



The tower features custom daylight harvesting blinds

Facts & Figures

Commencement	2006
Completion	2010
Building Height	240m
Floor Count	54
No. of Access Systems	1
BMU Type	Custom Solution
Outreach	38.8m
Building Type	Office

The Duke Energy Center is recognised for its uniquely chiselled upper quadrant and crossbeam more than 20 metres above roof level. Architects Thompson, Ventulett, Stainback & Associates designed a glass and aluminium curtain wall, all of which required BMU access, including the crossbeam.

The solution was complicated by the need to achieve a large reach of more than 38m, whilst still being able to compress the machine sufficiently so it could be lowered into a very tight parking pit for storage.

In order to reach all parts of the building including the extreme corners, the five-stage jib assembly is capable of luffing up to a maximum angle of 60 degrees when at maximum outreach.

To access the sloping roof areas on either side, the cradle is fitted with a soft rope system, which stabilises the cradle against wind loads as it moves down the slope, thereby maintaining compliance with the relevant safety codes.

In an effort to maximise rearward clearance as the machine travels around the roof, and to allow the system to position itself correctly to reach all cradle positions, it was not possible fit any counterweight on the system. Instead, a system of powerful hydraulic jacks lock the BMU onto the building structure at three predetermined work positions to achieve the required 4:1 stability ratio.

All objectives were satisfied with the innovative design than included a 70-tonne lift platform that lowers the BMU approximately six metres into the parking pit when not in use.

