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AUSTRALIAN PARTICIPATION IN APOLLO-16

(Statement by the Minister for Supply, Mr R.V. Garland, MP)

Tracking stations in Australia will give their usual support to Apollo-16, NASA's next mission to the moon, which is scheduled to begin at 3.54 a.m. (Aust. EST) on Monday, April 17.

The Minister for Supply, Mr R.V. Garland, said this in Canberra today (April 11).

Stations at Carnarvon (WA), Honeysuckle Creek and Tidbinbilla (both ACT) and the NASA Switching Centre at Deakin (ACT) will relay communications between the three astronauts and the Manned Spacecraft Center in Houston and receive telemetry data from the spacecraft during the 12-day mission, which will include 73 hours on the surface of the moon.

The Department of Supply manages the three stations and the Switching Centre (as well as other stations at Island Lagoon, SA, and Orroral Valley, ACT) on behalf of NASA.

Although all stations involved in the mission can do so, Carnarvon has a critical part to play in the near-earth phases and the ACT stations play a prime role during the lunar phases involving distances of about 250,000 miles.

The Honeysuckle Creek-Tidbinbilla complex will again receive television transmissions which will be made available "live" to Australian networks.

However, because most activities to be televised will occur outside the viewing period of the ACT complex, the amount of TV coverage of this mission received in Australia will not be as great as during Apollo-15.

Mr Garland said today: "The scientific benefits accruing from the Apollo programme are increasing with each mission, and I am sure all Australians are proud of the part played in this by the Australian stations."

CANBERRA, April 11,1972.

Additional information about the Apollo-16 involvement of Carnarvon, Honeysuckle Creek, Tidbinbilla and Deakin (all time given is Australian EST):

Carnarvon

Carnarvon will acquire the spacecraft during its first earth orbit, 52 minutes after launch for a 5-minute track.

On its second earth orbit, the spacecraft will be in view for 6 minutes from 6.19 a.m. on April 17. If all on-board systems are functioning correctly, the command "Go for trans-lunar injection (TLI)" will be given through Carnarvon during this pass.

Support during the three-day trans-lunar coast will be for periods of up to 12 hours each day.

After lunar-orbit insertion, Carnarvon will track the Command-and-Service Module (CSM) for 10 hours during six lunar orbits on April 20.

On April 21, following touchdown of the Lunar Module (LM) on the moon, Carnarvon will track the CSM through six lunar orbits and the LM on the moon's surface for an 11-hour period. Tracking of the CSM and LM will continue for the next two days (April 22 and 23) for about 11 hours each day.

During the tracking periods, April 21-23, Carnarvon will also track ALSEP (lunar surface experiments) packages for periods from 2 to 10 hours.

On April 24 and 25 Carnarvon will track the CSM in lunar orbit for two 12-hour periods.

During the trans-earth coast (April 26-29), Carnarvon will track the CSM for periods ranging from 5 to 11 hours. Tracking during this period is interspersed with ALSEP tracks for periods up to 5 hrs.

Carnarvon is the prime station for the last hour of the trans-earth coast (splashdown is currently scheduled for 6.30 a.m. EST, April 29).

Carnarvon's solar telescopes will maintain a close watch on the sun to warn of any radiation hazard on the lunar surface. Any substantial increase in solar activity will be promptly reported to the Manned Spacecraft Center at Houston.

The station's SPAN (Solar Proton Alert Network) installation is one of three such facilities around the world and the only one in the Southern Hemisphere.

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Carnarvon's FPQ6 is one of two high-precision radar systems in the Spaceflight Tracking and Data Network and the only one in the Southern Hemisphere. This radar will measure orbit parameters in support of earth orbits 1 and 2.

After TLI this radar will track the instrumentation unit on the S-IVB (Apollo's third stage) until beacon battery depletion.

Honeysuckle Creek-Tidbinbilla

Honeysuckle Creek is expected to track the spacecraft for about 4 minutes during earth orbit one. At 1.00 p.m. the complex will begin sustained trans-lunar tracking for about 8 hours. Periods of about 9 hours tracking will be involved on Tuesday, April 18, and Wednesday, April 19.

On acquisition at 1.30 p.m., Thursday, April 20, the joined CSM and LM will be in lunar orbit 4 (lunar orbit insertion having occurred some three hours earlier). Tracking will continue through to lunar orbit 9, when the moon will no longer be in view of the complex. Each lunar orbit will take about 2 hours, of which some 40 minutes will be spent behind the moon and therefore out of view of all ground tracking stations.

Tracking will resume at 2 p.m. on Friday, April 21, about 7 hours after touchdown. The first extra-vehicular activity (EVA) will start at 10.19 a.m., Friday, April 21. The Honeysuckle Creek-Tidbinbilla complex will not have the spacecraft in view then, and it will be about 5 hours after the start of the EVA before tracking begins.

At about the same time the complex will also start tracking the CSM as it begins its 17th lunar orbit.

Activity scheduled for EVA 1 includes the use of the Lunar Rover and the deployment of the ALSEP package.

The Lunar Rover will have its own communications relay unit for transmitting and receiving signals direct to and from the earth tracking stations during stationary periods. The Lunar Rover will also have a TV camera which can be controlled from earth and by the astronauts.

Tracking of the CSM and LM by the complex will resume at 2.35 p.m., Saturday, April 22, when the CSM is in lunar orbit 29. (EVA 2 will have been in progress for about 6 hours at this time.) Tracking of the CSM/LM will cease at 1 a.m., Sunday, April 23.

EVA 3 is scheduled to begin at 8.30 a.m., Sunday, April 23, and will end 7 hours later. Tracking by the complex will start at 3.19 p.m., just before the end of this EVA and during CSM orbit 42. (Lift-off of the LM should occur at 7.39 a.m., Monday, April 24, and docking with the

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orbiting CSM is expected 2 hours and 5 minutes later, but all these activities will be outside the view of the ACT complex.)

The complex will resume tracking at 4 p.m., Monday, April 24, when the CSM will be in orbit 54, and continue until 2 a.m., Tuesday, April 25, when the CSM will be in orbit 59. A similar period of tracking the CSM from lunar orbit 67 to 72 will occur later that day.

Just before trans-earth injection, it is expected that the sub-satellite (Particles and Fields Satellite) carried in the Scientific Instrument Module (SIM) bay of the CSM will be ejected into lunar orbit. This sub-satellite will be tracked by ground stations for up to 12 months.

Trans-earth injection will occur at 10.14 a.m., Wednesday, April 26, after lunar orbit 75, and the spacecraft will start its 240,000-mile journey back to earth.

The complex will begin tracking at 5 p.m. that day during trans-earth coast and will continue until 4 a.m., Thursday, April 27.

At 5 p.m., Thursday, April 27, tracking will occur until 5 a.m., Friday, April 28, again during trans-earth coast.

The final track during trans-earth coast, will start at 4.30 p.m., Friday, April 28, and end at 6.11 a.m., Saturday, April 29, about 19 minutes before splashdown, scheduled for 6.30 a.m., Saturday, April 29, in the central Pacific, just north of Christmas Island.

The complex will be the last Australian station to track the spacecraft before splashdown.

Both Honeysuckle Creek and Tidbinbilla can track two spacecraft at the same time if required. Tracking assignments can be changed at short notice. Times quoted are based on latest information available.

Deakin

NASA's Switching Centre at Deakin is a key link for communications between the Apollo spacecraft, mission control centres in the US and stations in NASA's world-wide network.

Deakin activity reaches a peak during Apollo missions, since the centre also handles communications between other American control centres and unmanned spacecraft via the Australian deep-space stations at Island Lagoon (SA) and Tidbinbilla and the STDN station at Orroral Valley (ACT).

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Telecasts

Live TV is expected to be available to the Australian TV networks only when the ACT complex has the spacecraft in view and TV is being transmitted, as follows:

> EVA 1 : 2 - 5.30 p.m. Friday, April 21. EVA 2 : 2.30 - 3.45 p.m. Saturday, April 22. EVA 3 : 3.15 - 3.30 p.m. Sunday, April 23.

Note for editors:

Spokesmen

For the duration of the Apollo-16 mission, Mr Arch Morrison (Dept of Supply) will - at NASA's request - be spokesman both for NASA and for the Department. He will be based at NASA's TV Control Centre at the PMG City South Building in Castlereagh Street, Sydney, tel. 2113180.

In addition, the following Dept of Supply spokesmen in the ACT will be pleased to answer questions on the Australian participation in the mission and on any general aspects of the flight program:

> Mr Bob Leslie, 482566 (office) and 812981 (home) Mr Lewis Wainwright, 482412 (office) and 861164 (home) Mr Milton Turner, 491599 (Honeysuckle Creek) Mr Bernie Scrivener, 490811 (Tidbinbilla).

Mr Willson Hunter, NASA's Senior Scientific Representative in Australia, will also be available for comments, tel. Canberra 482568 (office) and 958718 (home).

For additional information please ring 482735 (office) 496090 (home) 816462 (home)