Assessing The Implementation of Conquas Standard amongst Contractors towards Improving Quality of Workmanship

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Abstract

In the construction industry, clients today are demanding quality workmanship. The higher quality achieved in building projects ensures future marketability and enhances the confidence of clients. The industry is influenced by substantial external factors which are different from the manufacturing industry where goods are produced under controlled conditions.

Construction cannot be confined to a controlled environment like that of workshop or a factory. It is essentially an outdoor activity which demands the involvement of many stakeholders to ensure the timely completion of work which should be of sound quality and desired economic value.

Poor quality work and failure of structures may claim huge capital amounts and in extreme cases, may even result in loss of human life. Therefore, quality and workmanship of the finished product are the primary concern in construction projects.

Construction Quality Assessment System (CONQUAS) is one of the tools used by contractor to improve the quality of the construction products. This paper presents the implementation of CONQUAS by Class A contractor by highlighting the challenges and its benefit.

Keywords: Construction, CONQUAS, Quality, Workmanship, Contractor

1.0 INTRODUCTION

CONQUAS was introduced in Singapore in 1989, and serves as a standard assessment system on the quality of building projects. As a national yardstick for the industry, CONQUAS has been periodically fine-tuned to keep pace with changes in technology and quality demands of a more sophisticated population. In 1998, CONQUAS 21 was introduced to make CONQUAS scoring more comprehensive and customer oriented. Some contractors in Malaysia were already practising this standard in order to obtain client satisfaction (BCA, 2000)[1].

Today, CONQUAS is widely recognised and accepted internationally as a benchmark tool for quality. Indeed, countries like UK and Hong Kong have successfully adapted CONQUAS to their construction industries (BCA, 2011)[2]. CONQUAS is now a registered trademark in Singapore, China, Hong Kong SAR, United Kingdom, Australia, South Africa and increasingly recognised in Malaysia.

2.0 QUALITY ASSESSMENT OF CONSTRUCTION WORKS

Quality can be defined as "the measurements of excellence or state of being free from defects, deficiencies and other variations" (Business Dictionary, 2010). Quality to the construction product refers to the goodness and the level of satisfaction to the consumers (HBA, 2008)[3]. Thus quality is very important to the client and buyers and it depends on the developer and contractor how they would determine and control this.

In Malaysia, property development is a significant contribution to the construction industry where clients or buyers invest large sums of money in the hope that the investments will be worthwhile and yield good economic returns. Clients start to realise the importance of quality and so will force the developer to deliver better quality end products which can give them full satisfaction (HBA, 2009)[4]. Each developer has his own assessment method with different scores and criteria. CONQUAS assessment is one of the popular methods for measuring the quality of workmanship. The Construction Industry Development Board (CIDB) in Malaysia provides QLASSIC assessment at no cost. However, due to lack of awareness and confidence in QLASSIC, only a few developers have engaged CIDB to assess the quality of their projects using QLASSIC. In contrast, CONQUAS is more widely recognised and accepted by developers as well as contractors in the country (HBA, 2009)[4].

2.1 CONQUAS Standard and Process

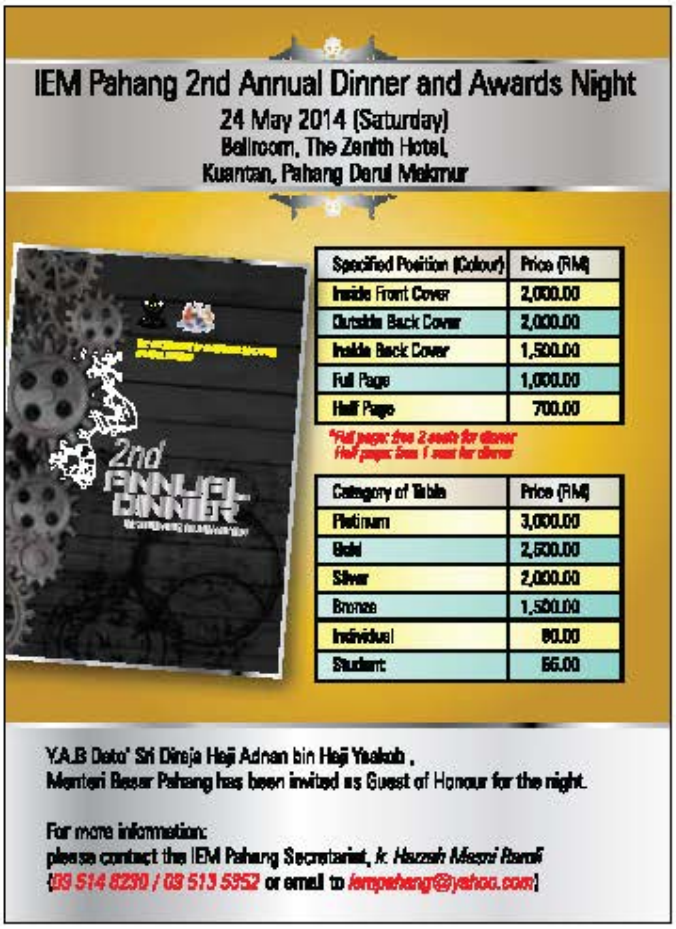
CONQUAS was developed to measure workmanship quality of a completed building (BCA, 2000)[1]. It is an independent assessment and must be differentiated from other assessments. CONQUAS should not be used if other assessment method is specified in the building contract. CONQUAS was primarily established to achieve three objectives which were to have a common quality evaluation system for construction projects, to provide an objective and measurable system for quantifying the quality standards of building construction and to facilitate the systematic assessment of quality standard within a specific time and cost limits and in the process, in order to raise the level of quality in construction (Kamath and Jayaraman, 2013)[5].

CONQUAS is a measure of workmanship only and is not for assessing the quality of design and material used. Hence, using more expensive materials does not necessarily result in a higher CONQUAS score if the workmanship is poor. CONQUAS does not cover future defects which assesses the workmanship of the project upon completion. It does not cover latent defects which may appear after the handing over of the structure. Such defects cannot be foreseen nor are visible during CONQUAS assessment. CONQUAS is based on a "first time right" inspection approach and there is no re-assessment after the initial assessment. Any repair or rectification work done after the assessment will be disregarded in computing the CONQUAS scores. Assessment is marked over 100 points. A higher score equals better workmanship quality. CONQUAS scoring is done only once and there is no rescoring (BCA, 2011)[2].

CONQUAS is used to assess various aspects in the construction of building works and points are given for every work that fulfils the requirements and standards set out. Total points achieved give the CONQUAS score for the building project and reflect the quality of the project assessed. A high CONQUAS score means higher quality workmanship and construction (BCA, 2011)[2].

CONQUAS sets the standard and criteria to measure the quality of different parts of building work and awards scores to work accordingly.

The following are the building components assessed under CONQUAS, (BCA, 2000)[1]:



i. Structural works: This covers the structural integrity and safety of the building to safeguard the interest of the building occupants.

ii. Architectural works: This covers the aesthetics of the building in the workmanship quality of the finishes and components. This is the part where the quality and standard of workmanship are most visible.

iii. Mechanical and Electrical works: This concerns the performance of selected mechanical and electrical services and installations for the comfort of and use by building occupants.

3.0 CASE STUDIES FINDINGS

In an effort to understand the level of CONQUAS standard implementation among Malaysian contractors, this paper presents the initial finding of three private residential projects as case studies undertaken on the implementation of CONQUAS among Class A contractors. Three aspects were examined, namely reason for implementation, problem and challenges as well as its benefits.

3.1 Reason for Implementation

It is the initiative of the developer to implement CONQUAS as it is perceived as a benchmark for quality in workmanship. The CONQUAS score becomes a marketing tool for the developer in promoting the value of properties. CONQUAS requirement can be specified in the contract and pass track record based of CONQUAS score can be used as one of the criteria for evaluation of tender.

3.2 Problems and Challenges

The motivation for obtaining a high CONQUAS score depends on the attitude and commitment of the developer and contractor to ensure the project achieves the quality standard. In implementing CONQUAS, the developer and contractor may face some challenges. The following are some of the problems discovered from the case studies.

3.2.1 Nature of Project

No two projects are similar in nature. The degree of project difficulty differs according to the type of project and the site conditions. A project using precast components is easier to install and co-ordinate on site as compared to traditional cast in-situ structure. A project of this nature enables the contractor to obtain a relatively high score on structural and architectural points. The contractor may face difficulty in excavation or poor site conditions may lead to delays. Under these circumstances, a contractor may tend to compromise on quality in order to speed up construction to make up the time lost.

Indeed, for a complicated project that applies the CONQUAS standard, a skilled and quality professional team is needed to design, construct and manage it. It is important "to start doing it right the first time" if the target is to achieve a high quality project. A stringent pre-qualification of contractors can be adopted to ensure only contractors with good track records are shortlisted for contract tender.

3.2.2 Nature of Construction Works

The involvement of various parties in construction works

makes it difficult to manage quality for CONQUAS application projects. The consultants, subcontractors and suppliers may not be as like-minded as the main contractors in their commitment to quality. Poorly written or vague specifications and errors in the architect's and engineer's drawings as well as a sub-contractor's refusal to conform to the main contractor's instructions, can collectively result in an uphill task for the main contractor in implementing CONQUAS. The effectiveness of the contractor's quality system depends, to a large extent, on the support and co-operation of all project team members.

3.3 Cost of CONQUAS

The CONQUAS standard is a stringent assessment system that gauges the quality of the construction workmanship, so the construction cost for any project undergoing the CONQUAS assessment will be slightly higher. There are additional costs in term of materials, plant and labour. A contractor has to employ skilled workers and some components such as formwork may only be used once instead of repeatedly. In addition construction time may be delayed in the effort to achieve the quality stipulated.

The cost of supporting a third party (the assessor's team) process also contributes to extra cost for the client. However, the benefits will off-set the cost invested. The finding indicates that there is added cost of between 10% and 15% for CONQUAS application projects.

4.0 BENEFITS OF CONQUAS STANDARD

4.1 Building Workmanship Quality

CONQUAS is designated to standardise quality assessment to benchmark the quality of construction projects. It measures the quality of constructed works against workmanship standards and specifications. The implementation of CONQUAS not only improves the overall quality of the construction products but also its construction processes.

The adoption of CONQUAS is an advantage to both contractor and client. CONQUAS ensures workmanship quality and increases the value of the construction products.

4.1.1 Workmanship Quality

CONQUAS assists a contractor to identify problems and to improve product quality tremendously. All the three case studies successfully achieved the stipulated score which was 70% and above for Architectural Works (including M&E fittings only) and 30% and above for Structural Works. The clear advantages of adopting CONQUAS by the contractors are:

- It provides a breakdown of intensity of defects in the various building components.
- It allows builders to take prompt corrective measures during the construction stage.
- It aids builders to take precautionary actions in future construction.
- It enhances capabilities and competency of builders.
- It enables a contractor to benchmark workmanship quality against that of competitors.

4.1.2 Values of the Product

Although CONQUAS assessment is not a requirement in Malaysia, some developers believe it is important that construction projects undergo this international quality assessment as it enhances the value of the properties concerned.

CONQUAS application enables the developer to:

- Meet the purchaser's expectations
- Obtain public recognition as a responsible developer
- CONQUAS scores can be used as a marketing tool to attract home buyers

CONCLUSION

Today, CONQUAS is not only used in its country of origin, Singapore, but it is also widely adopted in Australia, Korea, Malaysia and China. CONQUAS is more recognised and accepted by developers as well as home buyers in the country.

Chow Chee Wah, managing director of Gamuda Land Sdn Bhd said, (HBA, 2009)[4]: "As a pioneer for the implementation of CONQUAS for landed properties, we are not only setting the trend for ourselves, but also for the industry. We are always thinking about the benefits for our purchasers. As such, we have also raised our internal benchmarks with the aim to constantly provide a higher standard of workmanship as well as better quality buildings."

Developers have started using CONQUAS as a measure of quality to promote and market their projects. It is common for developers to specify target CONQUAS scores in their construction contracts for their contractors to achieve. There may be incentives, for examples bonus payments, or disincentives that come with the CONQUAS score. CONQUAS scores may also be used by developers to select contractors who are able to deliver quality projects. CONQUAS can be considered to be an effective tool that the local construction industry can adopt in order to achieve higher quality standards in building projects. ■

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