solar wind plasma
spectrometer	data.			•	
experiment					

Commanded OFF 3 May 1976.	Commanded OFF 14 June 1974.
0FF	0FF
Commanded	Commanded
Suprathermal ion detector experiment	Lunar surface magnetometer experiment

Status as of 1600 G.m.t., 9 September 1976, was as follows:

APOLLO 15 ALSEP 1867 36815 103.2° 55.4w ALL OFF LSM/SWS/HFE OFF & ASE OFF 112.4°F SIDE STBY 100.4°F OFFScale HIGH OFF N/A STBY N/A N/A		
CPLEE	N/A N/A OFF	
APOLLO 14 ALSEP 1944 16525 82.0° 61.1W ALL OFF SIDE OFF/ASE & 110.9°F 132.1°F N/A N/A OFF	STBY 75.7°C N/A	STBY
APOLLO 12 ALSEP APOL 2466 3933 76.1° 51.4w ALL OFF SIDE & LSM OFF SIDE 89.9°F 110 135.6°F N/A 64.3°C OFF	N/A N/A N/A APOLLO 17 ALSEP 1366	35587 130.3° 64.5w 0N 0FF LACE, LSG & LEAM STBY 82.7°F 143.8°F 204.0°F 319.5°K STBY
Status as of 1600 G.m.t., 9 september APOLI TM POINT Total Days of Operation 2466 Total Commands to Date 3033 Sun Angle 51.4 Input Power Input Power Dumps 51.4 Experiment Status ALL Experiment Status 89.9 Avg Thermal Plate Temp 89.9 PSE Sensor Temp (DL-07) 0FF SMS Module 300 Temp (DM-05) 0FF SGE Temp (DI-05) 0FF SIDE Temp (DI-05) 0FF SGE Temp (DI-05) 0FF	CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13) TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) HFE Temp (AJ-11)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 9/09/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 03/1610		
03 SEPTEMBER	ACN	Higher Priority	AOS 03/1702	ALL	52 ^m
			LOS 08/0438	A12-A15-	
08 SEPTEMBER	MIL	Station Problem	AOS 08/0455	A16-A17	17 ^m
			LOS 08/0450		
08 SEPTEMBER	MIL	Station Problem	AOS 08/0455	A14	o5 ^m
			LOS		
			AOS		
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PSE CALS DAILY	0900-1100 ALSEP 14 CPLEE STBY	11/255	0900-1100 ALSEP 15 SIDE ON	18/262	0100-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON 1400-1600	NASA-JSC
1,000	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	10/254	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	17/261	0900-1100 ALSEP 14 C/S HTR ON PSE HTR ON ALSEP 17 NBR	
	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	09/253	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12 ^m	16/260	0900-1100	
ALSEP SUPPORT SCHEDULE/EVENTS	SEF ULZ49 0900-1100 ALSEP 17 NBR - 56 ^{III} HFE RBS ALSEP 16 LSM FLIP CAL	08/252	0900-1100 ALSEP 17h NBR - 1h29m HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	15/259	0900-1100 ALSEP 15 ALSEP 17 NBR HFE RBS ALSEP 14 CPLEE ON	
	31/244 0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	07/251	0400-0800 ALSEP 15 SIDE SUPPORT	14/258	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON	
	30/243 0900-1100 ALSEP 17 NBR - 13 ^m	06/250	0900-1100 ALSEP 17 NBR - 17 ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	13/257	1400-1600 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	
TIMES - CDT	NO SUPPORT ALSEP 17	SEP 05/249	0900-1100 ALSEP 15 SIDE STBY	SEP 12/256		BEN-20

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

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 ½ 4.5 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period.	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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

Sunset of the 64th lunation occurred at the Hadley Rille Site on 15 September. Transmitter B downlink signal strength is reported at -136.5 \pm 4.5 dbm by the tracking stations with 30-foot antennas. Central station

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. Passive seismic

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. Suprathermal ion detector/cold cathode gauge

experiments

experiment

Heat flow

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 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 being sampled in full sequence. 2-15 September.

Commanded OFF 14 June 1974. Solar wind

spectrometer experiment

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

ive seismic eriment	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.

The experiment is in STANDBY.	
Active seismic	experiment

	r, and is in the manual mode.
The instrument was commanded to OFF on 21 May 1976.	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.
Suprathermal ion detector/cold cathode gauge experiments	Charged particle lunar

environmental experiment

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 9 September 1976, to 1700 G.m.t., 16 September 1976

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. Central station

ll to 16 September. No significant seismic events were noted during real-time support 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 this report period. Passive seismic

experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma data. spectrometer experiment Solar wind

Commanded OFF 3 May 1976. Suprathermal ion detector

experiment

Commanded OFF 14 June 1974. magnetometer Lunar surface experiment

Status as of 1600 G.m.t., 16 September 1976, was as follows:

APOLLO 16 ALSEP	1609 22443 199.1° 63.6w DSS-1 (10w) OFF 30.6°F 126.0°F -7.7°C N/A N/A N/A OFF	
APOLLO 15 ALSEP	1874 36964 187.2° 54.4w ALL OFF LSM/SWS, OFF 5.8°F 124.8°F OFF OFF 7.8°C 135.9°K N/A N/A N/A	
APOLLO 14 ALSEP	1951 16560 166.5° 61.1w ALL OFF SIDE OFF/ASE STBY 64.5°F 125.3°F N/A N/A OFF 0FF 17.4°C 74.2°C	1900 G.m.t.
APOLLO 12 ALSEP	2493 30370 160.5° 51.4w ALL OFF SIDE & LSM OFF 67.5°F 141.4°F 0FF 0FF 0FF N/A N/A	APOLLO 17 ALSEP 15 September 1976, 190 1374 35627 205.0° 66.4w 0N 0FF LACE, LSG & LEAM STBY 15.2°F -14.0°F -52.0°F 285.1°K STBY 18.8°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DL-07) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-11) HFE Temp (AJ-11) LSG Temp (AP-01)

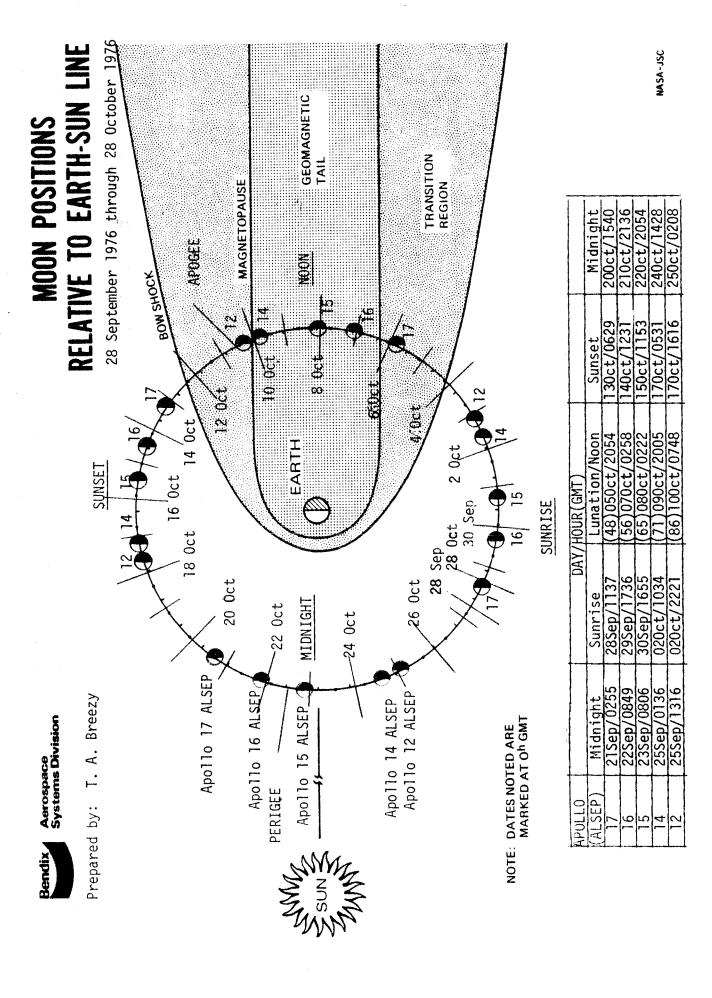
REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 09/16/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 13/2320		
13 SEPTEMBER	MAD/GWM	Higher Priority	AOS 13/2327	ALL	07 ^m
n. D yn ffalland oedd mae'n en y ac Chresh Allann argegraf ar gyn argerffael y da garpe y ann amei algenn y ar e e e e e e e			LOS 14/0130	/ Was bee	
14 SEPTEMBER	MAD	Higher Priority	AOS 14/0214	ALL	44 ^m
Mental districts that the second seco			LOS 15/0135		
15 SEPTEMBER	MAD	Higher Priority	AOS 15/0218	ALL	43 ^m
And the second s			LOS 15/2226		
15 SEPTEMBER	ORR	Station Problem	AOS 15/2230	ALL	O4 ^m
			LOS		
			AOS		
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AUG 29/242	30/243	31/244	SEP 01/245	02/246	03/247	04/248
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 ^{III} HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 14 ALSEP 15 HFE 0FF	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 17m NBM - 17m ALSEP 16 LSM FLIP CAL	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	0900-1100 ALSEP 17 NBR - 58 ^{III} HFE RBS ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12 ^m	0900-1100 ALSEP 17 NBR - 19 ^m ALSEP 16 LSM FLIP CAL	0900-1100 ALSEP 15 SIDE ON
	ALSEP 15 CYCLE SIDE		ALSEP 15 CYCLE SIDE		ALSEP 15 CYCLE SIDE	
SEP 12/256	13/257	14/258	15/259	16/260	17/261	18/262
0900-1100	1400-1600 ALSEP 17 NBR - 07 ^m ALSEP 16 LSM FLIP CAL	0000-0100 1000-1100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	1300-1500 ALSEP 15 ALSEP 15 ALSEP 17 NBR - 47 ^m HFE RBS 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
BEN-20						NASA-JSC

HFE RBS 29/273 29/273 30/274 OCT 01/275 02900-1100 ALSEP 16 ALSEP 17 ALSEP 16 ALSEP 16 ALSEP 16 ALSEP 16 ALSEP 16 ALSEP 16 ALSEP 17 ALSEP 16 ALSEP 16 ALSEP 17 ALSEP 17 ALSEP 18 SIDE SUPPORT CYCLE SIDE ALSEP 17 ALSEP 14 ALSEP 17 ALSEP 14 ALSEP 16 ALSEP 17 ALSEP 14 ALSEP 16 ALSEP 17 ALSEP 17 ALSEP 14 ALSEP 17 ALSEP 16 ALSEP 17 ALSEP 16 ALSEP 17 ALSEP 16 ALSEP 17 ALSE
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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 $109 \pm 8^{\circ} \text{K}$. 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

In 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 -137.3 = 3.3 down by the 30-100t antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
station	
Central s	

(thermal control,	No significant	
The instrument is configured for seismic network congruity (thermal control,	AUTO ON; component gain O db; and feedback loop filter IN). No significant	seismic events were observed during this report period.
Passive seismic	experiment	

		s	
emained	discontinued	of the Z-axi	
The LSM is ON and recording data. Science data from the Z-axis remained	this report period. Flip calibration sequences have been discontinued	ne remainder of this lunar night due to the low temperature of the Z-axis	
ence data fi	ation seque	lue to the	
ata. Scie	lip calibr	ar night d	
recording da	period. F	of this luna	
is ON and	this report	remainder (head.
The LSM	static	for the	sensor
Lunar surface	magnetometer		

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 t

Midnight of the 64th lunation occurred today at the Hadley Rille Site. Transmitter B downlink signal strength is reported at -140.0 \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 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

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 The instrument was commanded to STANDBY, 20 September, to increase the central station's reserve power during lunar night. During the operational period from another data point.

253.7°K at the bottom of the lowest section of probe #1. Probe #2 indicated a 88.8°K as measured by the cable thermocouples. The subsurface temperature was For additional information, on 20 September the lunar surface temperature was temperature of 251.3°K at its lowermost point.

Solar wind

Commanded OFF 14 June 1974.

spectrometer experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 16 September 1976, to 1700 G.m.t., 23 September 1976

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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 No significant seismic events were noted during the science data deteriorates. 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

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. Central station

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 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 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. Passive seismic

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector experiment

Lunar surface Commanded OFF 14 June 1974. magnetometer experiment

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Status

APOLLO 15 ALSEP	1957 16585 240.7° 261.8° 260.3w (61.0w) 0N DSS-1 (10w) 0N ALL OFF 25.9°F 124.1°F N/A N/A OFF -21.9°C N/A	Values in parentheses RTG outputs at a simi angle during the prev
	Total Days of Operation Total Commands to Date Sun Angle Input Power Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) LSM Internal Temp (DM-05) CGE Temp (DI-04) CGE Temp (DI-04) ASE GLA Temp (AS-03) N/A HEF Temp Ref (DH-13) N/A	APOLL 1380 35659 288.9 65.7w 0N 0F 12.8°1 -16.1° -58.0°

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 09/23/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 17/0145		
17 September	MAD	Higher Priority	AOS 17/0231	ALL	46 ^m
		·	LOS 17/1514		
17 September	MIL	JSC Problem	AOS 17/1600	A-14	46 ^m
			LOS 17/2001		
17 September	ORR	Station Problem	AOS 17/2007	ALL	06 ^m
			LOS 18/1530		
18 September	GDS	Station Problem	AOS 18/1542	A-17	12 ^m
			LOS 19/0834		
19 September	MAD	Higher Priority	AOS 19/0932	ALL	58 ^m
		Station Problem	LOS 21/0850		
21 September	MAD/MIL	& Higher Priority	AOS 21/0944	ALL	54 ^m
			LOS 22/0840		
22 September	MAD	Higher Priority	AOS 22/0919	ALL	39 ^m
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PSE CALS DAILY	04/248	0900-1100 ALSEP 14 CPLEE STBY	11/255	0900-1100 ALSEP 15 SIDE ON	18/262	0000-0500 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 54 ^{IR} ALSEP 17 & 15 HFE RBS 1400-1600
	03/247	1300-1500 ALSEP 12 C/S HTR OFF PSE Z MTR OFF C/S HTR OFF C/S HTR OFF ALSEP 17 NBR - 18 ^m ALSEP 16 LSM FLIP CAL 2300-2400	10/254	0900-1100 ALSEP 17 NBR - 19 ^m - ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	17/261	
ENTS	02/246	0900-1100 ALSEP 14 ALSEP 15 HFE OFF	09/253	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 12 ^m	16/260	0900-1100 ALSEP 15 HFE ON
ALSEP SUPPORT SCHEDIII E/EVENTS	SEP 01/245	0900-1100 ALSEP 17 NBR - 56 HFE RBS ALSEP 16 LSM FLIP CAL	08/252	0900-1100 ALSEP 17 NBR - 58 ^{III} HFE RBS ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	15/259	ALSEP 1500 ALSEP 17 ALSEP 17 NBR - 47 ^m HFE RBS ALSEP 14 CPLEE ON
ALSEP SI	31/244	0900-1100 ALSEP 16 C/S HTR OFF TIMER RST ALSEP 15 TIMER RST	07/251	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	14/258	0000-0100 1000-1100 1900-2100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON
	30/243	0900-1100 ALSEP 17 NBR - 13 ^m	06/250	0900-1100 ALSEP 17 ^m ALSEP 16 LSM FLIP CAL ALSEP 15 CYCLE SIDE	13/257	1400-1600 ALSEP 17 NBR - 07 ALSEP 16 LSM FLIP CAL
TIMES - CDT	AUG 29/242	NO SUPPORT ALSEP 17	SEP 05/249	0900-1100 ALSEP 15 SIDE STBY	SEP 12/256	0900-1100 BEN-20

AILY							NASA-JSC
PSE CALS DAILY	25/269	NO SUPPORT	02/276	0900-1100 ALSEP 14 ALSEP 12	09/283	0900-1100 ALSEP 15 CYCLE SIDE	NASA
	24/268	0900-1100 ALSEP 17 NBR	0CT_01/275	0900-1100 ALSEP 17 HFE RBS ALSEP 16 LSM FLIP CAL	08/282	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	
/ENTS	23/267	NO SUPPORT	30/274	ALSEP 15 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET	07/281	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 14 PSE HTR OFF	
SEP SUPPORT SCHEDIII E/EVENTS	22/266	0900-1100 AL SEP 17 m NBR - 14 m	29/273	0900-1100 ALSEP 16 ALSEP 17 NBR HFE RBS	06/280	1500-1900 ALSEP 15 SIDE SUPPORT ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	
ALSEP S	21/265	NO SUPPORT	28/272	ALSEP 17	05/279	0900-1100 ALSEP 15 CYCLE SIDE	
	20/264	0900-1100 ALSEP 17 NBR - 08 ^m	27/271	0900-1100 ALSEP 17 NBR	04/278	0900-1100 ALSEP 14 CPLEE STBY ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	
TIMES - CDT	SEP 19/263	0000-1100	SEP 26/270	NO SUPPORT	OCT 03/277	0000-0200 ALSEP 14 C/S HTR 0FF ALSEP 12 C/S HTR 0FF PSE Z MTR 0FF 1100-1200	BEN-20

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 561 18-hour timer output pulses continue to be inhibited per the agree plan initiated 6 May 1972. A signal strength of -134.5 ± 3.5 dbm from transmitter B by the 30-foot antenna tracking stations. The heater was commanded OFF on 30 September for lunar day operation	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
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instrument is configured for seismic network congruity (thermal control, ON; component gain O db; and feedback loop filter IN). No significant mic events were noted during real-time support this report period.	
The instrum AUTO ON; co seismic eve	
Passive seismic experiment	

The LSM is ON and recording data. Science data from the Z-axis remained static	port period. Flip calibration sequences will be resumed on 1 October	s lunar day. A total of 1204 have been executed and verified by the experi-	gineering data since deployment.
The LSM is	this repo	for this	ment engi
Lunar surface	magnetometer	experiment	

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 ½ 6.0 dbm is reported by the track- ing 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

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ion 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 track- ing stations.	mic 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
Central station	Passive seismic experiment

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The instrument is on and configured for seismic network congruity (Ref. Apollo ALSEP). No significant seismic events were noted during the real time support periods.	The experiment is currently in STANDBY (Apollo 14 ALSEP, SMEAR 86).
experiment	Active seismic

experiment	
Suprathermal ion detector/cold cathode gauge experiments	The instrument was commanded to OFF on 21 May 1976.

e and	SIIIS	0	
The experiment is ON and operating in the manual mode at the -35 vdc range and	anned to leave the experiment in	configuration pending possible degradation of Ac-Us, analyzer A voltage to	 be commanded to STANDBY.
nt is ON and operating in the	dilliai colleroi illoude. Ite is pio	n pending possible degradatio	which time the instrument wi
The experimer	aucomacic che	configuration	2280 vdc, at
Charged particle	i untai	environmentai	experıment

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 23 September 1976, to 1700 G.m.t., 30 September 1976

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. Central station

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.

The instrument is ON, in the normal gain mode, and recording solar plasma data.

Solar wind The instrument is ON, spectrometer

Suprathermal ion Commanded OFF 3 May 1976. detector

experiment

experiment Lunar surface

magnetometer

experiment

Commanded OFF 14 June 1976.

Status as of 1400 G.m.t., 30 September 1976, was as follows:

APOLLO 16 ALSEP	1623 22510 10.4° 63.2w ALL OFF ALL OFF ASE OFF 126.2°F 22.1°C N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP	1888 37098 358.6° 53.3w ALL OFF LSM/SWS OFF & HF -6.1°F 0FF 0FF 7.8°C 106.5°K N/A N/A STBY	
APOLLO 14 ALSEP	1965 16608 337.5° 59.8w DSS-1 (10w) ON SIDE OFF/ASE STBY 24.5°F 124.1°F N/A N/A OFF OFF OFF -22.7°C -71.1°C	. <i>G.m. t.</i> ТВҮ
APOLLO 12 ALSEP	2507 30444 331.4° 49.3w DSS-1 (10w) ON SIDE & LSM OFF 1.6°F OFF OFF OFF N/A N/A	APOLLO 17 ALSEP 29 September, 1445 G. 1387 35812 13.8° 64.9w 0N 0FF LACE, LSG & LEAM STBY 66.8°F 65.7°F 110.3°F 291.6°K STBY 71.4°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 09/30/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		,	LOS 23/0043		
23 September	ORR	Station Problem	AOS 23/0045	ALL	o2 ^m
		·	LOS 23/0845		
23 September	MAD	Higher Priority	AOS 23/0926	ALL	41 ^m
			LOS 24/08 4 5		
24 September	MAD	Higher Priority	AOS 24/0927	ALL	42 ^m
			LOS 24/1029		
24 September	MAD	Higher Priority	AOS 24/1117	ALL	48 ^m
			LOS 25/11032		
25 September	MAD	Higher Priority	AOS 25/1134	ALL	1 ^h 02 ^m
			LOS 26/1059		Committee of the Commit
26 September	MAD	Higher Priority	AOS 26/1113	ALL	14 ^m
			LOS 28/1156		
28 September	MAD	Schedule Problem	AOS 28/1200	A14	04 ^m
		Addition	LOS 29/1253		
29 September	ORR/MAD	Schedule Problem	AOS 29/1256	ALL	03 ^m
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20/264	ALSEP SUPPOR 1 21/265 NO SUPPORT DOOD	1 SCHEDIII E/EVE 22/266	23/267 NO SUPPORT	24/268	PSE CALS DAILY 25/269
1	AL SEP NBR	- 14 _m	מטלים בי	ALSEP 17 NBR - 56 ^m HFE RBS	NO SUPPOR
27/271 28/272	72	29/273	30/274	OCT_01/275	02/276
0900-1100 ALSEP 17 NBR - 21 ^m ALSEP 17	0900-1100 ALSEP 16 ALSEP 17 NBR - 46 ^{II} HFE RBS	Commence of the commence of th	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
04/278 05/279	06	06/280	07/281	08/282	09/283
0900-1100 ALSEP 14 CPLEE STBY CYCLE SIDE ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	1500-190 ALSEP 15 SIDE SU ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLI	900 15 SUPPORT 17 BS 16 LIP CAL	11 14 14	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 16 LSM FLIP CAL ALSEP 17 NBR	0900-1100 ALSEP 15 CYCLE SIDE
		al-more de la composition della composition dell			NASA-JSC

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 $369 \pm 8^{\circ}\text{K}$. 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

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.
Central station				
Central				

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-07) is offscale HIGH and is expected to return onscale 14 October. No significant seismic events were noted during real-time support this report period.
, , , , , , , , , , , , , , , , , , , ,
Passive seismic experiment

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
	מול וועם ווול מערם אווכם מעלוס אוועוני

, SMEAR 27).	
110 16 ALSEP, SMEAR 27	
(Apo	
currently OFF	
Experiment is cu	
Active Seismic Experiment	
The /	
Active seismic	experiment

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 30 September 1976, to 1700 G.m.t., 7 October 1976

Trans-Noon of the 65th lunation will occur on 8 October at the Hadley Rille Site. Tra mitter B downlink signal strength was reported between -130.0 and -141.0 dbm by the tracking stations with 30-foot antennas. Central station

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-O7) is offscale HIGH and is expected to return onscale 9 October. No significant seismic events were observed during this report period. Passive seismic experiment

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 Kvdc) remains OFF. Suprathermal ion detector/cold cathode gauge experiments

The experiment will remain OFF for an extended cool down period The HFE is OFF. this lunar day. experiment Heat flow

Solar wind Commanded OFF June 1974.

spectrometer experiment Commanded OFF June 1974.

Lunar surface magnetometer

experiment

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 30 September 1976, to 1700 G.m.t., 7 October 1976

A signal strength of -142.0 ±)-foot antenna tracking stations.
is OFF for lunar day operation.	from transmitter B, was reported by the 30-foot antenna tracking stations.
(10 watt) heater	3.0 dbm, from tra
	(10 watt) heater is OFF for lunar day operation. A signal strength of -142.0 🛨

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.

The Experiment was commanded to STANDBY 4 October.

Charged particle lunar

environmental experiment

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 30 September1976, to 1700 G.m.t., 7 October 1976

Sunrise of the 86th lunation occurred on 2 October. The DSS-1 (10 watt) heater is 0FF 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. Central station

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. Passive seismic 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.

spectrometer

Solar wind

experiment

Suprathermal ion Commanded OFF 3 May 1976. detector experiment Lunar Surface Commanded OFF 14 June 1974. magnetometer experiment

Status as of 1600 G.m.t., 7 October 1976, was as follows:

APOLLO 16 ALSEP 1630 22612 96.6° 63.2w ALL OFF ASE OFF 104.4°F Offscale HIGH 47.0°C N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP 1895 37238 84.8° 54.7w ALL OFF LSM/SWS OFF & HFE 111.4°F OFF OFF STBY STBY N/A N/A OFF	
APOLLO 14 ALSEP 1972 16670 63.6° 60.7w ALL OFF SIDE OFF/ASE & CPLEE 108.3°F 129.2°F N/A	G.m.t. LEAM OFF
APOLLO 12 ALSEP 2514 30543 57.7° 50.7w ALL OFF SIDE & LSM OFF 90.8°F 129.1°F 0FF 64.3°C 0FF N/A N/A N/A	APOLLO 17 ALSEP 6 October, 2300 G.m.t. 1394 35847 111.8° 64.1w 0N 0FF LACE & LSG STBY/LEAM OFF 90.8°F 157.7°F 194.0°F 327.9°K STBY 94.1°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 10/07/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 30/2335		
30 September	AG0	RFI	AOS 30/2345	ALL	10 ^m
		·	LOS 04/1259		
04 October	ORR	Station Problem	AOS 04/1311	ALL	12 ^m
			LOS 04/1949		
04 October	MAD/AGO	Higher Priority	AOS 04/2039	ALL	50 ^m
			LOS 05/2000		
05 October	MAD	Higher Priority	AOS 05/2034	ALL	34 ^m
			LOS 06/1422		
06 October	ORR	Station Problem	AOS 06/1435	ALL	13 ^m
\$			LOS 06/2001		
06 October	MAD	Higher Priority	AOS 06/2044	ALL	43 ^m
			LOS		
			AOS		
			LOS		
			AOS		
			LOS	**************************************	Total Cartes and American International Security (1997) and American Secur
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CONTROL OF THE CONTRO	et omer general and a state of the control of the state o	ACIDISTANC [®] SECRETORY MENTAL ACIDISTANCE CON EL PROCESSO SERVICION DE SEGUENCE COLORANIA CAPACIONAL REGIONE, SON ANNO ACIDISTANCE CON ACIDIS	LOS		THE RESERVE OF THE PROPERTY OF
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ALSEP SUPPORT SCHEDULE/EVENTS	20/264 21/265 22/266 23/267 24/268 25/269 0-1100 EP 17 R - 08 ^m EP 15 E STBY NO SUPPORT ALSEP 17 NBR - 14 ^m NBR - 14 ^m NBR - 14 ^m HFE RBS NO SUPPORT ALSEP 17 NBR - 56 ^m HFE RBS	Column C	04/278 05/279 06/280 07/281 08/282 09/283	1600-2000 1600-1100 ALSEP 15 ALSEP 15 ALSEP 15 ALSEP 15 CYCLE SIDE CYCLE SIDE	NASA-JSC
N N	NO S			V CYCLE	
TIMES - CDT	SEP 19/263 0900-1100	SEP 26/270 NO SUPPORT	0CT 03/277	0000-0200 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR OFF PSE Z MTR OFF PSE Z MTR OFF	REW_90

PSE CALS DATLY	16/290	0900-1100 ALSEP 15 HFE ON	23/297	NO SUPPORT	30/304	ALSEP 15 ALSEP 15 ALSEP 16 C/S HTR OFF TIMER RESET	NASA-JSC
	15/289	0900-1100 ALSEP 15 HFE STBY ALSEP 14 CPLEE ON ALSEP 17 NBR	22/296	0900-1100 ALSEP 17 NBR	29/303	NO SUPPORT ALSEP 16	
ENTS	14/288	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	21/295	NO SUPPORT	28/302	NO SUPPORT	
ALSEP SUPPORT SCHEDIILE/EVENTS	13/287	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL	20/294	0900-1100 ALSEP 17 NBR HFE RBS	27/301	0900-1100 ALSEP 17 NBR HFE RBS	
ALSEP SI	12/286	<u>0900-1100</u>	19/293	0900-1100	26/300	NO SUPPORT	
	11/285	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	18/292	0900-1100 ALSEP 17 NBR ALSEP 15 HFE RBS	25/299	0900-1100 ALSEP 17 NBR	
TIMES - Local	OCT 10/284	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 LEAM STBY	17/291	1500-1900 ALSEP 14 C/S HTR ON C/S HTR ON PSE Z MTR ON	OCT 24/298	NO SUPPORT	BEN-20

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 ± 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

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.
Central station				
_				

mic	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) 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.
	Passive seismic The experiment Al as as of

The LSM is ON and recording data. Science data from the Z-axis remained	ip calibration sequences will be discontinued	the remainder of this lunar night due to the low temperature of	
The LSM is ON and recording dat	static this report period. Fli	for the remainder of this lunar	the Z-axis sensor head.
Lunar surface	magnetometer	experiment	

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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.

experiment Heat flow

Commanded OFF 14 June 1974.

The instrument is in STANDBY.

spectrometer experiment Solar wind

Commanded OFF 14 June 1974.

magnetometer experiment

Lunar surface

Apollo 14 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

back 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 manding during real-time support also resulted in spacecraft rejects. Again, playdom on an 85 foot antenna at the time of LOS. This is the fifth LOS for the Apollo Mode I through Goldstone, but all resulted in spacecraft rejects. Subsequent comsignal at 053658 G.m.t., 9 October. Commands, to turn transmitters ON, were sent The Goldstone Tracking Station reported an abrupt loss of the downlink telemetry

APOLLO 14 ALSEP STATUS AT LOS

SOT	9 Oct 76	82.60	113.6°E	60.72w	35.85w	B	ON-Xtal A	7	MO	Forced OFF	STBY	OFF	STBY	NO
TOS	8 Jun 76	23.4°	71.5°F	61.86w	33.04w	В	ON-Xtal B	_	NO	Auto ON	NO	0FF	STBY	NO
TOS	17 Mar 76	85.6°	116.5°F	61.94w	36.94w	А	ON-Xtal B	 	NO	Forced OFF	STBY	0FF	STBY	NO
T0S	18 Jan 76	95.2°	119.6°F	61.74w	36.51w	А	OFF	2	NO	Forced OFF	STBY	UNK	STBY	NO
		108.1°												
	Date	Sun Angle	Plate	RTG Power	Res. Power	Transmitter	Receiver	PCU	PSE	PSE Htr	CPLEE	SIDE	ASE	DTREM

Central station

to a spurious command (Timer Output Accept, octal 032). The corrective commands (PSE Calibration Short Period OFF, octal 065, and PSE Uncage to 01, octal 073) were sent 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 at 1427 G.m.t., 8 October.

Apollo 14 ALSEP - continued

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

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.
The instrumer ALSEP). The No significar prior to LOS.
Passive seismic experiment

Active seismic The experiment was in STANDBY at LOS. experiment

The instrument was commanded to OFF on 21 May 1976. The experiment was in STANDBY at LOS. Suprathermal ion detector/cold cathode gauge experiments

Charged particle The experiment was in STANDBY lunar environmental experiment

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 7 October 1976, to 1700 G.m.t., 14 October 1976

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. Central station

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.

The instrument is ON, in the normal gain mode, and recording solar wind plasma data. spectrometer Solar wind

spectrometer data. experiment Suprathermal ion Commanded OFF 3 May 1976. detector

experiment

Lunar Surface Commanded OFF 14 June 1974. magnetometer

experiment

Status as of 1600 G.m.t., 14 October 1976, was as follows:

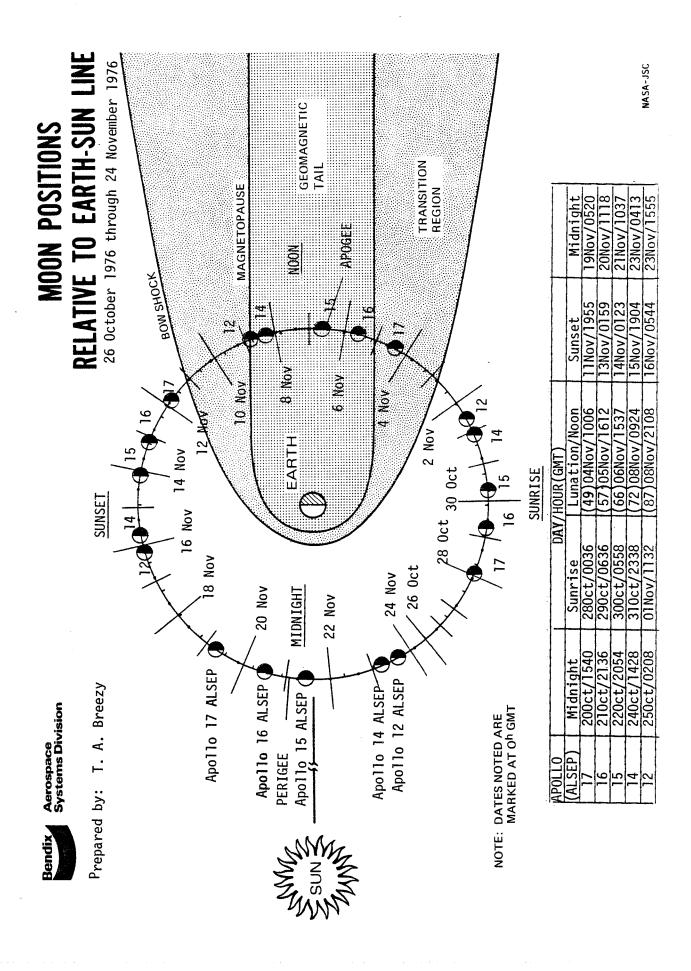
TM POINT	APOLLO 12 ALSEP	APOLLO 14 ALSEP	APOLLO 15 ALSEP	APOLLO 16 ALSEP
Total Days of Operation Total Commands to Date Sun Angle	A 7	LOS: 0536 G.m.t. 10/9/76 1974 16674 82.6° 60 27,	⁷⁶ 1902 37370 169.5° 53.6w	1637 22727 181.3° 63.7"
Heater and Power Dumps Experiment Status Avg Thermal Plate Temp	ALL OFF SIDE & LSM OFF 82.2°F Offscale HIGH	ALL OFF SIDE OFF/ASE & CPLEE 113.6°F STBY	ALL OFF LSM & SWS OFF/HFE 65.6°F STBY	DSS-1 (10w) ON ASE OFF 30.6°F
LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05)	0FF 57.5°C 0FF 0FF	N/A N/A OFF	0FF 0FF 56.5°C 301 5°K	17.1°C N/A N/A
CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	N/A N/A N/A	STBY 77.2°C N/A	N/A N/A STBY	N/A 0FF 0FF
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (DG-04) LSG Temp (AP-01)	APOLLO 17 ALSEP 13 October, 1938 1401 35882 186.7° 66.1w 0N 0N 0FF LACE, LEAM & LSG 32.1°F -2.3°F -76.0°F 284.2°K STBY 37.0°F	G.m.t.		

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 10/14/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 07/2015		
07 October	MAD	Higher Priority	AOS 07/2049	ALL	34 ^m
			LOS 08/1918		
08 October	ORR/MAD	Higher Priority	AOS 08/1935	ALL	17 ^m
			LOS 08/2020		
08 October	MAD	Higher Priority	AOS 08/2058	ALL	38 ^m
		LOSS OF DOWN-	LOS 08/0536:58		
09 October	GDS	LINK SIGNAL	AOS	A14	
			LOS 09/1753		
09 October	ORR	Higher Priority	AOS 09/1844	ALL	51 ^m
			LOS 10/2259	The state of the s	
10-11 October	MAD/MIL	Equipment Failure	AOS 11/0050	ALL	1 ^h 51 ^m
			LOS 11/1724		
11 October	ORR	Higher Priority	AOS 11/1801	ALL	37 ^m
	and the same of th	Copies of Copies and Copies and Copies and Associated States and Associated Astronomy (Copies and Copies and C	LOS 11/1947		the state of the s
11 October	ORR/MAD	Higher Priority	AOS 11/2010	ALL	23 ^m
September 1966 in April 2 of the Indian Co. April 2 of the Indian Co.		TO M. O. SECURIO SECURIO DE COMPANIO DE LA COMPANIO DE	LOS 12/1754		
12 October	ORR	Higher Priority	AOS 12/1850	ALL	56 ^m
		Schedule Problem	LOS 13/0038		
13 October	MAD/MIL	Adverse weather	AOS 13/0216	ALL	1 ^h 38 ^m
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20/264 0900-1100
ALSEP 17 m NBR - 08 m ALSEP 15 HFE STBY
172/72
0900-1100 ALSEP 17 NBR - 21 ^m
04/278 05/279
0900-1100 0900-1100 ALSEP 15 CPLEE STBY CYCLE SIDE
ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 14 ^m

			-				_
PSE CALS DAILY	16/290	0900-1100 ALSEP 15 HFE ON	23/297	NO SUPPORT	30/304	0900-1100 ALSEP 15 TIMER RESET 4 ALSEP 16 C/S HTR OFF TIMER RESET	NASA-JSC
	15/289	ALSEP 14 CPLEE ON ALSEP 17 NBR	22/296	0900-1100 ALSEP 17 NBR	29/303	NO SUPPORT ALSEP 16	
ENTS	14/288	0000-0100 ALSEP 16 0900-1100 ALSEP 16 C/S HTR 0N ALSEP 14 PSE HTR 0N ALSEP 15 HFE STBY	21/295	NO SUPPORT	28/305	NO SUPPORT	Anne philipping and the state of the state o
ALSEP SUPPORT SCHEDII E/EVENTS	13/287	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54 ^m HFE RBS ALSEP 16 LSM FLIP CAL	20/294	0900-1100 ALSEP 17 NBR HFE RBS	27/301	0900-1100 ALSEP 17 NBR HFE RBS	
ALSEP SI	12/286	<u>0900-1100</u>	19/293	0900-1100	26/300	NO SUPPORT	
	11/285	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17 ^M ALSEP 16 LSM FLIP CAL	18/292	0900-1100 AL SEP 17 NBR AL SEP 15 HFE RBS	25/299	0900-1100 ALSEP 17 NBR	
TIMES - Local	OCT 10/284		0CT 17/291	1500-1900 ALSEP 14 C/S HTR ON C/S HTR ON PSE Z MTR ON	0CT 24/298	NO SUPPORT	BEN-20



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 $109 \pm 8^{\circ}$ 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

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. Central station

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period. Passive seismic

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.

magnetometer Lunar surface

experiment

experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

Apollo 15 ALSEP

Operational status from 1700 G.m.t., 14 October 1976, to 1700 G.m.t., 21 October 1976

Central station

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 I (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 in the downlink and no momentray drop in the telemetry data was seen by the remote 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

Passive seismi 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

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

experiments

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. The instrument is in STANDBY. The instrument was commanded ON at 0931 G.m.t., 16

the bottom of the lowest section of probe #1. Probe #2 indicated a temperature of For additional information, on 17 October the lunar surface temperature was 89.1°K as measured by the cable thermocouples. The subsurface temperature was $254.0^{\circ} \mathrm{K}$ at 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

of -139.5 cking stations.	
the 86th lunation occurred on 17 October. A signal strength of -139.5 from transmitter B, was reported by the 30-foot antenna tracking stations. (10 watt) heater is ON for lunar night operation	• 1000000000000000000000000000000000000
the 86th lunation occurred on 17 October. A sign from transmitter B, was reported by the 30-foot (10 watt) heater is ON for lunar night operation	6
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 station the DSS-1 (10 watt) heater is ON for lunar night operation	100 MILL (00 MILL 00 M
Central station	

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-O7) 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.
Passive seismic experiment

ar wind	The	The instrument	is Of	V, in the	non	ma 1	gain n	node,	and re	cording	solar	· wind	ment is ON, in the normal gain mode, and recording solar wind plasma data.	ta.
ectrometer	The	The experiment was operated in the extended gain mode from 1430 G.m.t., 15 October,	was c	operated	in t	he e:	xtende	ed gar	n mode	from .	1430 G	m.t.	15 October	ئ
periment	to 1	1443 G.m.t.,	18 (.t., 18 October, because of an increase in solar wind activity	beca	nse (of an	incre	ase in	solar	wind c	activit	î.	1

Solar wind	The instrument is UN, in the normal gain mode, and recording solar wind play
spectrometer	The experiment was operated in the extended gain mode from 1430 G.m.t., 15
experiment	to 1443 G.m.t., 18 October, because of an increase in solar wind activity.
Suprathermal ion detector experiment	Commanded OFF 3 May 1976.

4 June 1974.		
1 OFF 1		
d 0		
Commanded		
Lunar surface	magnetometer	experiment

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

APOLLO 16 ALSEP 1643 22797 253.9° 63.2w (63.6w) DSS-1 (10w) ON ASE OFF 28.7°F 125.8°F -10.2°C N/A N/A N/A N/A N/A OFF	Values in parentheses indicate RTG outputs at a similar sun angle during the previous Lunation.
APOLLO 15 ALSEP 1908 37504 242.5° 52.8w (53.9w) ALL OFF LSM & SWS OFF/HFE ~20.5°F STBY 124.7°F OFF OFF 7.8°C 110.3°K N/A N/A 283.8°K	Values in parentheses indica RTG outputs at a similar sun angle during the previous Lunation.
APOLLO 14 ALSEP 1974 16674 211.0 WOTE: LOS 9 Oct 76	STBY
APOLLO 12 ALSEP 2527 30691 215.0° 49.4w (49.7ω) DSS-1 (10w) ON SIDE & LSM OFF 3.8°F Offscale LOW OFF -43.4°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1408 35900 269.6° 65.7w (66.0w) 0N 0FF LACE, LEAM & LSG STBY 25.1°F -16.1°F -10W 286.0°K STBY 30.4°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 10/21/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		ı	LOS 14/1709		
14 October	ORR/HAW	Higher Priority	AOS 14/1724	ALL	15 ^m
		·	LOS 14/1856		
14 October	HAW	Higher Priority	AOS 14/1957	ALL	1 ^h 01 ^m
			LOS 14/2041		
14 October	HAW/ORR	Higher Priority	AOS 14/2120	ALL	39 ^m
			LOS 14/2200		
14 October	ORR/MAD	Higher Priority	AOS 14/2232	ALL	32 ^m
			LOS 15/0315		
15 October	MAD/MIL	Higher Priority	AOS 15/0350	ALL	35 ^m
			LOS 16/0321		And the state of t
16 October	MAD/MIL	Higher Priority	AOS 16/0445	ALL	1 ^h 24 ^m
			LOS 16/1710		
16 October	MIL/ORR	Higher Priority	AOS 16/1739	ALL	29 ^m
		And A will be a series of the	LOS 17/0155		
17 October	MAD	Higher Priority	AOS 17/0303	ALL	1 ^h 08 ^m
			LOS 17/1719	The state of the s	profit profit film in the health gap a confugation to profit prof
17 October	ROS	Station Problem	AOS 17/1730	ALL	11 ^m
	,		LOS 18/0217		
18 October	ORR/MAD	Higher Priority	AOS 18/0300	ALL	43 ^m
			LOS 18/2016		
18 October	GDS/ORR	Station Problem	AOS 18/2035	A15, A17	19 ^m
			LOS 18/2017		
18 October	GDS/ORR	Station Problem	A0S 18/2035	A12	18 ^m
		And the second s	LOS 19/0315		
19 October	ORR/MAD	Schedule Problem	A0S 19/0324	ALL	o9 ^m
			LOS 19/0719		and function patients in the contract of the c
19 October	MAD ,	Higher Priority	A0S 19/0746	ALL	27 ^m
			LOS 19/0850		Andrew Control of the
19 October	MAD/MIL	Higher Priority	A0S 19/0915	ALL	25 ^m
		MCTOCATION PROCESSES AND TO A SIN STATE OF THE PROCESSES AND THE COLUMN TO ASSESSES AND THE COLUMN TO ASSESSED AND THE COLUMN TO ASSESSES AND THE COLUMN TO ASSESSED AND THE COLUMN TO ASSESSES AND THE COLUMN TO	LOS 19/1305		Annual of the Charles
19 October	BDA/GDS	Station Problem	AOS 19/1333	ALL	28 ^m
		en de l'estate de la company d	LOS 20/0131		en e
20 Uctober	ORR	Station Problem	AOS 20/0135	ALL	o4 ^m
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20 October	ORR	Station Problem	A0S 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
-			LOS 20/0254		
20 October	ORR	Station Problem	AOS 20/0258	ALL	04 ^m
		·	LOS 20/0416		
20 October	ORR/MAD	Station Problem	AOS 20/0419	ALL	o3 ^m
			LOS 20/0522		
20 October	MAD	Higher Priority	AOS 20/0612	ALL	50 ^m
			LOS 20/2217		
20 October	ORR	Station Problem	AOS 20/2219	ALL	o2 ^m
	0.00		LOS 21/0259		
21 October	ORR	Higher Priority	AOS 21/0321	ALL	22 ^m
			LOS 21/0517		
21 October	ORR/MAD	Higher Priority	AOS 21/0605	ALL	48 ^m
			LOS		
		COMPANIENT L	AOS		
			LOS	·	
			AOS		
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THE ASSOCIATION CONTRACTOR CONTRA	entrangen (non-construction) and security and the second of the second o		Aos		
			LOS		er Tein angewalde enementerprise verwiedlier gelaufer Gereioù e ly gryf fer
Elimetrones received			AOS		

PSE CALS DAILY	16/290	0330-0530 ALSEP 15 HFE ON ALSEP 17 NBR - 33 ^m	23/297 NO SUPPORT	30/304 0930-1130 ALSEP 15 TIMER RESET C/S HTR OFF TIMER RESET
	15/289	ALSEP 17 HBR - 11m	22/296 0900-1100 ALSEP 17 NBR	29/303 NO SUPPORT ALSEP 16
ŲENTS.	14/288	0000-0100 ALSEP 16 ALSEP 16 C/S HTR ON ALSEP 15 HFE STBY	21/295 NO SUPPORT	28/302 NO SUPPORT
ALSEP SUPPORT SCHEDIII E/EYENTS	13/287	0000-0100 ALSEP 17 1400-1600 ALSEP 17 NBR - 54 ^m HFE RBS ALSEP 16 LSM FLIP CAL	20/294 0900-1100 ALSEP 17 NBR - 1 ^h 16 ^m ALSEP 15 HFE STBY	27/301 0900-1100 ALSEP 17 NBR HFE RBS
	12/286	0900-1100	19/293 0900-1100	26/300 NO SUPPORT
CDT through 23 October CST after 23 October	11/285	0900-1100 ALSEP 15 SIDE ON ALSEP 17 NBR - 17 ALSEP 16 LSM FLIP CAL	18/292 0900-1100 ALSEP 17h NBR - 9h37m	25/299 0900-1100 ALSEP 17 NBR
- Local (TIMES - Local (OCT 10/284	ĺΩ	OCT 17/291 1500-1900 ALSEP 14 ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 36 ^m ALSEP 15 HFE RBS	NO SUPPORT

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

APOLLO DATA ARCHIVING GROUP

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Dr. K. Hills

Dr. J. Hoffman

Dr. R. Kovach

Mr. J. Kunselman

Dr. M. Langseth

Dr. G. Latham

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 $106 \pm 8^{\circ}\text{K}$. 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

1976
28 October
1700 G.m.t.,
1976, to 1
October
3.m.t., 21
rom 1700 (
status fr
Operational

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 ± 3.0 dbm by the 30-foot antenna tracking stations. The DSS-1 (10 watt) Heater is ON for lunar night operation.
Central station

work congruity (thermal control, oop filter IN). No significant ort period.	
The instrument is configured for seismic network congruity (thermal control, NUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period.	
Passive seismic T experiment P	

27).	
SMEAR 27	
16 ALSEP,	
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smic Experiment	
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The Active	
Active seismic	experiment
A	

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 $^{\pm}$ 1.5 dbm by the tracking stations with 30-foot antennas.

Passive seismic

experiment

timer outputs. No significant seismic events were observed during this report period, 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 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

Suprathermal ion detector/cold

cathode gauge

ment change and not to any spurious commands. The SIDE was commanded back to Reset Frame requires two separate commands to occur, the change is attributed to an internal instrureal-time support periods of 22 and 25 October the SIDE experienced a change from Reset As the Master Reset (Load 008) 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. $\mathbb{B}_{\mathcal{E}}$ Frame Counter at 39 to Master Reset (0-127 frames). Counter at 39 on 25 October at 1417 G.m.t.

experiments

The instrument was commanded to STANDBY, 16 October, to increase the central station's reserve power during lunar night.

Solar wind

experiment

Heat flow

Commanded OFF 14 June 1974.

spectrometer experiment Commanded OFF 14 June 1974.

Lunar surface magnetometer experiment

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

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entra

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 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. 2.94°F (Ref. Apollo 12 ALSEP, SWEAR 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

The instrument was commanded to STANDBY at 1436 G.m.t., 27 October.

spectrometer experiment

Commanded OFF 3 May 1976.

Suprathermal ion experiment detector

Commanded OFF 14 June 1976.

Lunar surface magnetometer experiment

Status as of 1600 G.m.t., 27 October 1976, was as follows:

APOLLO 16 ALSEP	1650 22822 340.4° 63.2w (63.2w) DSS-1 (10w) ON ASE OFF 27.6°F 125.8°F -10.2°C N/A N/A N/A OFF	ses indicate milar sun angle lunation.
APOLLO 15 ALSEP	1915 37552 328.5° 52.2w (53.3w) ALL OFF LSM & SWS OFF/HFE -7.7°F OFF OFF OFF 7.8°C 108.3°K N/A N/A STBY	Values in parentheses indicate RTG outputs at a similar sun angle during the previous lunation.
APOLLO 14 ALSEP	1974 16674 307.5° NOTE: LOS 9 Oct 76	B√
APOLLO 12 ALSEP	2534 30703 301.5° 48.7w (49.4w) DSS-1 (10w) ON SIDE & LSM OFF/SWS 2.9°F OFFscale LOW OFF -43.4°C OFF N/A N/A N/A	APOLLO 17 ALSEP 1415 35949 355.8° 65.3w (66.0w) 0N 0FF LACE, LEAM & LSG STBY 23.9°F -16.1°F LOW 285.8°K STBY 27.8°F
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AM-41) LEAM Temp (AJ-11) HFE Temp (AJ-11) LSG Temp (AP-01)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 10/28/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 20/0258		
20 October	ORR	Higher Priority	AOS 20/0351	ALL	53 ^m
		·	LOS 21/0259		
21 October	ORR	Higher Priority	AOS 21/0320	ALL	21 ^m
			LOS 21/0517		
21 October	ORR/MAD	Higher Priority	AOS 21/0550	ALL	33 ^m
			LOS 21/0942		
21 October	AGO	Station Problem	AOS 21/0945	A12, A17	03 ^m
			LOS 21/1335		
21 October	MAD	Station Problem	AOS 21/1340	ALL	05 ^m
e e		ACTOR AND ACTOR AND ACTOR AND ACTOR AND ACTOR AC	LOS 21/2320		
21-22 October	GDS/HAW	Higher Priority	AOS 22/0005	ALL	45 ^m
			LOS 22/0036	744 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
22 October	HAW	Higher Priority	AOS 22/0108	ALL	32 ^m
			LOS 22/0206		
22 October	HAW	Higher Priority	AOS 22/0249	ALL	43 ^m
Association and association is appear conserved external 22 en violent value for A. Definition	Makemana and an and an administration of the first and an administration of the annual state of the annual	- 30 f. April 100 programme Andrews (100 programme Andrews 100 programme Andrews 100 programme Andrews	LOS 22/0306		
22 October	HAW/MAD	Higher Priority	AOS 22/0610	ALL	3 ^h 04 ^m
			LOS 22/0937		
22 October	MAD/AGO	Higher Priority	AOS 22/1014	ALL	37 ^m
The second secon			LOS 23/0943		
23 October	MAD/AGO	Higher Priority	AOS 23/1058	ALL	1 ^h 15 ^m
Percentage In Commission and CA Annian Activities and Annian Security (NATA 1999) Annian Anni			LOS 23/1600		
23 October ·	AGO/MIL	Higher Priority	AOS 23/1617	ALL	17 ^m
			LOS 24/0832	A THE STREET OF	
24 October	ORR/MAD	Higher Priority	AOS 24/0914	ALL	42 ^m
			LOS 24/0949		mappingar with the control of the co
24 October	MAD	Higher Priority	AOS 24/1041	ALL	52 ^m
Bridgerren 200 Bright of State Conference State Bridger State Conference Conference State C			LOS 25/0925		AMIN'NY TRANSPORTENTAN'I AMIN'NY TRANSPORTENTAN'I PROPERTY NA BEN'NY TRANSPORTANTAN'I PROPERTY NA BEN'NY NA BEN'NY TRANSPORTANTAN'I PROPERTY NA BEN'NY TRANSPORTANTAN'
25 October	ORR	Station Problem	AOS 25/0930	A17	05 ^m
	kanalan kerengan kelalan debada kerengi belah di kelalah di kelalah dari bada sebagai berangan berangan berang	punggan dan kerupatan kerupatan dan dan dan dan dan dan dan dan dan d	LOS 25/0947		
25 October	ORR/MAD	Higher Priority	AOS 25/1054	ALL	1 ^h 07 ^m
Марти Распой на Постом (на Поста на ССО) выбрата на распой на принципри на настраните на подава на принципри н Поста на Поста на По			LOS 26/0030		onest - Cloud and the second productive of the second seco
26 October	GDS	Station Problem	AOS 26/0039	A15	09 ^m
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26 October	GDS	Station Problem	AOS 26/0039	A12	06 ^m

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 10/28/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 26/1048		
26 October	ORR/MAD	Higher Priority	AOS 26/1107	ALL	19 ^m
		·	LOS 27/1059		
27 October	ORR/MAD	Higher Priority	AOS 27/1142	ALL	43 ^m
			LOS 27/2155		
27 October	GDS	Higher Priority	AOS 27/2221	ALL	26 ^m
			LOS 28/0828		
28 October	ORR	Higher Priority	AOS 28/0910	ALL	42 ^m
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SUPPORT SCHEDIN E/EVENTS PSE CALS DAILY	03/308 04/309 05/310 06/311	0900-1100 0900-1100 0400-0800 0900-1100 ALSEP 15 ALSEP 15 ALSEP 15 ALSEP 15 SIDE STBY CYCLE SIDE SIDE SUPPORT CYCLE SIDE	ALSEP 16 LSM FLIP CAL NBR	ALSEP 17 NBR HFE RBS	10/315 11/316 12/317 13/318	0900-1100	1900-2000	LSM FLIP CAL CAL CYS HTR ON	ALSEP 17 NBR	17/322 18/323 19/324 20/325	0900-1100 0900-1100 NO SUPPORT ALSEP 17 ALSEP 17 HFE STBY NBR HFE RBS HFE STBY NBR HFE RBS NBR NBR			
\$	04/309	Ц	ALS	ALS	11/316		COLC	70	ALS	18/323		and the second second		
PORT SCHEDILLE/EVENT	03/308		NLSEP 16 LSM FLIP CAL	ALSEP 17 NBR HFE RBS	10/315	1100 17		LSM FLIP CAL		17/322				
ALSEP SUP	02/307	1000-1200 A	A	- W	09/314	0900-1100 ALSEP 15 SIDE ON	4		e de la composition de la constance e e e e e e e e e e e e e e e e e e	16/321	9400 0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	- No. and also - No. and	A Maria wal	
	NOV 01/306		PSE Z MIK UFF SWS ON ALSEP 17	NBK ALSEP 16 LSM FLIP CAL	08/313	0900-1100 ALSEP 15 CYCLE SIDE	ALSEP 17 NBR	LEAM STBY	ALSEP 16 LSM FLIP CAL	15/320	0900-1100 ALSEP 14 ALSEP 17 NBR			
TIMES - CDI	OCT 31/305		ALSEP 15 HFE OFF		NOV 07/312	2-1100 EP 15 CLE SIDE				NOV 14/319	0900-1100 ALSEP 15 HFE ON			

PSE CALS DAILY	15/289 16/290 0900-1100 0330-0530	ALSEP 17 HFE ON NBR - 11m ALSEP 17 NBR - 33m		22/296 23/297	0900-1100 NO SUPPORT ALSEP 17 NBR - 53 ^{m -} HFE RBS			29/303 30/304	1900-2000 ALSEP 16 ALSEP 15 TIMER RESET C/S HTR 0FF C/S HTR 0FF TIMER RESET	
ENTS	14/288 0000-0100 16 16 16 16 09	NO	ALSEP 15 HFE STBY	21/295	NO SUPPORT AI			28/302	NO SUPPORT A	
ALSEP SUPPORT SCHEDULE/EYENTS	13/287		. 16 FLIP CAL	20/294	0900-1100 ALSEP 17 NBR - 1 ^h 16 ^m	ALSEP 15 HFE STBY		27/301	0900-1100 ALSEP 17 NBR - 57 ^m HFE RBS ALSEP 12 SWS STBY	
	12/286 0900-1100			19/293	0900-1100			26/300	NO SUPPORT	
CDT through 30 October CSI after 31 October	060	ALSEP 15 SIDE ON ALSEP 17 NBR - 17 ALSEP 16	LSM FLIP CAL	18/292	0900-1100 ALSEP 17 NBR - 9 ^h 37 ^m			25/299	0900-1100 ALSEP 17 NBR - 17 ^m	
TIMES - Local	728 POF			OCT 17/293	1 () (()	ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR - 36 ^m	ALSEP 15 HFE RBS	OCT 24/298	1 (2) (

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 $367 \pm 8^{\circ} \text{K}$. 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

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.
station				
Central station				

scale 13 November. No significant seismic events were noted during real-time support this report period. The instrument is configured for seismic network congruity (thermal control, AUTO ON, component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) is offscale HIGH and is expected to return on-Passive seismic experiment

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 The LSM is ON and recording data. Science data from the Z-axis remained static engineering data since deployment. Lunar surface magnetometer experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic

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

Sunrise of the 66th lunation occurred on 30 October at the Hadley Rille Site. Trans mitter 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

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 The instrument is in STANDBY. The experiment is presently being cycled from STANDhigh 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

Commanded OFF June 1974.

experiment

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

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. Central station

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.

Passive seismic

experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Suprathermal ion Commanded OFF 3 May 1976. detector Lunar surface Commanded OFF 14 June 1974. magnetometer

experiment

experiment

Status as of 1700 G.m.t., 4 November 1976, was as follows:

APOLLO 15 ALSEP APOLLO 16 ALSEP	1923 37701 66.4° 53.6w ALL OFF LSM,SWS,& HFE OFF/ 107.0°F 141.2°F OFF OFF STBY N/A N/A N/A N/A N/A N/A N/A N/A	
	192. 3776. 66. 53. 107 107 141 06FF 87B 87B 87B 87B 9FF	
APOLLO 14 ALSEP	1974 16674 45.3° NOTE: LOS 9 Oct 76	1900 G.m.t. EAM OFF
APOLLO 12 ALSEP	2542 30795 39.3° 50.0w ALL OFF SIDE & LSM OFF 87.4°F 127.0°F 0FF 67.5°C 0FF N/A N/A	APOLLO 17 ALSEP 3 November 1976, 1900 G.m. 1422 35978 93.5° 63.7w 0N 0FF LACE & LSG STBY/LEAM OFF 157.7°F 157.7°F 179.0°F 329.3°K STBY
TM POINT	Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DW-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (DG-04)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 11/04/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
		:	LOS 28/1100		
28 October	ORR/MAD	Higher Priority	AOS 28/1230	ALL	1 ^h 30 ^m
to the second	**************************************		LOS 29/0940		
29 October	ORR	Higher Priority	AOS 29/0950	ALL	10 ^m
			LOS 29/1320		
29 October	ORR/MAD	Higher Priority	AOS 29/1535	ALL	2 ^h 15 ^m
			LOS 30/1146		
30 October	ORR	Higher Priority	AOS 30/1211	ALL	25 ^m
·			LOS 31/0956		
31 October	ORR	Higher Priority	AOS 31/1039	ALL	43 ^m
8.5		American Common Common Maria Common C	LOS 31/1347		The second secon
31 October	ORR/MAD	Higher Priority	AOS 31/1423	ALL	36 ^m
			LOS 31/2200		
31 October	AGO	Station Problem	AOS 31/2204	ALL	o4 ^m
		Committee of the second	LOS 01/1120		
01 November	ORR	Higher Priority	AOS 01/1146	ALL	26 ^m
The state of the s	70-10-10-10-10-10-10-10-10-10-10-10-10-10		LOS 02/1100		
02 November	ULA	Higher Priority	AOS 02/1237	ALL	1 ^h 37 ^m
	,		LOS 02/1357		
02 November	ORR	Higher Priority	AOS 02/1418	ALL	21 ^m
		A CONTRACTOR OF THE PROPERTY O	LOS 03/1135	AND	
03 November	ORR/HAW	Higher Priority	AOS 03/1152	ALL	17 ^m
			LOS 03/1232		
03 November	HAW/ORR	Higher Priority	AOS 03/1252	ALL	20 ^m
			LOS 03/1637		
03 November	ORR/MAD	Schedule	AOS 03/1643	ALL	o7 ^m
			LOS 03/1844		
03 November	MAD ,	Station Problem	AOS 03/1846	A-17	02 ^m
			LOS		
			AOS		
		and the same state of the same	LOS		
		,	AOS		
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TIMES - Local	CDI through 30 October CSI after 37 October	ALSEP	SUPPORT SCHEDILI EZEVENTS	ENTS		PSE CALS DAILY
0CT 10/284	11/285	12/286	13/287	14/288	15/289	16/290
NO SUPPORT	0900-1100 ALSEP 15 SIDE ON	0900-1100	0000-0100 ALSEP 17	0000-0100 ALSEP 16	1 . 1 .	0330-0530 ALSEP 15 HFE ON
	ALSEP 17 m		1400-1600 ALSEP 17 NBR - 54 ^m	0900-1100 ALSEP 16 C/S HTR ON	PRE I	ALSEP 17 NBR - 33 ^m
	ALSEP 16 LSM FLIP CAL		<u>م ت ال</u>	ALSEP 15		
		· .		HFE STBY		
OCT 17/291	18/292	19/293	20/294	21/295	22/296	23/297
1500-1900 ALSEP 14	0900-1100 ALSEP 17 NBR - 9 ^h 37 ^m	0000-1100	0900-1100 ALSEP 17 NBR - 1 ^h 16 ^m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 53m- HFF RRS	NO SUPPORT
ALSEP 12 C/S HTR ON PSE Z MTR ON			ALSEP 15 HFE STBY			THE PERSON NAMES AND ADDRESS OF THE PERSON NAMES AND ADDRESS O
ALSEP 17 NBR - 36 ^m	akang saku Angga Major Akano					
ALSEP 15 HFE RBS						
OCT 24/298	25/299	26/300	27/301	· 28/302	29/303	30/304
NO SUPPORT	0900-1100 ALSEP 17 NBR - 17 ^m	NO SUPPORT	0900-1100 ALSEP 17 NBR - 57 ^m HFE RBS	NO SUPPORT	1900-2000 ALSEP 16	0930-1130 ALSEP 15 TIMER RESET
	r a Servi ya nasandanina as		ALSEP 12 SWS STBY			ALSEP 16 C/S HTR OFF TIMER RESET
						-ALSEP 17 LEAM - OFF NBR - 29m
BEN-20				A STATE OF THE PROPERTY OF THE		NASA-JSC

TIMES - CDT		ALSEP SI	SUPPORT SCHEDULE/EVENTS	ENTS		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	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF	1000-1200	1100-1300 ALSEP 15 SIDE STBY	0900-1100 ALSEP 15 CYCLE SIDE	<u>3800</u> 15 SUPPORT	0900-1100 ALSEP 15 CYCLE SIDE
HFE OFF	NO SMS		ALSEP 16 LSM FLIP CAL		ALSEP 17 NBR	
NBR - 01	ALSEP 16 LSM FLIP CAL		ALSEP 17 h ₁₀ m NBR - 01h ₁₀ m HFE RBS		ALSEP 16 LSM FLIP CAL	
				ŀ		
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	0900-1100 ALSEP 15 SIDE ON	0900-1100 ALSEP 17 NBR HFF BRS	0900-1100 ALSEP 17	0300-4000	0900-1100 ALSEP 15
	ALSEP 17 NBR LEAM STBY		ALSEP 16 LSM FLIP CAL	1900-2000	2100-2300 ALSEP 16 LSM FLIP CAL	
	ALSEP 16 LSM FLIP CAL				C/S HTR ON ALSEP 17	
					NBR	
NOV 14/319	15/320	16/321	17/322	18/323	19/324	20/325
0900-1100 AL SEP 15 HFE ON	0900-1100 ALSEP 14 ALSEP 17	9400 0800 ALSEP 12 C/S HTR ON PSE Z MTR ON	0900-1100 ALSEP 17 NBR HFE RBS	0900-1100 ALSEP 15 HFE STBY	0900-1100 ALSEP 17 NBR	NO SUPPORT
	NBR	1600-1700				or or or a
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			·			
BEN-20						NASA-JSC

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 $180 \pm 8^{\circ}\text{K}$. 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

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.
Noon at 18-hour plan ini reported (10 watt
Central station

The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). The instrument assembly temperature (DL-O7) remains offscale HIGH and is expected to return onscale 13 November. No significant seismic events were noted during real-time support this report period. Passive seismic 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. Lunar surface magnetometer experiment

The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27). Active seismic experiment

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 \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. The instrument assembly temperature (DL-O7) was offscale HIGH from 5 to 10 November between the sun angles 75.2° and 138.5°. significant seismic events were observed during this report period.

Suprathermal ion detector/cold cathode gauge

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

The instrument is OFF.

experiment

Solar wind spectrometer experiment

Goldstone 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

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. Central station

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. Passive seismic

experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Commanded OFF 3 May 1976. Suprathermal ion

detector

Commanded OFF 14 June 1974. Lunar surface magnetometer experiment

experiment

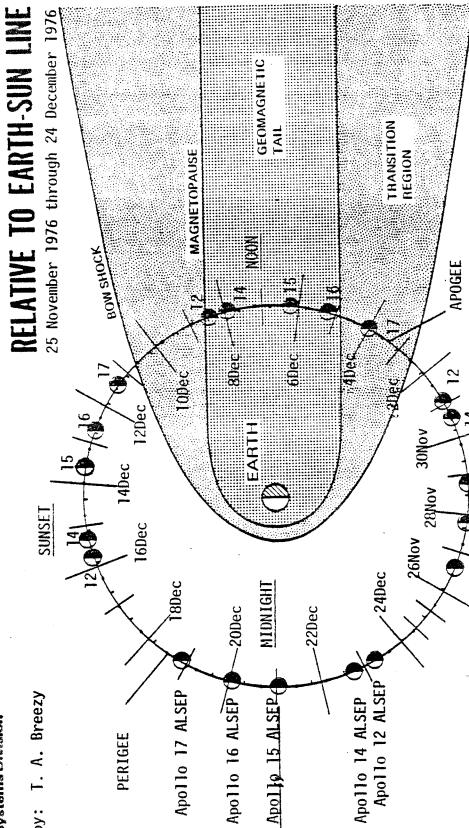
Status as of 1700 G.m.t., 11 November 1976, was as follows:

APOLLO 16 ALSEP 1665 23022 163.4° 63.2w ALL OFF ASE OFF 69.4°F Offscale HIGH 40.3°C N/A N/A N/A N/A N/A OFF	
APOLLO 15 ALSEP 1930 37820 151.5° 53.2w ALL OFF LSM,SWS,& HFE OFF 91.6°F 128.9°F 0FF 79.2°C 331.4°K N/A N/A 0FF	
APOLLO 14 ALSEP 1974 16674 130.4° NOTE: LOS 9 Oct 76	1500 G.m.t.
APOLLO 12 ALSEP 2549 30858 124.4° 50.3w ALL OFF SIDE & LSM OFF 91.6°F 0ffscale HIGH OFF 0FF N/A N/A N/A	APOLLO 17 ALSEP 10 November 1976, 1429 36016 165.6° 64.5w 0N 0FF LACE, LEAM, & LSG S 65.8°F 104.0°F 152.2°F 298.7°K STBY 70.7°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SMS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CPLEE Elect Temp (AC-06) ASE GLA Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status (AB-14) Experiment Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 04/1046		
04 November	HAW	Higher Priority	AOS 04/1141	ALL	55 ^m
		·	LOS04/1220		
04 November	HAW/ORR	Higher Priority	AOS 04/1300	ALL	40 ^m
			LOS 05/1305		
05 November	ULA/ORR	Higher Priority	AOS 05/1353	ALL	48 ^m
			LOS 05/1954		
)5 November	MAD	Higher Priority	AOS 05/2037	ALL	43 ^m
			LOS 07/2022		
7 November	MAD	Higher Priority	AOS 07/2052	ALL	30 ^m
9 K			LOS 08/0748		
08 November	MAD/MIL	Higher Priority	A0S _{08/0830}	ALL	42 ^m
			L0S 08/2005		
08 November	MAD	Higher Priority	A0S 08/2050	ALL	45 ^m
			LOS 09/2040		
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PSE CALS DATLY	06/311	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 42 ^M LUNAR PENUMBRAL ECLIPSE START - 2046	13/318	0900-1100 ALSEP 15	20/325	NO SUPPORT	NASA-JSC
	05/310	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 16 LSM FLIP CAL	12/317	0300-4000 1200-1300 2100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR	19/324	0900-1100 ALSEP 17 NBR	
/ENTS	04/309	0900-1100 ALSEP 15 CYCLE SIDE	11/316	0900-1100 ALSEP 17 1900-2000	18/323	0900-1100 ALSEP 15 HFE STBY	Andreas de la company de la co
SUPPORT SCHEDULE/EVENTS	03/308	1100-1300 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 h10 ^m NBR - 01 ^h 10 ^m HFE RBS	10/315	0900-1100 ALSEP 17 NBR - 51 ^m HFE RBS ALSEP 16 LSM FLIP CAL	17/322	0900-1100 ALSEP 17 NBR HFE RBS	
ALSEP SI	02/307	1000-1200	09/314	0900-1100 ALSEP 15 SIDE ON	16/321	0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON 1600-1700	
TS	NOV 01/306	1200-1400 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 16 LSM FLIP CAL	08/313	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 ^{III} LEAM STBY ALSEP 16 LSM FLIP CAL	15/320	0900-1100 ALSEP 14 ALSEP 17 NBR	
TIMES - LOCAL CST	OCT 31/305	1300-1500 ALSEP 14 ALSEP 15 HFE 0FF ALSEP 17 h NBR - 01h	NOV 07/312	0900-1100 ALSEP 15 CYCLE SIDE LUNAR PENUMBRAL ECLIPSE END - 0117	NOV 14/319	0900-1100 ALSEP 15 HFE ON	BEN-20



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NOTE: DATES NOTED ARE

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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 $\frac{1}{2}$ 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

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.	The instrument is configured for seismic network congruity (thermal control, AUTO ON; component gain O db; and feedback loop filter IN). No significant seismic events were observed during this report period.	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.	The Active Seismic Experiment is currently OFF (Apollo 16 ALSEP, SMEAR 27).
Central station	Passive seismic experiment	Lunar surface magnetometer experiment	Active seismic experiment

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 SIANDBY 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

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.

experiment

The instrument is in STANDBY.

experiment Heat flow

Commanded OFF 14 June 1974.

spectrometer experiment

Solar wind

Commanded OFF 14 June 1974.

Lunar surface magnetometer

experiment

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 10S 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 track-

Passive seismic experiment

(gain changes, filter IN and OUT, auto and forced leveling) were sent in attempts to bring the LP I axis onscale. On 17 November the LP I axis was commanded onscale by extended periods of leveling in the high speed mode. It appears that the LP I 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 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 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) I axis was offscale (instead of centered) AUTO ON for lunar night operation. On 15 and 16 November, numerous commands filter be left OUT for better evaluation of the LP 2 data.

Active seismic

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

experiment

The instrument was commanded to OFF on 21 May 1976,

Suprathermal ion detector/cold cathode gauge experiments

The experiment is ON and operating in the manual mode at the -35 vdc range and automatic thermal control mode.

Charged particle environmental experiment lunar

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.

<u>LOS'S</u>							
	LOS	LOS	LOS	LOS	LOS		
Date Sun Angle Avg	1 Mar 75 108.1°	18 Jan 76 95.2°	17 Mar 76 85.6°	8 Jun 76 23.4°	9 Oct 76 82.6°		
Therm P1 RTG Power Res. Power Transmitter Receiver PCU PSE PSE Htr CPLEE SIDE ASE DTREM	115.8°F 63.63w 39.11w A ON-Xtal A I ON Forced OFF STBY UNK STBY ON	119.6°F 61.74w 36.51w A OFF 2 ON Forced OFF STBY UNK STBY	116.5°F 61.94w 36.94w A ON-Xtal B I ON Forced OFF STBY OFF STBY ON	71.5°F 61.86w 33.04w B ON-Xtal B 1 ON Auto ON OFF STBY ON	113.6°F 60.72w 35.85w B ON-Xtal A 1 ON/FILT. IN Forced OFF STBY OFF STBY		
		<u> AOS '</u>	<u>S</u>				
	AOS	AOS	AOS	AOS	AOS		
Date Sun Angle Avg	5 Mar 75 159.3°	19 Feb 76 117.5°	20 May 76 156.1°	10 Jun 76 45.8°	12 Nov 76 137.9°		
Therm P1 RTG Power Res. Power Transmitter Receiver PCU PSE PSE Htr CPLEE SIDE ASE DTREM	62.9°F 64.15w 40.88w A OFF 2 ON Forced OFF STBY UNK STBY	95.7°F 62.12w 30.49w A 0N-Xtal B 2 ON Auto ON ON UNK STBY OFF	58.5°F 61.61w 31.31w A ON-Xtal B 2 ON Auto ON ON UNK STBY ON	77.3°F 59.16w 27.71w B ON-Xtal B 2 ON Auto ON ON OFF STBY ON	75.5°F 56.92w 25.97w B ON-Xtal A 2 ON/FILT. IN Auto ON OFF STBY OFF		

Apollo 12 ALSEP

Operational status from 1700 G.m.t., 11 November 1976, to 1700 G.m.t., 18 November 1976

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. Central station

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. 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) I5 November and was offscale LOW 18 November (sun angle 171.9° to 209.0°F). The Passive seismic

experiment

The instrument is ON, in the normal gain mode, and recording solar wind plasma spectrometer experiment Solar wind

Commanded OFF 3 May 1976. Suprathermal ion experiment detector

Commanded OFF 14 June 1974. magnetometer Lunar surface experiment

Status as of 1700 G.m.t., 18 November 1976, was as follows:

APOLLO 16 ALSEP 1672 23130 248.5° 63.2w (63.2w) DSS-1 (10w) ON ASE OFF 28.1°F 125.8°F -10.2°C N/A N/A N/A N/A OFF OFF	indicate RTG vious lunation
APOLLO 15 ALSEP 1937 37977 236.6° 51.5w (52.8w) ALL OFF LSM & SWS OFF/HFE -8.4°F 124.6°F OFF OFF OFF 7.2°C 112.2°K N/A STBY	Values in parentheses indicate RTG outputs during the previous lunation at a similar sun angle.
APOLLO 14 ALSEP 1980 16874 215.5° 60.2w (<i>LOS</i>) DSS-1 (10w) ON ASE STBY/SIDE OFF 26.5°F 124.1°F N/A N/A OFF -21.9°C -66.4°C	1600 G.m.t.
APOLLO 12 ALSEP 2556 30975 209.6° 48.7w (49.4ω) DSS-1 (10w) ON SIDE & LSM OFF 3.2°F OFF OFF -14.8°C OFF N/A N/A N/A	APOLLO 17 ALSEP 17 November 1976, 1436 36048 251.5° 65.6w (65.7w) 0N 0F LACE, LEAM, & LSG 11.2°F -16.1°F -52.0°F 285.0°K STBY 15.9°F
TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power Heater and Power Dumps Experiment Status Avg Thermal Plate Temp PSE Sensor Temp (DL-07) LSM Internal Temp (DM-05) SWS Module 300 Temp (DM-13) SIDE Temp (DI-05) CCGE Temp (DI-04) CCGE Temp (AS-03) HFE Temp Ref 1 (DH-13)	TM POINT Total Days of Operation Total Commands to Date Sun Angle Input Power APM Status (AB-13) Power Dump Status Avg Thermal Plate Temp LACE Temp (AM-41) LEAM Temp (AJ-11) HFE Temp Ref 1 (DH-13) LSG Temp (AP-01)

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 11/18/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 11/1751		
11 November	HAW/ORR	Schedule	AOS 11/1922	ALL	1 ^h 29 ^m
			LOS 11/2100		
11 November	ORR/MAD	Schedule	AOS 11/2118	ALL	18 ^m
			LOS 11/2314		
11 November	MAD	Higher Priority	AOS 11/2344	ALL	30 ^m
			LOS 12/2132		
12 November	ULA/MAD	Higher Priority	AOS 12/2214	ALL	42 ^m
			LOS 14/0000		
14 November	ORR/MAD	Schedule	AOS 14/0003	ALL	03 ^m
n n			LOS 15/0103		
15 November	ORR/MAD	Schedule	AOS 15/0110	ALL	07 ^m
			LOS 16/1450		
16 November	MIL/HAW	Schedule	AOS 16/1554	ALL	1 ^h 04 ^m
			LOS 17/0259		
17 November	ORR/MAD	Schedule	AOS 17/0301	ALL	02 ^m
			LOS 18/0810		
18 November	MAD/MIL	Higher Priority	A0S 18/0832	ALL	22 ^m
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PSE CALS DAILY	06/311	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 42 ^m LUNAR PENUMBRAL ECLIPSE START - 2046	13/318 0900-1100 ALSEP 15 HFE STBY ALSEP 14 PSE HTR ON NO SUPPORT	NASA-JSC
	05/310	0400-0800 ALSEP 15 SIDE SUPPORT ALSEP 16 LSM FLIP CAL	12/317 ALSEP 14 AOS 0148 0300-0600 1200-1300 Z100-2300 ALSEP 16 LSM FLIP CAL C/S HTR ON ALSEP 17 NBR - 08 NBR - 08 NBR - 17 NBR NBR - NBR	
ÝENTS	04/309	0900-1100 ALSEP 15 CYCLE SIDE	11/316 0900-1100 ALSEP 17 1900-2000 1900-1100 ALSEP 15	
SUPPORT SCHEDILE/EVENTS	03/308	1100-1300 ALSEP 15 SIDE STBY ALSEP 16 LSM FLIP CAL ALSEP 17 NBR - 01 ^h 10 ^m HFE RBS	10/315 0900-1100 ALSEP 17 NBR - 51m HFE RBS ALSEP 16 LSM FLIP CAL 17/322 0900-1100 ALSEP 17 NBR - 1 h29m HFE RBS	
ALSEP S	02/307	1000-1200	09/314 0900-1100 ALSEP 15 SIDE ON 16/321 0400-0800 ALSEP 12 C/S HTR ON PSE Z MTR ON C/S HTR ON 1600-1700	
CST	NOV 01/306	ALSEP 12 C/S HTR OFF C/S HTR OFF SWS ON ALSEP 16 LSM FLIP CAL	08/313 0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 17 LEAM STBY ALSEP 16 LSM FLIP CAL 15/320 0900-1100 ALSEP 14 ALSEP 17 NBR - 11m	
TIMES - LOCAL C	OCT 31/305	1300-1500 ALSEP 14 ALSEP 15 HFE OFF ALSEP 17 h NBR - 01 h	NOV 07/312 0900-1100 ALSEP 15 CYCLE SIDE LUNAR PENUMBRAL ECLIPSE END - 0117 NOV 14/319 0900-1100 ALSEP 15 HFE ON/STBY ALSEP 14 CPLEE ON	BEN-20

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PSE CALS DATEY	27/332	ALSEP 16	04/339	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	11/346	0600-0700 ALSEP 17 1600-1700	NASA-JSC
	26/331	0900-1100 ALSEP 17 NBR	03/338	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	10/345	0900-1100 ALSEP 15 NBR ALSEP 16 LSM FLIP CAL 2000-2100	
VENTS	25/330	NO SUPPORT	02/337	0900-1100 ALSEP 14 CPLEE STBY	09/344	0900-1100 ALSEP 15 SIDE ON	
SUPPORT SCHEDUI E/EVENTS	24/329	0900-1100 ALSEP 17 NBR HFE RBS	DEC 01/336	0200-0400 ALSEP 14 C/S HTR OFF ALSEP 12 C/S HTR CFF SWS ON ALSEP 17 NBR RS HFE RBS ALSEP 16 LSM FLIP CAL 1300-1400	08/343	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL	
ALSEP S	23/328	NO SUPPORT	30/335	0900-1100 ALSEP 14 ALSEP 12	07/342	0900-1100 ALSEP 15 CYCLE SIDE	
	22/327	0900-110 <u>0</u> ALSEP 1.7 NBR	29/334	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL ALSEP 15 HFE OFF	06/341	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	
TIMES - CST	NOV 21/326	NO SUPPORT	NOV 28/333	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 17 LEAM OFF	DEC 05/340	0900-1100 ALSEP 15 CYCLE SIDE	BEN-20

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 $107 \pm 8^{\circ}$ 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 O 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.

	as of week ending	1700 Z (G.m.t.)	22 November 1976		
STATUS	pollo 12	Apollo 14 ALSEP 4	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed	E	\sim	7/31/71	19387. 4/21/72	02532, 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°	Widnight, 285.0°	Midnight, 296.8°	Midnight, 312.6°
Cmds - Total/Week	30990/74	16963/176	. 62/20082	23149/46	36056/31
Spurious Changes	112	95	116	- 7.7	0
Initia		72.5w/60.3w	74.7w/51.5w	70.9w/63.2v	75.4w/65.2w
도 Reserve Power	10.6w	15.0w	12.7w	14.5w	16.2w
-Avg. Therm. Plate	4.70E	25.8°F	400°01-	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
nod c					2
TRAL Timer	Inoperative	Inoperative	Operative Reset: 10/30/76	Inhibited 5/72 Reset:10/30/26	Operative Inhibited: <i>11/22/76</i>
E leaters	USS-1 (10W)_11/98/76	DSS-1 (10w)- $\frac{CN}{11/16/76}$	/) - OFF		APM STATUS:
LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	db0,0,0	0.0.0db	LSPE -HBR 8/15/76
Heaters 7 motor (Al	Auto On)	Auto ON 11/13/76	Auto On	Auto On	WBR Real Time Mon, Wed, Fri.
E:1+0×	IN - 6/20/75	OHF - 11/19/28	TN 6/20/75	IN _ 6/20/75	
SE LICEI		194.	194 30F	1 6	Data Mon. Wed. Fri
Uncag	1	OT 11/12/76	Uncaged	10	RBS weekly
	SWS - STBY	CPLEE- ON, 11/14/76	SIDE - ON, Cycle	LSM-ON X, Y, Z Pos. 180°	LEAM-STBY 8/15/76 Static @ night
	Range: Norm. Exten.	Anal B Failed 4/71	CCGE-Failed 7/18/75/Fijp Cals 12	28 75	since 7/16/76
IENTS TIVE/			HFE -STBY, 11/14/76 Degraded 12/75	·	LSG-STBY 8/15/76 Auto Htr Failed
FDA	Dust Detector - On	DTREM - ON	DTREM - ON		No Free Modes Or Iclosed Loop Ops
J () .	OFF 5/3/76	SIDE-0FF 1/5/75	SWS-0FF 6/74	HFE-OFF Since	LACE-STBY 7/22/76
/E/	Increase reserve power for C/S heat	Failed	Failed	deployment, cable severed.	HV failed 10/73
NACTI NOPER	LSM-OFF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired.	
I		geopriories 2 a 3 Dau			

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 11/22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
	amana a sa	Control of the Contro	LOS 18/2336		
18/19 November	HAW	Higher Priority	AOS 19/0025	ALL	49 ^m
		·	LOS 19/0109		
19 November	HAW/MAD	Schedule	AOS 19/0446	ALL	3 ^h 37 ^m
			LOS 19/0818		
19 November	MAD	Higher Priority	AOS 19/0858	ALL	40 ^m
			LOS 20/0648		
20 November	MAD	Higher Priority	AOS 20/0727	ALL	39 ^m
			LOS 20/0857		
20 November	MAD	Higher Priority	AOS 20/0952	ALL	55 ^m
9.9			LOS 21/0713		
21 November	ORR/MAD	Higher Priority	AOS 21/0735	ALL	22 ^m
			LOS 21/0900		
21 November	MAD	Higher Priority	AOS 21/0953	ALL	53 ^m
			LOS 21/1716		
21 November	MIL/HAW	Higher Priority	AOS 21/1745	ALL	29 ^m
			LOS 22/0819		
22 November	ORR/MĄD	Schedule	AOS 22/0821	ALL	o2 ^m
			LOS 22/0910		
22 November	MAD	Higher Priority	AOS 22/1000	ALL	50 ^m
			LOS 22/1708		
22 November	MIL/QUI	Higher Priority	AOS 22/1721	ALL	13 ^m
			LOS		3.1
			AOS		
			LOS		
			AOS		
			LOS		
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BUTO-ENGLA-MONOCES ALCOMOTORS SIGN. (MONOCES CONTRACTORS AND MONOCES CONTRACTORS)			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 $335 \pm 8^{\circ} \text{K}$. 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 O 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 O 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.

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.

	as of week ending $^{\it I}$	1700 Z (G.m.t.)	01 December 1976		
STATUS	12	14 A	Apollo 15 ALSEP 2	Apollo 16 ALSEP 3	17
Deployed		2/5		19387. 4/21/72	02532, 12/12/72
	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
01	88/2569	73/1993	67/1950	58/1685	50/1450
Phase, Sun Angle	Sunrise, 7.9°	Sunrise, 13.9°	Survise, 35.0°	Sunrise, 46.9°	Sunrise, 62.1°
Cmds - Total/Week	31020/30	16917/27	38125/118		ł
Spurious Changes	113.	95	71.7	17.	0
Initial/Present	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
Avg. Therm. Plate	832.4°F	64.8°F	75.4°F	87.9°F	85.3°F
Transmitter	B, 7/8/74	В,	B, 8/20/76	B, 3/26/73	A, 12/9/74
≧ ^p rocessor	Y, 8/25/76	Y, 8/24/76	Y, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR B 8/74
n) bcn			,	,	2
RATimer TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	Inoperative		Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited: 11/29/76
in leaters	$0.055-1 (10M)_{12/01/76}$	DSS-1 (10w) - OFF 72/01/26	DSS-1 (10w) - OFF	(1 0	
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) OFF - 12/01/76	Auto On	Auto On	Auto On	NBR Real Time Mon, Wed, Fri.
Filter	IN - 6/29/75	JOUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, MBR
a DL-07 Temp.	126.3°F	124.8°F	2.	7	Data Mon, Wed, Fri,
Uncage Ckt.	Uncaged	. OT	0T - 11/30/76		RBS weekly
	SWS - ON, 12/01/76	CPLEE- ON, 11/14/76	SIDE - ON, Cycle LSM - ON (OFF T2 > 85°C X, Y, Z Pos. 180	LSM - ON X, Y, Z Pos. 180°	LEAM-STBY 8/15/76
	Range: Norm.12/1/26 Exten.	Anal B Failed 4/71	CCGE-Failed 7/18/75	Fip Cals 1232 Z Failed 3/3/75	since 7/16/76
MENTS TIVE,			<u>HFE</u> -STBY, 11/14/76 Degraded 12/75		L3G-STBY 8/15/76 Auto Htr Failed No Free Modes or
	Dust Detector - ON	DTREM - ON	NO		closed Loop Ops
	SIDE-OFF 5/3/76 Increase reserve	SIDE-OFF 1/5/75 Failed	SWS-OFF 6/74 Failed	HFE-OFF Since	LACE-STBY 7/22/76 HV failed 10/73
VE\				severed.	
INACTI REPER	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 Wortar #1 unfired. Sensors failed.	
PSEP - Apollo 11	Deployed 7/21/69, 23		N- Lost Uplink 8/25/69, Lost	Lost Downlink 12/14/69	

DATA	tion)
NIGHT	Lunati
NOON and	(Latest

	Night			•					7.2°C		
APOLLO 15 ALSEP	Noon	99	89.5°	138.0 dbm	53.6W	22.6w	113.8°F	HIGH	71.0°C	364.0°K	0FF
APOLLO		Lunation	Sun Angle	Sig Strth (9m)-	Input Power	Reserve Power	Av Ther Pl T.	PSE T. (DI -07)	SIDE T. (DI-05) 71.0°C	CCGE T. (DI-04)	HFE T. (DH-13)
	Night	72	263.1°	-137.5 dbm	60.3w	15.0W	25.8°F	124.6°F	-22.7°C		
APOLLO 14 ALSEP	Noon (LOS)	72									
APOLLO		Lunation	Sun Angle	Sig Strth (9m)	Input Power	Reserve Power	Av Ther P1 T.	PSE T. (DL-07)	CPLEE T. (AC-06)		
	Night	87	282.5°	-138.0 dbm	48.4w	10.4w	4.4°F	LOW	STBY		
APOLLO 12 ALSEP	Noon	87	98.98	-140.0 dbm	50.4w	24.6w	91.6°F	HIGH	66.1°€		
APOLLO		Lunation	Sun Angle	Sig Strth (9m).	Input Power	Reserve Power	Av Ther Pl T.	PSE T. (DL-07)	SWS T. (DM-13)		

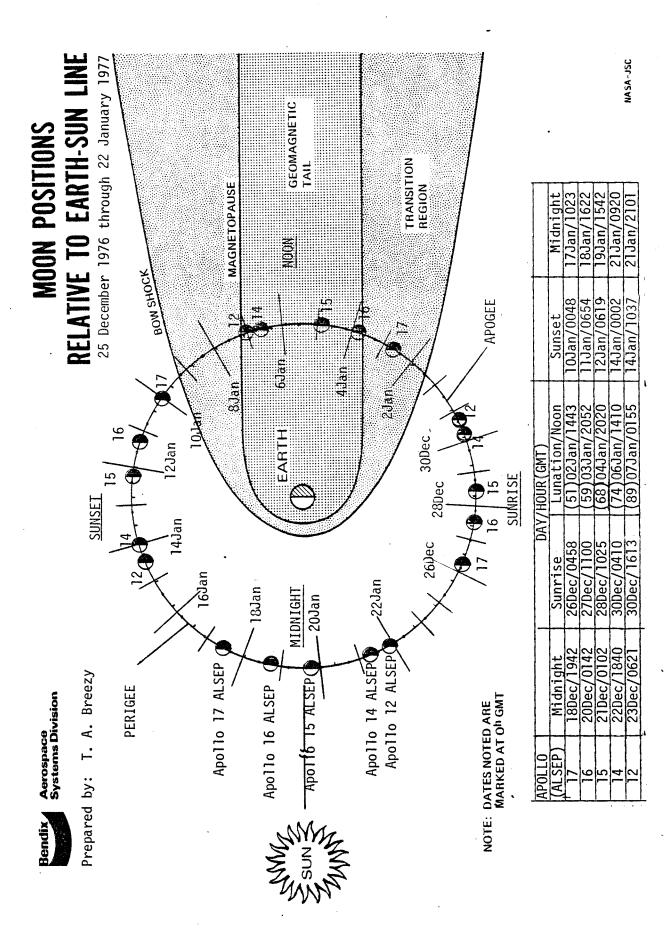
POLLO 17 ALSEP	Noon Night	49		•								
APOLLO		Lunațion	Sun Angle	Sig Strth (9m) -1	Input Power	Reserve Power	Av Ther Pl T.	LACE T. (AM-41)	LEAM T. (AJ-11)	HFE T. (DH-13)	LSG T. (DG-04)	LSP T. (AP-01)
7	Night	57	259.9°	-134.0 dbm	63.2w	14.5w	28.1°F	125.9°F	-10.2°C			
APOLLO 16 ALSEP	Noon	57	87.35	-137.5 dbm	63.8w	31.2w	105.6°F	HIGH	48.2°C			
APOLL(Lunation	sun Angle	Sig Strth (9m)	Input Power	Reserve Power	Av Ther Pl T.	PSE T. (DL-07)	LSM T. (DM-05)			

REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 12/01/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 22/2030		
2 November	BDA/GDS	Higher Priority	AOS 22/2200	ALL	1 ^h 30 ^m
		·	LOS 23/0641		
3 November	ORR	Station Problem	AOS 23/0702	A-14	21 ^m
			LOS 23/0922		
3 November	ORR/MAD	Higher Priority	AOS 23/1022	ALL	1 ^h 00 ^m
			LOS 25/0730		
5 November	ORR	Higher Priority	AOS 25/0757	ALL	27 ^m
			LOS 25/1033		
5 November	ORR/ACN	Higher Priority	AOS 25/1039	ALL	o6 ^m
5 ts			LOS 25/2214		
5 November	AGO	Station Problem	AOS 25/2240	ALL	26 ^m
			LOS 26/0837		
6 November	ORR	Station Problem	AOS 26/1020	ALL	1 ^h 43 ^m
			LOS 28/0400		
ovember 'ovember	ORR	Poor Signal	AOS 28/0505	A-14	1 ^h 05 ^m
			LOS 28/0725		
8 November	ORR	Xmitter OFF	AOS 28/0747	A-15	22 ^m
•			LOS 28/1218		
8 November	ORR/ACN	Higher Priority	AOS 28/1303	ALL	45 ^m
	,	·	LOS 29/0905		
9 November	ULA	Poor Signal	AOS 29/0911	A-15 & 17	06 ^m
			LOS 30/0343		
0 November	GDS	Station Problem	AOS 30/0346	ALL	o3 ^m
		,	LOS 30/1136		
0 November	HAW/ORR	Higher Priority	AOS 30/1218	ALL	42 ^m
			LOS 01/1122		
1 December	HAW ,	Higher Priority	AOS 01/1209	ALL	47 ^m
			LOS		
			AOS		
			LOS		
			AOS		
		75 55 75 75 75 75 75 75 75 75 75 75 75 7	LOS		
COM Particle in the Communication of the African Communication of the Co	and a more of control of the control	Productive - mineral way to be considered to the Constant Report way to be considered as the constant of the c	AOS		
			LOS		
			AOS		

PSE CALS DAILY	27/332	NO SUPPORT ALSEP 16	04/339	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF	11/346	0600-0700 ALSEP 17 1600-1700	NASA-JSC
	26/331	0900-1100 ALSEP 17 NBR - 54 ^m	03/338	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	10/345	0900-1100 ALSEP 15 NBR ALSEP 16 LSM FLIP CAL 2000-2100	
VENTS	25/330	NO SUPPORT	02/337	0900-1100 ALSEP 14 CPLEE STBY	09/344	0900-1100 ALSEP 15 SIDE ON	
ALSEP SUPPORT SCHEDULE/EVENTS	24/329	0900-1100 ALSEP 17 NBR - 18 ^m HFE RBS	DEC 01/336	0200-0400 ALSEP 14 C/S HTR OFF C/S HTR OFF C/S HTR OFF C/S HTR OFF SWS ON ALSEP 17 NBR - 44 HFE RBS ALSEP 16 LSM FLIP CAL 1300-1400	08/343	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL	
ALSEP S	23/328	NO SUPPORT	30/335	0900-1100 ALSEP 14 ALSEP 12	07/342	0900-1100 ALSEP 15 CYCLE SIDE	
	22/327	0900-1100 ALSEP 17 NBR - 15 ^m	29/334	0900-1100 ALSEP 17 NBR - 17 ^m LEAM OFF	06/341	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR ALSEP 16 LSM FLIP CAL	e de la companya del companya de la companya de la companya del companya de la companya del la companya de la c
TIMES - CST	NOV 21/326	NO SUPPORT	NOV 28/333	ALSEP 15 ALSEP 15 ALSEP 16 C/S HTR OFF TIMER RESET LSM FLIP CAL	DEC 05/340	0900-1100 ALSEP 15 CYCLE SIDE	BEN-20

LS DAILY	3	IRT	0.	TAI	101	100 14 57BY 15 STBY
PSE CALS	18/353	NO SUPPORT	25/360	NO SUPPORT ALSEP 17	JAN 01/001	0900-1100 ALSEP 14 CPLEE STE ALSEP 15 SIDE STB)
	17/352	0900-1100 ALSEP 17 NBR	24/359	0900-1100 ALSEP 17 NBR	31/366	0900-1100 ALSEP 17 NBR ALSEP 16 LSM FLIP CAL
ENTS	16/351	0000-1100	23/358	NO SUPPORT	30/365	1600-1800 ALSEP 12 C/S HTR OFF PSE Z MTR OFF ALSEP 14 C/S HTR OFF
SUPPORT SCHEDULE/EVENTS	15/350	1700-2100 ALSEP 14 C/S HTR ON C/S HTR ON PSE Z MTR ON ALSEP 17 ALSEP 17 NBR HFE RBS	22/357	0900-1100 ALSEP 17 NBR HFE RBS	29/364	0900-1100 ALSEP 14 ALSEP 17 NBR HFE RBS ALSEP 16 LSM FLIP CAL
ALSEP S	14/349	0900-1100	21/356	NO SUPPORT	28/363	09000-1100 ALSEP 15
	13/348	0900-1100 ALSEP 15 ALSEP 14 CPLEE ON ALSEP 17	20/355	0900-1100 ALSEP 17 NBR	27/362	ALSEP 16 C/S HTR OFF C/S HTR OFF TIMER RESET TIMER RESET ALSEP 17 ALSEP 17 NBR
TIMES - CDT	DEC 12/347	0100-0200 1000-1200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	DEC 19/354	NO SUPPORT	DEC 26/361	NO SUPPORT



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 ± 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 O 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 O 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 STAND-BY 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.

8 December 1976 G.m.t.: 1700

Apollo 12 ALSEP (continued)

The Suprathermal Ion Detector Experiment received a spurious command (Standby 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.

	as of week ending	1200 7 (G m +)	8 December 1976	de serte establem en establem de des contratas de la contrata del contrata de la contrata de la contrata del contrata de la contrata del la contrata de la contrata de la contrata del la contrata del la contrata del la contrata de	programme talpara contractificações con la facilitario de facilitario estadas e de construir de sante de tag
STATUS	Apollo 12 ALSEP 1	10 14	110 15 AISF	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed		7, 2/5/71		19387, 4/21/72	12/
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	0/1457
Phase, Sun Angle	Ncon, 92.4°	Noon, 38.3°	Noon, 118.9°	Noon, 130.8°	Noon, 147.0°
Cmds - Total/Week	_	0			36127/14
Spurious Changes	115	96	118		
Initial/	73.6W/ 50.0w	72.5W/60.6w	52.5w	70.9W/ 62.8w	75.4W/ 63.7w
द्ध Reserve Power	2≇.5w	14.3w		31 . 8w	24.8w
≥ Avg. Therm. Plate	92.8°F	118.7°F	111,3°E	96,2°F	74.3°E
Tran	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	γ, 8/24/76	Y, 10/19/76 ·	Y, 3/26/73	X.R.S.W.DCDR B 8:74
N PCU		-	Į		
TRAI	Inoperative	Inoperative	Operative Reset: 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited:12/8/78
W Heaters /PDR	USS-1 (10W)-0FF	DSS-1 (10w) -OFF 21w PDR ON 12/5/76	DSS-1 (10w) - OFF	(10W)1/28/76	
LPX/Y,Z,SPZ	0,0,-20db 11/75	0,0,0db	0,0,0db	0.0.0db	LSPE -HBR 8/15/75
Heaters Z motor (AT)	Auto On OFF - 12/1/76	FRCD OFF, 12/5/76	Auto On	Auto On	NER Real Time Mon, Wed, Fri.
w Filter	134 - 6/29/75	0UT - 11/11/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
DL-07	HIGH, 12/7/76	138.2°F	HIGH, 12/4/76	HIGH , 12/3/76	Data Mon, Wed, Fri,
Uncage Ckt.	pəl	0T - 11/12/76	OT - 12/8/76	0.1	RBS weekly
	Sas - 0N, 12/1/76	CPLEE-STBY, 12/2/76	SIDE - ON, Cycle		LEAM- STBY 12/8/76
	Pange: Norm. 12/1/76 Ext.	Anal B Failed 4/71	CCGE-Failed 7/18/75/71p Cals 1238		
HENTS TIVE, ERABI			HFE - STBY 11/14/76 Degraded 12/75		LSG-STBY 8/15/76 Auto Htr Failed
O∀	Dust Detector - OW	DTREM - ON	DTREM - ON		closed Loop Ops
CAD		SIDE-0FF 1/5/75 .	SWS-0FF 6/74	HFE-OFF Since	LACE-STBY 7/22/75
	Increase reserve bower for C/S heat	Failed	Failed	deployment, cable severed.	HV failed 10/73
ACTI OPER	LSII-0FF 6/74 Failed	ASE-STBY 12/23/74 Mortars unfired	LSM-OFF 6/74 Failed	ASE-OFF 12/23/74 Mortar #1 unfired	
ΝI		Geophones 2 & 3 bad		Sensors failed.	
PEP - Apollo 11	Deployed 7/21/69, 23	23.4°E, 0.7°N- Lost Uplink 8/25/69,	1	Lost Downlink 12/14/69	

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

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 01/1241		
01 December	HAW/ORR	Higher Priority	AOS 01/1339	ALL	58 ^m
		·	LOS 01/2102		
01 December	ACN	Station Problem	AOS 01/2110	A-14	08 ^m
			LOS 02/1301		
02 December	HAW/ORR	Higher Priority	AOS 02/1339	ALL	38 ^m
		Station Wx	LOS 02/1548		
02 December	MAD .	Problem	AOS 02/1615	ALL	27 ^m
			LOS 02/1655		
02 December	ACN	Station Problem	AOS 02/1659	A-14	o4 ^m
2.6 			LOS 05/1130		
05 December	GDS	Antenna Masking	AOS 05/1214	ALL	44 ^m
			LOS 05/2155		
05 December	ACN	Station Problem	AOS 05/2232	A-14	37 ^m
	,		LOS 06/1735		
06 December	MAD	Antenna Masking	AOS 06/1741	ALL	06 ^m
			LOS 06/1741		
06 December	MAD	Station Problem	AOS 06/1747	A-15	o6 ^m
			LOS		
			AOS		
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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 O 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 O 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.

AISED	parpay doom to se	0300 7 (G m +)	18 normon 1976		
STATUS	Apollo 12 ALSEP 1	10 14	1 14	Apollo 16 ALSEP 3	Apollo 17 ALSEP 5
Deployed	E	2/5/71	7/31/71	4/21/72	12/12/72
Lunar Location	5°W, 3.0°S	\equiv	, 2	15.5°E, 9.0°S	30.8°E, 20.2°N
Lunation/Days Ops	s 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°
Onds - Total/Week	sk 31187/70	17038/58	38415/166	23484/151	36178/51
Sourious Changes		96	118		0
Initial/		72.5w/ 59.3w	74.7W, 50.4w	70.9w/63.2w	75.4w/65.2w
돈 Reserve Power	22.1w	26.1w	12.3w	14.8w	15.3w
Avg. Therm.	Plate 11.2°F	11.9°F	-10.0°F	29.0°F	10.0°F
mitter	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	γ, 10/19/76	Y, 3/26/73	X.R.S.W.DCDR P. 8774
13 <u>5</u>	process of the state of the sta			_	2
TPAL Timer	Inoperative	Inoperative	Operative Reset:11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited: 12/14/76
CENeaters	USS-1 (10w)-0N 12/15/76	DSS-1-610W -943/16	DSS-1 (10w) - OFF	ර්	APM STATUS:
LPX/Y,Z,SPZ	0,0,-20db 11	0,0,0db	0,0,0db	0.0.0db	LSPE -HBR 8/15/76
Heaters Z motor (Auto On (A1) <i>DN - 12/15/76</i>	AUTO On-12/13/76	Auto On	Auto On	NBR Real Time Mor, Wed, Fri
	IN - 6/29/75	OUT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
P DL -07 Temp.		124.2°F	4.7°E	125.9°F	Data Mon, Wed, Fri,
Uncage Ckt.	Uncaged	07 - 11/12/76	Uncaged, 12/15/76	0.1	
	SWS - 0N, 12/1/76	CPLEE- ON, 12/13/76	SIDE - ON, Cycle	LSM -ON	LEAM-STBY 12/8/76
	Range: Norm. 12/1/76 Ext.	Anal B Failed 4/71	OFF T2 > 85°C (X, Y, Z, Pos, 180°CCGE-Failed 7/18/75Flip Cals 1242) CCGE-Failed 7/18/75Flip Cals 1242	X, Y, Z Pos, 180° Flip Cals <i>1242</i> Z Failed 3/3/75	Static @ night Since 7/16/76
MENTE STIVE SERABL			HFE - STBY 11/14/76 Degraded 12/75		LSG-STBY 8/15/38 Auto Htr Failed No Free Modes or
JA .	Dust Detector - OH	DTREM - ON	DTREM - ON		closed Loop Ops
dX.	SIDE-0FF 12/4/76	SIDE-0FF 1/5/75	SWS-0FF 6/74	HFE-OFF Since	LACE-STBY 7/22/75
ΛE\	Increase reserve power for C/S heat	Failed	Failed	deployment, cable severed.	HV failed 10/73
INOPER INACTI	LSH-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 1	11 Deployed 7/21/69, 2	23.4°E, 0.7°N- Lost U	.7°N- Lost Uplink 8/25/69, Lost	 Downlink	

REMOTE SITE NON-RECOVERABL. ALSEP DATA LOSSES FOR WEEK ENDING 12/16/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 08/0901		
08 December	QUI	Noisy Downlink	AOS 08/0910	A-12	09 ^m
	·		LOS 08/0901		
08 December	QUI	Station Problem	AOS 08/0928	A16 & 17	27 ^m
			LOS 12/2354		
12 December	ORR/ACN	Schedule	AOS 12/2359	ALL	05 ^m
			LOS 13/0047		
13 December	ACN	Higher Priority	AOS 13/0113	ALL	26 ¹¹¹
			LOS 14/0024		
14 December	ORR/ACN	Higher Priority	AOS 14/0130	ALL	1 ^h 06 ^m
			LOS 15/1505		
15 December	HAW	Station Problem	AOS 15/1507	A-14	02 ^m
			LOS		
			AOS		
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S DAILY		parameters and	6	PORT OFF	91	NASA-JSC
PSE CALS DAILY	27/332	NO SUPPORT ALSEP 16	04/339	1800-2200 ALSEP 15 SIDE SUPPORT ALSEP 14 PSE HTR OFF PDRS ON	11/346	0600-0700 ALSEP 17 1600-1700
	26/331	0900-1100 ALSEP 17 NBR - 54 ^m	03/338	0900-1100 ALSEP 15 SIDE STBY ALSEP 17 NBR - 13 ^m ALSEP 16 LSM FLIP CAL	10/345	0900-1100 ALSEP 17 ALSEP 16 LSM FLIP CAL 2000-2100
VENTS	25/330	NO SUPPORT	02/337	0900-1100 ALSEP 14 CPLEE STBY	09/344	0900-1100 ALSEP 15 SIDE ON
SYPPORT SCHED"" "LEYENTS	24/329	0900-1100 ALSEP 17 NBR - 18 ^m HFE RBS	DEC 01/336	0200-0400 ALSEP 14 ALSEP 14 ALSEP 12 C/S HTR OFF C/S HTR CFF SMS ON ALSEP 17 NBR - 44 ^m HFE RBS ALSEP 16 LSM FLIP CAL	08/343	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 19 ^m HFE RBS LEAM STBY ALSEP 16 LSM FLIP CAL
ALSEP S	23/328	NO SUPPORT	30/335	0900-1100 ALSEP 14 ALSEP 12	07/342	0900-1100 ALSEP 15 CYCLE SIDE
	22/327	0900-1100 ALSEP 17 NBR - 15 ^m	29/334	0900-1100 ALSEP 17 NBR - 17 ^m LEAM OFF	06/341	0900-1100 ALSEP 15 CYCLE SIDE ALSEP 17 NBR - 20 ^m ALSEP 16 LSM FLIP CAL
TIMES - C.	NOV 21/326	NO SUPPORT	NOV 28/333	0900-1100 ALSEP 15 TIMER RESET ALSEP 16 C/S HTR OFF TIMER RESET LSM FLIP CAL	DEC 05/340	0900-1100 ALSEP 15 CYCLE SIDE

PSE CALS DAILY	18/353 NO SUPPORT	25/360	NO SUPPORT ALSEP 17	JAN 01/001	0900-1100 ALSEP 14 CPLEE STBY PDRS ON ALSEP 15 SIDE STBY	NASA-JSC
	17/352 0900-1100 ALSEP 17 NBR- 15 ^m	24/359	0900-1100 ALSEP 17 NBR- 12 ^m	31/366	0900-1100 ALSEP 17 NBR - 09 ^m ALSEP 16 LSM FLIP CAL	
ENTS	16/351 0900-1100 ALSEP 17 NBR - 1 ^h 16 ^m HFE RBS ALSEP 12 SWS STBY	23/358	NO SUPPORT	30/365	1600-1800 ALSEP 12 C/S HTR OFF PSE Z MTR OFF SWS ON ALSEP 14 C/S HTR OFF	
SUPPORT SCHED" "/EYENTS	15/350 1700-2100 ALSEP 14 C/S HTR ON ALSEP 12 C/S HTR ON PSE Z MTR ON ALSEP 17 NBR- 16 HFE RBS	22/357	NO SUPPORT	29/364	0900-1100 ALSEP 14 ALSEP 17 NBR- 48 ^M HFE RBS LMS STBY LEAM OFF ALSEP 16 LSM FLIP CAL ALSEP 15 HFE ON	
ALSEP SI	14/349 0900-1100 ALSEP 17 NBR - 24 ^m	21/356	2000–2200 ALSEP 17 NBR – 45 ^m HFE RBS	28/363	0900-1100 ALSEP 15 ALSEP 17 NBR - 10 ^m LMS - 0FF	
	13/348 0900-1100 ALSEP 15 ALSEP 14 CPLEE ON PDRS OFF ALSEP 17 NBR - 05 ^{III} ALSEP 16 LSM FLIP CAL	20/355	0900-1100 ALSEP 17 NBR - 16	27/362	0900-1100 ALSEP 16 C/S HTR OFF TIMER RESET ALSEP 15 TIMER RESET ALSEP 17 NBR- 03 NBR- 13 NBR- 13	
TIMES - CF	DEC 12/347 0100-0200 1000-1200 ALSEP 16 C/S HTR ON ALSEP 14 PSE HTR ON	DEC 19/354	NO SUPPORT	DEC 26/361	NO SUPPORT ALSEP 17 NBR - 07 ^m	BEN-20

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 O 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.

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 O 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.

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ALSEP	CO⊶	ak	\sim			
STATUS		12 AL	0	0 15 ALSEP 2	Apollo 16 ALSEP 3	-
Deployed		1412Z, 11/19/69	17282, 2/5/71	18052, 7/31/71	19387, 4/21/72	02532, 12/12/72
Lunar Location	n	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	Sd0	88/2590	73/2014		58/1706	50/1471
Phase, Sun Angle	gle	Sunset, 256.6°	Sunset, 262.6°	Midnight, 283.7°	sidnight, 295.5°	Widnight, 310.30
Cmds - Total/Week	Week	31228/41	17056/18	38478/63	23507/23	36208/30
Spurious Changes	ges	115	96	118	11	0
Initial/	esent	73.6w/47.7w	72.5w/59.8w	74.7w/50.1w	70.9w/62.8w	75.4w/64.8w
도 Reserve Pow	Power	10.10	14.8w	7.2w	14.3w	15.6w
Avg. Therm.	Plate	3.5°F	24.7°F	-13.6°F	27.6°F	8.5°F
Transmitter		B, 7/8/74	B, 11/12/76	B, 8/20/76	B, 3/26/73	A, 12/9/74
A Processor		8/25/76	Y, 8/24/76	Y, 10/19/76	Υ, 3/26/73	X.R.S.W.DCDR E '74
S PCU				1		2
TRAT Timer		Inoperative	Inoperative	.ive 11/28/76	Inhibited 5/72 Reset: 11/28/76	Operative Inhibited:12/20/76
区 leaters		uss-1 (104/2/19)/76	DSS-1 (104)-0N,12/15DSS-1	(10w) - OFF	$055-1 (10\text{W})_{12}/98/76$	APM STATUS:
1 LPX/Y,Z,S	ZdS	0,0,-20db 11/75	0,0,0db	0,0,0db	0.0.0db	LSPE -HBR 8/15/76
Heaters		0n	Auto On, 12/13/76		Auto On	eal 1
Z motor	r (A1)	ON, 12/15/76				Mon, Wed, Fri.
m Filter		IN - 6/29/75	0UT - 11/17/76	IN - 6/29/75	IN - 6/29/75	HFE - ON, NBR
2, 0L-07 Temp.	mp.	LOW, 12/20/76	124.1°F	12	125.8°F	Data Mon, Wed, Fri,
Uncage Ck	Ckt.	Uncaged	Uncaged	Uncaged, 12/14/76	10	RBS weekly
		SWS - STBY, 12/16/7	12/16/76CPLEE- ON, 12/13/76	SIDE - ON, Cycle		LEAM-STBY 12/8/76
/		Range:Worm. Ext.	Anal B Failed 4/71	CCGE-Failed 7/18/75 Flip Cals 1242		since 7/16/76
NEUTS TIVE,				HFE Degraded 12/75		LSG-STBY 8/15/15 Auto Htr Failed No Free Modes on
AC		Dust Detector - ON	DTREM - ON	DTREM - ON		closed Loop Ops
ΛΕ\		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
INOPERA		LSM-0FF 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.	
Par - Apollo	1.	Deployed 7/21/69, 23	1. B	Lost Uplink 8/25/69, Lost	Downlink 12/14/69	

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REMOTE SITE NON-RECOVERABLE ALSEP DATA LOSSES FOR WEEK ENDING 12:22/76

DATE	SITE	REMARKS	GMT	VEHICLE	TIME LOST
			LOS 15/1507	1/4	
15 December	HAW	Station Problem	AOS 15/1510	A-17	03 ^m
			LOS 16/1019		
16 December	MIL	Station Problem	AOS 16/1021	ALL	o2 ^m
			LOS 16/1657		
16 December	MIL	Station Problem	AOS 16/1659	ALL	02 ^m
			LOS 16/2052		
16 December	GDS/HAW	Higher Priority	AOS 16/2138	ALL	46 ^m
			LOS 17/0015		
17 December	HAW/ACN	Schedule	AOS 17/0306	ALL	1 ^h 51 ^m
			LOS 17/0824		
17 Dec e mber	MIL	Poor Signal	AOS 17/0835	ALL	11 ^m
			LOS 18/0109		
18 December	ORR	Station Problem	AOS 18/0112	ALL	o3 ^m
9:			LOS 19/0240		
19 December	ORR	Higher Priority	AOS 19/0300	ALL	20 ^m
			LOS 19/1030		
19 December	ACN/MIL	Higher Priority	AOS 19/1040	ALL	10 ^m
			LOS 19/1900		
19 December	MIL	Station Problem	AOS 19/1910	A-14 & 17	10 ^m
			LOS 20/1105		
20 December	AGO	Station Problem	AOS 20/1108	ALL	o3 ^m
		the first of the state of the s	LOS 20/1443	The state of the s	
20 December	BDA	Intermittent Data	AOS 20/1524	ALL	41 ^m
			LOS 21/0844		
21 December	ACN	Higher Priority	AOS 21/0910	ALL	26 ^m
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