Humpty Doo Transmission Station

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Introduction

Location:

-12.607724°, 131.289040°

Corner of Arnhem Highway and Anzac Parade, Humpty Doo, Northern Territory.

The Humpty Doo Transmitter Station is part of the Darwin node of the ADF Modernised High Frequency Communications System, paired with the receiver located within the Shoal Bay facility.

[caption id="attachment_99523" align="alignnone" width="1024"] Source: *High Frequency Communication System Modernisation Project, Performance Audit,* Australian National Audit Office, Audit Report No.34 2006–07, Figure 1.2.[/caption]

The Humpty Doo Station was constructed as the Naval Transmission Station following damage to the Naval Transmitting Station at Coonawarra in Darwin during Cyclone Tracy in December 1974. The new site, built at a planned cost of $4.5 million, was 61 kms from Darwin, consisting of 788 ha, 542 of which were to be initially cleared for the antenna farm.

[caption id="attachment_99521" align="alignnone" width="1024"]



Google Earth, 7 June 2020[/caption]

The antenna farm consists of a central building complex (approx. 142 m x 123 m.,) with two large buildings and atower on the western side of the northern building

The central antenna array is mounted on two concentric circles of masts (190 and 230 m. radius).

A set of ten smaller antennae are arranged in a further rough circle around the central array.

[caption id="attachment_99524" align="alignnone" width="730"]



Humpty Doo Transmission Station, transmitter building, central array, and tower, looking west, 2013[/caption]





These outer antennae are of four types:

1. Log periodic antenna (27 m. in length), positioned at 11 o’clock, 1 o’clock and 7 o’clock.

1. Four masted antenna (masts 34 m. apart), positioned at 4 o’clock, 5 o’clock, and 8 o’clock.

1. Two masted antenna (57 m. apart), with central element, positioned at 9 o’clock and 12 o’clock.

1. Rosette antennas, made up of two concentric circles (radius approx. 30 m and 60 m.) with a central mast, positioned at 10 o’clock and 2 o’clock.

This layout and composition is the same as at the MHFCS transmitter sites at Lyndoch (Riverina) , Townsville, and North West Cape.

Note all photos by Richard Tanter, September 2013, unless otherwise stated.

[caption id="attachment_99519" align="alignnone" width="772"]



Modernised High Frequency Communications System schematic - transmitter antenna field
Source: JP 2043 - High Frequency Modernisation Project, Defence Materiel Organisation,[/caption]

History

Parliamentary Standing Committee on Public Works, *Report relating to the proposed construction of a Naval Transmission Station and Power Building at Humpty Doo, Northern Territory*, Parliament of Australia, 1975.

High Frequency Communication System Modernisation Project, Performance Audit, Australian National Audit Office, Audit Report No.34 2006–07, at https://www.anao.gov.au/sites/default/files/ANAO_Report_2006-2007_34.pdf?acsf_files_redirect

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