

CASE STUDY – 80m Guyed Mast

Project Type: Guyed Mast Installation

Client: Helimax Energie, Canada

End-Client: Masdar, Abu Dhabi Future Energy Company

Location: Al Hala, Northern UAE



Helimax mast installation - Al Hala

Brief

Helimax Energie required the erection of an 80m guyed mast to carry NRG Systems wind-monitoring equipment. The end-user for the mast, equipment and retrieved data would be Masdar-Abu Dhabi's Future Energy Company.

A general mast location had been ear-marked but not finalised.

Scope of Works (SOW)

- Survey area and determine mast, base and stay block positions.
- Transport all required materials to site (375m above sea level with poor road infrastructure).
- Construct concrete 6 no's stay blocks and mast foundation.
- Install 80m Guyed Mast.
- Install NRG Systems™ anemometer and wind vane.
- Supply and install solar powered Aircraft Obstruction lights
- Install security fence.



Construction of foundation



Lower sections and guys installed

Constraints

The proposed site is at an elevation of 375m above sea level and vehicular access was restricted due to road quality.

The terrain is steeply inclined away from the proposed mast footing on all sides.



Readying the next section

Method

Our surveys deemed it was possible to locate the mast and guys in a position suitable to the client, however, caution needed to be exercised with regard to guy positions and lengths considering the sloped terrain.

All steel, concrete, water, plant and hand tools were transported successfully to site requiring them to be hand carried for the last section of the journey.

Reinforced stay blocks and mast foundation were excavated, shuttered and poured in situ. Once cured, the mast was erected with using a derrick pole and mast winch.

Jaggard Supplied warning lights were fitted and the mast site made secure with gated fencing.

Result

All Works were successfully completed within budget and on schedule in August 2009. Jaggard Wireless now holds the maintenance contract with 2 scheduled inspections per year.



Derrick and Winch in operation



Installation of fencing



Guy wire positions – before and after completion.



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