

FOR PRESS

MINISTER FOR SUPPLY TO ATTEND APOLLO 11 LAUNCHING

(Statement by the Minister for Supply, Senator Ken Anderson)

The Minister for Supply, Senator Ken Anderson, said today (July 10) he would attend the Apollo 11 launching at Cape Kennedy on July 16, at the invitation of the U.S. National Aeronautics and Space Administration (NASA).

Senator Anderson, who is leaving Australia on July 12, will be accompanied by Mr. L.F. Bott, Deputy Secretary of the Department of Supply.

The Minister said: "Mr. Bott and I are delighted to be among the few privileged Australians to see, at close hand, the beginning of this history-making mission in which Australian tracking stations will play such an important part.

"I am certain that I speak for all Australians in wishing the three brave astronauts — Neil Armstrong, Michael Collins and Edwin Aldrin — Godspeed and a safe return".

Australian participation

As in the previous four manned Apollo flights, three Australian tracking stations (Carnarvon, Honeysuckle Creek and Tidbinbilla) will again play key roles in communicating with the Apollo 11 spacecraft.

In addition, CSIRO's giant 210-ft-diameter radio-telescope at Parkes is scheduled to receive the astronauts' first TV transmission from the moon surface.

NASA's Switching Center at Deakin (Canberra), also staffed by Australians, once more will be a vital link between the spacecraft, stations and Mission Control Center.

The Department of Supply's contribution, on the tracking and communications side, involves about 400 people.

To these should be added the many hundreds of Australians associated with the mission in one way or another through the Australian Post Office, Overseas Telecommunications Commission, Department of Civil Aviation and the news media — ABC, press, commercial radio stations and commercial TV channels.

Indirectly, Australia's other three tracking stations helped to make Apollo 11 possible.

Island Lagoon was a prime station in the Lunar Orbiter (moon photography) series which enabled NASA to select lunar landing sites.

Orroral Valley collected data on space environment from various unmanned spacecraft. These data are used extensively in the forward planning of Apollo launches and contribute to the safety of the astronauts.

The ATS Station at Cooby Creek has provided back-up facilities for communications links and for the video-recording of TV pictures from Apollo spacecraft.

Carnarvon

Carnarvon (WA), as a prime station for the earth-orbit phase of the mission, will acquire Apollo 11 52 minutes after launch (scheduled for 11.32 p.m. Aust. Eastern Standard Time on July 16). The spacecraft will be completely checked out during its two or three earth orbits.

The station's Unified S-Band (USB), VHF and FPQ-6 radar will track the combined Apollo spacecraft and third stage up to loss of signal on the last earth orbit.

Carnarvon's USB will then track until the re-entry period, when the radar will again pick up the spacecraft.

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After trans-lunar injection, the station will track Apollo 11 to lunar distance and through lunar orbits 5-11 and 18-24.

On the spacecraft's return voyage (trans-earth coast), Carnarvon will track two phases each lasting about 11½ hours, with an 11½-hour break in between. The station will be manned about 19 hours a day from about 11 hours before launch to about three hours after splash-down.

During the whole mission the Carnarvon SPAW (Solar Particle Alert Network) group will report on solar flare activity so that adequate warning of excessive radiation from solar events can be given to the network and the astronauts.

Carnarvon is also associated with EASEP (Early Apollo Scientific Equipment Package), two self-contained seismic and laser experiments -- weighing a total of about 170 lb. and occupying about 12 cu. ft. -- which the astronauts will place on the moon.

At some stage during the mission the station will have to gather data from both EASEP and the command-and-service module (CSM); from July 25 to August 4 Carnarvon will support data collection and commanding of EASEP for up to eight hours a day.

Major changes to the station equipment are required to switch from Apollo to EASEP support. This week nine tests are being conducted to establish the best way of achieving the change-over.

Honeysuckle Creek-Tidbinbilla

The A.C.T. complex of the stations at Honeysuckle Creek and Tidbinbilla will be prime for the lunar phases of Apollo 11 many hours each day, as are Goldstone (U.S.) and Madrid (Spain).

The complex will track the spacecraft for several minutes one hour after launch during the first earth orbit. On July 17, 18 and 19 both stations will track Apollo 11 for $9\frac{1}{2}$ hours each day during the trans-lunar coast.

On July 20, 21 and 22, the complex will communicate with the CSM in lunar orbit and with the lunar module (LM) during its stay of nearly 22 hours on the moon's surface. Both stations can track either vehicle.

The 22-hour period will include the historic occasion when man first steps out on to the moon. During the scheduled 2 hr. 40 min. of human surface activity, the A.C.T. complex and Parkes will be the prime links between the Mission Control Center and the astronauts on and around the moon.

It is presently planned that during this whole period black-and-white television will be received by the Parkes antenna and relayed to Houston. This telecast will also be received by Honeysuckle Creek or Tidbinbilla, depending on which is tracking the LM at that time.

At the request of the Department of Supply, NASA has agreed to make this momentous telecast available to all Australian TV stations for live transmission or to be recorded for later showing.

On the spacecraft's return to earth, the A.C.T. stations will track for up to $13\frac{1}{2}$ hours a day for three days, until splash-down in the Pacific at 2.51 a.m. (AEST) on July 25.

Parkes

The CSIRO 210-ft radio-telescope at the Australian National Radio Astronomy Observatory at Parkes (NSW) will track Apollo 11 during the mission and also will receive TV transmissions and telemetry (including bio-medical) data from the moon during the lunar landing period.

The telescope is being temporarily diverted from its normal scientific research work to take part in this flight at the request of NASA. CSIRO staff will operate the telescope during the mission, in association with NASA's own 210-ft antenna at Goldstone.

The Parkes telescope will use a signal collector designed and made by CSIRO and specially suited to feed the transmission into NASA's receiving equipment installed in the telescope building.

From Parkes, the signals will be relayed to Parkes township and thence by microwave to Sydney.

Joint communications operations

Tracking information, telemetry from the spacecraft and commands to the spacecraft are all transmitted between the three directly-involved Australian tracking stations and the Mission Control Center at Houston.

This information, together with voice communications with the astronauts and TV, is carried virtually instantaneously by the combined efforts of the Australian Post Office (using land lines and micro-wave links), Australia's Overseas Telecommunications Commission (using overseas cables and communications satellite links) and NASA communications equipment.

The heart of NASA communications in Australia is at the Deakin (Canberra) telephone exchange where, day and night, computers transform, store and distribute information to and from all the Australian stations.

The TV signals coming in from Parkes and Honeysuckle Creek are fed through the MASCOM Center at Deakin to the OTC terminal at Paddington (Sydney), where they first emerge as pictures on a TV screen.

It must be stressed that, because all Apollo 11 times are provisional, they are subject to change.

CANBERRA, July 10, 1969.