



People, Antennas and Equipment

The **Canberra Deep Space Communication Complex** operates 7 days a week, 24 hours a day communicating with spacecraft exploring the Solar System. In order to achieve this, we have a dedicated team of 130 staff members who maintain and operate the Complex. Staff range from mechanics, engineers and antenna maintenance technicians, computer and electronics experts, gardeners, cooks, administrators.

Responsibility for the operation of the antennas is handled by four teams who work on a rotating 12 hour shift, ensuring that the antennas are operational and that spacecraft tracking and communication is being maintained.

Because of the remoteness of the site, coupled with the nature of the work carried out here, the site needs to be completely self sufficient. There is an uninterruptible power supply consisting of six diesel generators, plus our own water supply and sewerage system.

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DSS-43

Deep Space Station 43 (DSS43) is the centre piece of the CDSCC. At 70 metres in diameter and over 20 stories high, DSS 43 is the largest steerable antenna in the Southern Hemisphere. Construction on the antenna began in 1969, and the original 64 metre antenna was opened in 1973. The antenna was enlarged in 1987 to 70 metres for the Voyager encounter with Neptune.

The beam wave guide antenna, Deep Space Station 34, was constructed in 1996. The reception and transmission equipment for this antenna is located under the ground. Radiowaves are directed to the equipment using a series of mirrors, like a periscope. This reduces the weight of the dish and allows maintenance of essential equipment while the antenna is tracking.



DSS-34

Deep Space Station 45 is a 34 metre high efficiency antenna constructed in 1986 to provide better reception from spacecraft at higher frequencies. It was built in time to assist with the Voyager 2 encounter with Neptune.



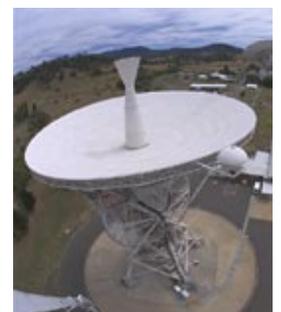
DSS-45

Deep Space Station 46 was moved to the Tidbinbilla site in 1984 from Honeysuckle Creek Tracking Station after it was closed in the late 1970's. This was the first antenna to receive signals and data from Neil Armstrong and Buzz Aldrin walking on the moon in 1969. This antenna is currently 26 metres in diameter and is used mainly for Earth Orbiting satellites.



DSS-42

Deep Space Station 42 was the original antenna built on the site in 1964. It was originally a 26 metre antenna, and was enlarged in 1980 to be 34 metres in diameter. This antenna was decommissioned in 1999 because of unrepairable wear in the drive mechanics and removed from the site in 2000.



DSS-46