

CCTV Headquarters from an Architectural Dream to Reality



by Ir. Tham Kum Weng

BEIJING'S first time visitors are usually drawn to the timeless and traditional classic tourist attractions such as the Great Wall, the Forbidden City or Imperial Palace, the Summer Palace, the Temple of Heaven and Hutong. Arising from increasing urbanisation and growing economic development, this capital city of China is now dotted with modern skyscrapers of various designs. Massive new construction in the last two decades has provided increased opportunities for architects, engineers and planners to indulge in realising their dreams and fantasies with creative building configurations that are not only iconic but often test the limits of structural engineering design and construction.

One such building that has been very much talked about is the "Bird's Nest" stadium built for the 2008 Olympic Games. Another iconic structure perhaps is the China Central Television (CCTV) Headquarters, a 44-storey skyscraper of 234m height (I thought Chinese abhor the number 4) built near the 3rd Ring Road of Beijing's Central Business District (Beijing has 6 Ring Roads). The building shape was selected by an International Jury from among ten prominent worldwide consortium teams bidding in the design competition.

On my third visit to Beijing, I decided to have a better look at this radically shaped structure nicknamed "dà kuchá" or big boxer shorts. I wondered if this was architectural madness or creative ingenuity. Certainly, this architectural dream has presented numerous complex challenges to the structural engineers in design and construction scheduling.

The building consists of two 6° leaning towers bent at 90° at the top and bottom, meeting to form a continuous loop which was also described as a 'Z' crisscross or twisted doughnut. The engineers certainly have had to wrestle with the issues of building instability and bracing requirements at each phase of the tower construction before a semblance of stability could be achieved upon linking of the towers at 162m height. This challenge was compounded by the need to consider seismic forces. Structural steel framing system was the obvious choice of structural components. Construction started on 1 June 2004 and the official opening was held on 1 June 2008. A fire in February 2010 in a connected adjacent CCTV Cultural Centre had, however, affected the full operation of the CCTV Headquarters.

The building as photographed at the end August 2011 was shrouded in a melancholic haze affecting the city. As I admired the building from afar, I reflected and pondered on the increasing human penchant for outstanding achievement and relevance. In our human pursuit of creativity and uniqueness, are we striving to match the opulence and grandeur of the many great monuments of the by-gone era? Perhaps, but Beijing being full of historical landmarks and cultural relics could leave this pursuit to Shanghai where many such "iconic" buildings continue to mushroom. To my mind, the passion for greatness should also be accompanied by the common need to create value through the optimal utilisation of the world's resources; only then will the burst of creativity justify itself in our quest for excellence and posterity. ■

