

# A NEW LANDMARK ON THE LIZARD

Part 2

**Second installment by Ray Goodey  
Space Communications Division**

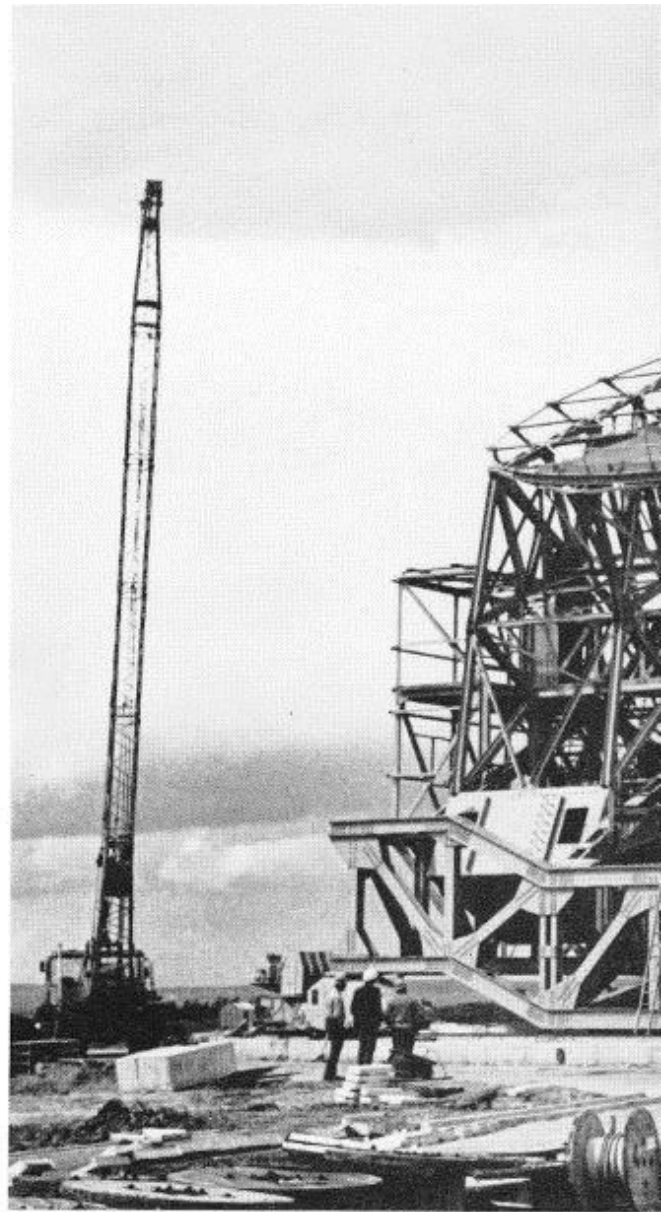
SINCE THE last report on Goonhilly there has been rapid progress in the erection of the revolving aerial structure of the huge new earth station being built by Marconi for the British Post Office.

The spate of concreting operations which followed each other in quick succession were handled with a swing, and this chorus to the music of the mixers resounded on the site as knee bent to shovel:

'Shovel up cement, shovel up sand, let them overflow,  
Shovel and swing the chippings in, to make the mixer go.'

In all there will be 130 cubic yards of concrete in the structure when it is complete. The floors and wing cabins will total some 450 square yards. The two boxes which counter balance the weight of the reflector and its backing structure will, when full, contain 150 tons of concrete and scrap metal mixture, all of which has to be raised to a height of 30 ft. to be poured into the boxes.

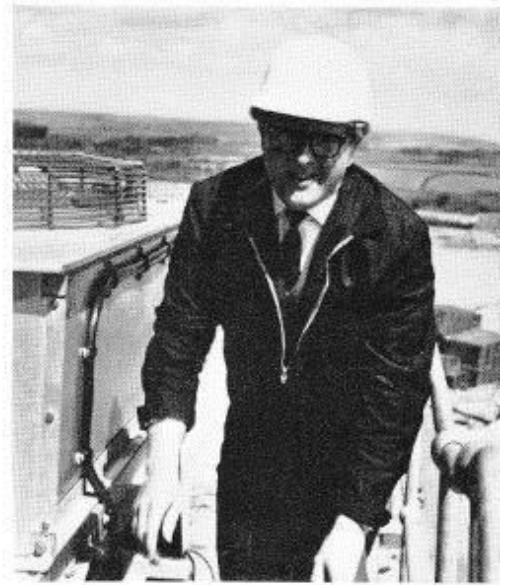
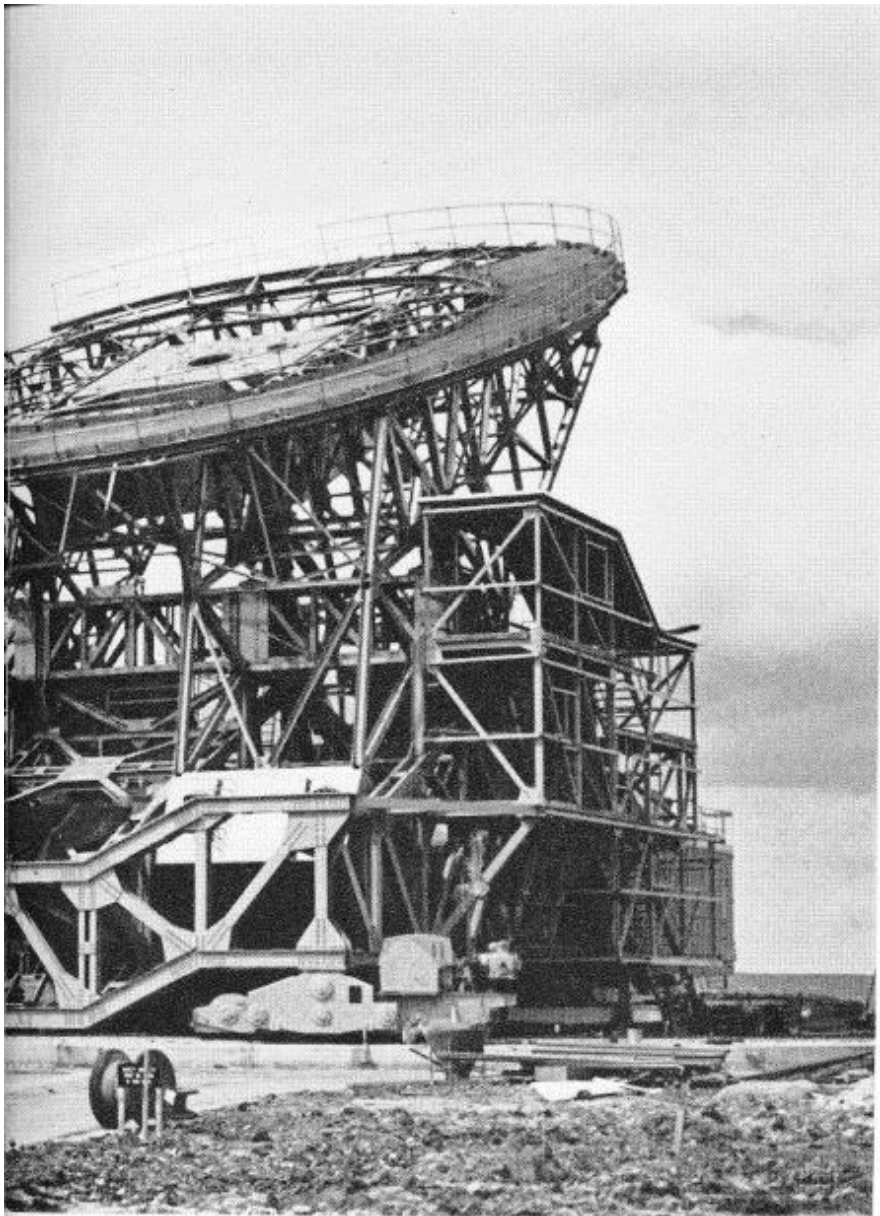
The chorus rang as the first 45 tons of mixture was poured into the boxes on Saturday, 4 May, ready for the trial run to elevate the now almost completed reflector backing structure. With power



The aerial structure when it was nearly ready to receive the dish aerial. During the first test of the elevation screw

fed to the drive motors of the massive 30-ton elevation screw, the backing structure moved slowly up to 45° on its 8-ton connecting rod. The trial was perfect, Dick Muir now leading the site mechanical team was obviously very happy with the result, as was Roger Dace of the Performance Analysis section in Space Division, who had spent some weeks lining up the elevation bearings and con rod.

Although there is great activity on the aerial externally, flooring, cladding, steel erection, the concentration inside the equipment rooms is just as great. About 70 per cent of the electronic equipment has been fitted. George Holmes, the foreman electrician, gave details of progress. 'The number 2 transmitter is complete and switched on, as are the receiver racks. All wiring inside the head is now installed and the servo equipment and bogies



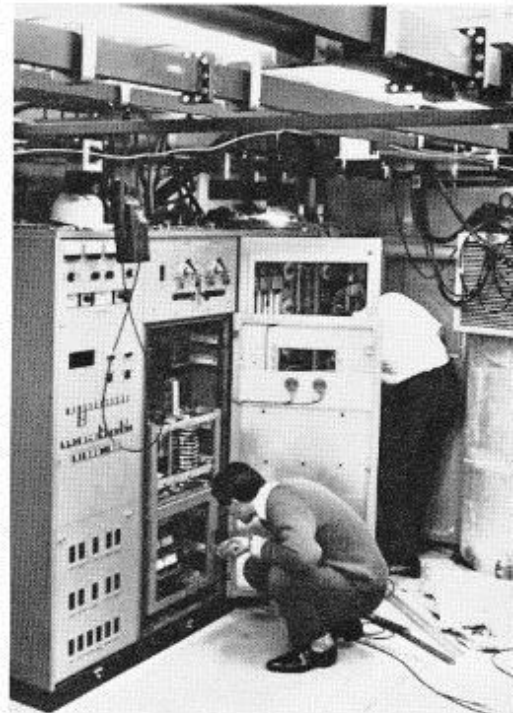
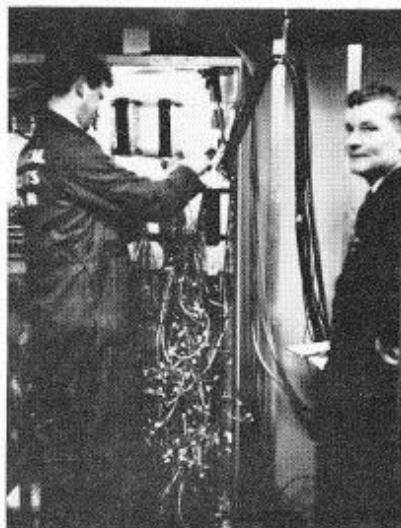
Up on the structure at Goonhilly site. This is Ray Goodey of Space Communications Division, who tells us on these pages of the good progress being made [Roger Dace]

[Seven photographs by Roy Goodey]

Installing a transmitter in the transmitter room on the aerial structure. Part of the waveguide-run crosses the top of the transmitter. In the foreground it passes close to the camera

Carrying out the planned sequence of construction are Mike Pitt, Dick Muir, leader of the mechanical project team, and Maurice Tether

George Holmes, Foreman electrician, supervises the internal wiring of one of many termination frames (boxes) installed in the aerial structure. Sorting out the leads for the terminals is Peter Ross

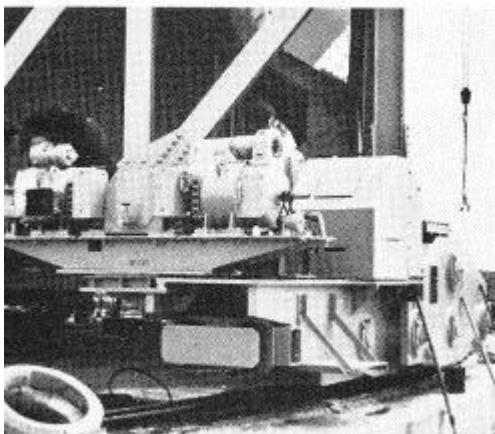




There are four waveguide-runs between the reflector and the transmitters and receivers. Working on them here is Brian Mills who assembled them



Wiring in progress on the receiver racks. The receiver room is also enclosed within the revolving aerial structure



FAR LEFT: One of the two azimuth bogie drives which rotate the 900-ton aerial structure on twin rails. These two bogie drives were made at Gateshead Works

LEFT: Johnnie Thompson putting in the metal base for the concrete floor of a wing cabin. All the cabins have concrete floors

have been wired. In the Central Building the wiring is also complete and we hope to have switched on when you read this. There is only the digital equipment to complete here.

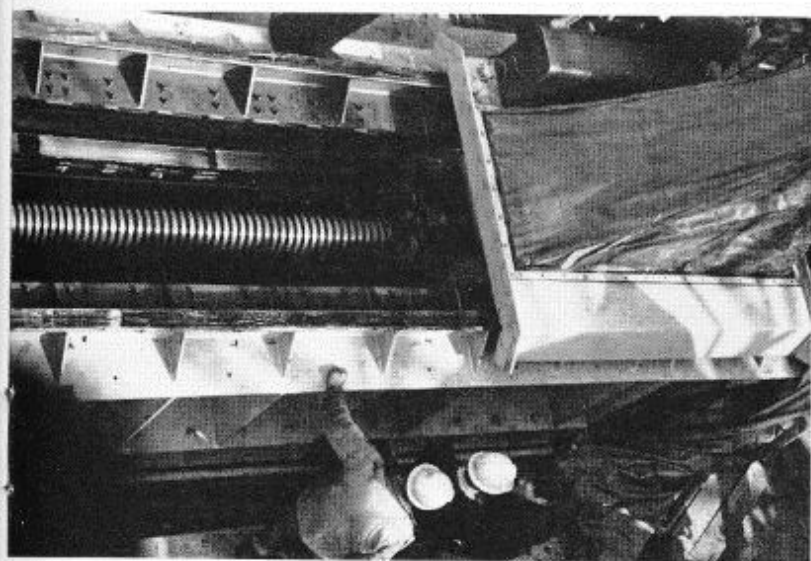
'Brian Mills from Research drawing office, Baddow, is now completing the waveguide runs inside the equipment rooms, and, as weather permits, will continue outside to the reflector.

'Back at Cocksedge and Co. in Ipswich, work on the 90-ft. dish is complete and the panels are on site.'

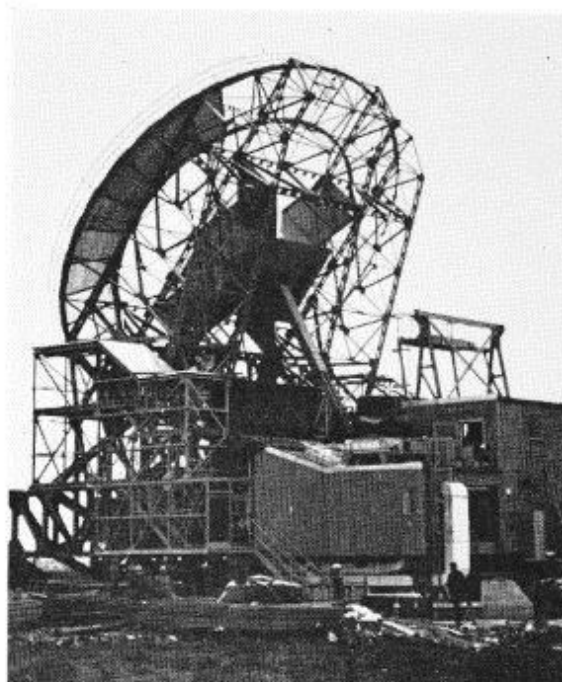
Dick Muir commented: 'With completion date drawing closer the manufacture and delivery on time to site of the final structure and electronic items is vital.' Ivan Woodhouse keeps a close watch on this and if any sign of delay is seen he relays the information back to Alan Irving who now leads the project at Marrable House.

'The balance of the task,' said P. Marten, Site Manager, summing up the position, 'is now changing from the purely mechanical to the electronics with the installation of one of the transmitters, plus the highly complex receiving, testing and monitoring equipments, under the technical direction of Dennis Maynard. Including our various sub-contractors, we now have sixty-four people engaged on the site, and we are all working with enthusiasm to make this gigantic project a success, not only for the Company, but for Great Britain.

'We have now carried out the big operation of moving the aerial in azimuth. Almost 1000 tons of steel and electronic equipment rotated on its pivot round the railway track. We would like all people in the Company working on this project to share our thrill at this achievement.'



Testing the elevation screw which, as it rotates, pushes up the connecting rod and raises the reflector-backing structure



This shows the eight-ton connecting rod between the elevation screw and the reflector-backing structure. The structure has been lifted from zenith to  $45^\circ$

The Marconi team at Goonhilly with sub-contractors and G.P.O. people. This picture was taken before Peter Bowkett, Senior Installation Engineer, left to work on another project. Some of the Marconi people in the picture are: Peter Martin, Site Manager; George Holmes, Sam O'Kell, Frank Quinn, Johnnie Thompson, Mike Pitt, Jim Barnes, and Freda Keyte

