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AUSTRALIA AND THE MANNED SPACE FLIGHT NETWORK: FROM MERCURY TO SKYLAB

Abstract

When the National Aeronautics and Space Administration was formed in 1958, one of the first projects it undertook was the development of the United States' first spaceflight program, dubbed Project Mercury. To enable mission controllers to maintain contact with an astronaut as he orbited the Earth and to receive telemetered data from the Mercury spacecraft, NASA needed to establish a dedicated global communications network for human spaceflight. Known as the Manned Space Flight Network (MSFN), this communications system would grow and develop rapidly during the 1960s, as the NASA moved from the pioneering Mercury program to its ambitious Apollo lunar landing program, only to be scaled back by the end of the 1970s as the Tracking and Data Relay Satellite System replaced ground-based stations. Due to its geographical location, Australia was strategically placed to host Manned Space Flight Network tracking stations for all NASA's early human space missions, from Mercury to the Skylab space station (1973-74). Four MSFN stations were established between 1961 and 1967: Mucnea and Red Lake, initially established for Mercury; Carnarvon, which served Gemini and Apollo; and Honeysuckle Creek, established to support Apollo lunar missions, with the aid of the nearby Tidbinbilla Deep Space Tracking Station. Mucnea was the only Mercury spacecraft command station outside the United States, while Carnarvon was not only the largest NASA tracking station outside America, it was also crucially-placed to provide the go/no go command for Trans Lunar Injection during Apollo missions. Honeysuckle Creek would become the station through which Neil Armstrong's first step on the Moon, during Apollo 11, was received and broadcast to the world. This paper, which complements an earlier paper by the author on the NASA Deep Space Tracking Stations in Australia, will outline the history of the Australian Manned Space Flight Stations and their management and operation, undertaken through a unique arrangement with the United States. It will highlight particular accomplishments of the Australian stations, especially in relation to the Apollo lunar program.