

Building Commissioning Process: Quality Buildings for Better Quality of Life

Dear Prof. Nakahara, Prof. Claridge, Distinguished Guests, Ladies and Gentlemen,

As an Advisor to the Hong Kong Building Commissioning Centre, I am honoured and privileged to attend this Asia Pacific Conference on Building Commissioning (APCBC) jointly organized by the Building Services Commissioning Association Japan, our Centre (HKBCxC) and other collaboration organizations. This APCBC is a key part of the program of the International Conference on Building Enhanced Operations. I appreciate this opportunity to share my views with you on the control and maintenance on building quality thus leading to better quality of life in this present era.

Before I give an account on the current situation of Hong Kong, I would like to share my view with you on quality building. A quality building must be designed to good international standard and built to an acceptably high quality, but much more important, the systems of the building must be commissioned to a high standard so that it not only fulfils the original design intent, but also operating effectively with minimum energy consumption consistent with comfort and convenience for the occupants.

Hong Kong has returned to China's sovereignty on 1st July 1997 and become part of China as a Special Administrative Region. Hong Kong is maintaining a continuous growth on buildings and infra-structure developments continue in last 9 years. The financial turmoil in 1997/1998 might have impacted on the sustained economic growth in the Asian Pacific regions, for Hong Kong, fortunately the effect had only been moderate, and in the last three years, immediately after the very trying period in Asia where we experienced the aftermath of SARS, we have generally recovered economically and as of this year, we have proceeded on the growth curve and our unemployment rate had reached a new low level for the last few years. With 7 million people on a 1100 sq. km footprint, Hong Kong is a highly urbanized metropolitan city as compared with other areas. We have a per capita GDP of USD25,500 which is about 15 times of that in China in total. In 2005, we recorded 1.9 million sq. m. for new buildings, plus 900,000 sq. m. of renovated space from older buildings. That appears to be a rather encouraging figure. The total sum based on

sales and purchase agreement was US\$ 50.7 billion. Based on these figures, the building and real estate business contributed a rather significant economic value to Hong Kong.

The building industry developed rapidly after The Second World War in the 1940s in Hong Kong. This was further boomed up in late seventies when the manufacturing industries gradually migrated into the Pearl River Delta in Guangdong. The geographic constraints of a small land footprint somehow helped our construction industry professionals to prosper in erecting tall buildings. The Connaught Centre (now Jardine House), Hopewell Centre, HSBC Headquarters Building, The Bank of China Tower, The 2-IFC all helped to change the landmark in the Victoria Harbour of Hong Kong, where these new buildings congregate. We are also expecting to see a new monument in the skyline, with the completion of the new building under construction on top of the podium of Kowloon Station. This is the fruit of the joint effort of the Hong Kong SAR Government's Buildings Department and the local construction professionals. With the benefit of international exposure and experienced professionals, building quality is generally very good in Hong Kong and the rental value is always among the top five in the world's property market. We aim to maintain this leading position of our construction industry by ensuring the best international standards are always applied. Our construction practices, with continued injection of new and innovative technology and management, serve to enhance the high quality of our buildings to new heights continuously, to con a phrase.

As early in 1990, the Architectural Services Department (ArchSD) of Hong Kong Government has already published 12 commissioning booklets that regulated the testing and commissioning procedures on building services in Government Buildings. These commissioning documents then become commissioning specifications in 2002 and it is intended that these documents will be formalized to form part of the contract for all government building projects handled by ArchSD. Some two years ago, the Buildings Department of the HKSAR has launched a new voluntary scheme, termed the Consolidated Environmental Performance Assessment Scheme (CEPAS) that promote the design of environmental-friendly buildings in Hong Kong. Building Commissioning has been incorporated in this scheme as a major element for performance assessment. The Government of HKSAR has exerted a great effort and plays a leading role to promote high quality of

buildings, not only in design and construction aspects, but insists that they be commissioned to high standards for effective and efficient operation.

So how does professional bodies contribute to this? A group of local engineers has assembled to discuss the way forward for this issue and to promote good practices in the private sector. As a result, the Hong Kong Building Commissioning Centre was established and officiated by the Director of Building Department in December 2004. I, and other 3 Past Presidents of The Hong Kong Institution of Engineers had the honour to be invited as the Honorary Advisors, among other three leading international experts, Professor Long Weiding of Tongji University, China; Professor Nakahara of Nagoya University, Japan and Mr. Paul Tseng from the USA. Our joint contribution and involvement to the HKBCxC had been highly appreciated. Indeed, our first publication, "A Management Practice Guidance Note on Air Duct Cleaning for Hong Kong" jointly published with three other related professional institutions was issued in April 2004; and the first local Building Commissioning Code, "M1 – A Practice Guide on Building Commissioning Management for Hong Kong" was launched in March 2006. The second commissioning document M2 is currently being drafted and will be available for review by independent experts very soon.

What about Mainland China? China had been one the world's fastest developing country in the world in the last ten years, with an average GDP growth at 8%. The urbanization is now about 40% and this is likely to be increased to 60+% over the next two decades, with relocation of rural population into urban areas in the order of 300 millions. This huge population move would be the greatest in the world history and demands a great amount of buildings for accommodation and business purposes. For sustainable development, these buildings must obviously be quality buildings. With the establishment of the Closer Economic Partnership Arrangement (CEPA), China and Hong Kong would work closely in achieving this target and I am confident that the Chinese Government could achieve this ambitious strategic plan before next decade. The Eleventh Five-Year Plan, recently unveiled by the Central Government, calls for harmony and environment protection, which requires the sensible and ultimate use of energy in this next decade. Hence, China will exert its best endeavour in promote the most economic use of energy in the community and energy consumption in building must be restrained.

Back to building and commissioning regimes. You may ask what really constitutes good quality building and how building commissioning may benefit the owners and occupiers? I can cite the following key points:

- Improve occupants' comfort level
- Effect real savings in energy consumption through effective system tuning
- Improve indoor environmental conditions
- Ensure reliable system and equipment functioning at all times
- Facilitate effective building operation and maintenance
- Enhance total building productivity.

Besides, continuous care in building systems commissioning will ensure the proper use of energy for long term benefits.

A rather renowned Management Guru, Mr Peter F. Drucker often promoted the three major issues in the next era, namely technology, demography and globalization. Today, China is managing these three issues in the next era. At the present rate, achieving good balance of growth of economy while focusing on these would seem an achievable target, and it will make world history should these issues be properly handled by the Chinese Government.

To design and build a high quality building takes a few years, but to operate and maintain a building in high quality over the next thirty years certainly require a lot more effort. A building, properly commissioned and maintained in good order, will ensure comfortable occupation with minimum energy consumption. The less we waste energy now, the better the world we will leave to our next generations. Our future generations will be forever thankful, as they continue to enjoy the fruits of technology development, but with little disbenefits of loss of energy resources and minimum pollution.

Let us all joint hands to promote good building commissioning for sustainable development.

Thank you for listening.

