



▲ *The Chicago beach, Dubai*

The Tower Hotel at Chicago Beach, Dubai, is claimed to be the world's most luxurious and tallest hotel, reaching a height of 320 m and with a typical floor-to-floor height of 7 m. VSL Singapore completed the lifting and placing works for the installation of the main elements comprising the exoskeleton for the structure.

VSL Singapore's previous success with high lifts such as the KLCC Skybridge, led to the award of the contract from the subcontractor responsible for the steel works erection, Eversendai Engineering L.L.C.

### **Scope of works performed**

- Maximum truss length 86 m
- Maximum weight lifted 225 t
- Maximum height 196 m.

The lifting works involved the lifting from ground level and placement in final position of six horizontal trusses and six diagonal trusses.

These lifts were outside existing tower crane capabilities.

The use of the VSL Heavy-lifting System maximised the potential size of the prefabricated elements, hence minimising the amount of work required aloft.

An additional significant benefit was that it also minimised crane disruption for the other works which were being carried out simultaneously.

The maximum truss length was 86 m, the maximum weight lifted was 225 t and the maximum lifted height was 196 m.

Lifting was carried out from jacking carriages mounted on two relocatable cantilever frames (cat heads).



▲ *The final stage of truss lifting*

The cat heads could accommodate lifting off-sets from the building of up to 24 m, which was necessary due to the geometry of the building and the delivery position of the trusses. The trusses were delivered via road transport to the building site already pre-assembled and painted.

The VSL System was also used to rotate and manipulate the trusses into their final orientations (up to 45 degrees) during lifting.

Each jacking carriage was fitted with one SLU 120 ME and one EHPS 2/25 MS hydraulic pump together with an automated coiling device for the lifting and subsequent lowering of strand. Two pushing units (PU30 strand jacks per carriage) were used for the horizontal (transverse) movement. The VSL lifting system displayed its versatility in providing speed precision and reliability in performing in the often harsh Middle East environment.

**MAIN CONTRACTOR**

Murray & Roberts, Al Habtoor, Fletcher Joint Venture

**STEEL ERECTION SUBCONTRACTOR**

Eversendai Engineering L.L.C.

**HEAVY LIFTING SUBCONTRACTOR**

VSL Singapore Pte Ltd.

**CONSTRUCTION PERIOD**

1997



▲ The tower hotel under construction, Chicago beach, Dubai



▲ Jacking carriages mounted on cantilever frames



▲ Lifting of prefabricated diagonal truss



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