

THE ConSTRUCTOR

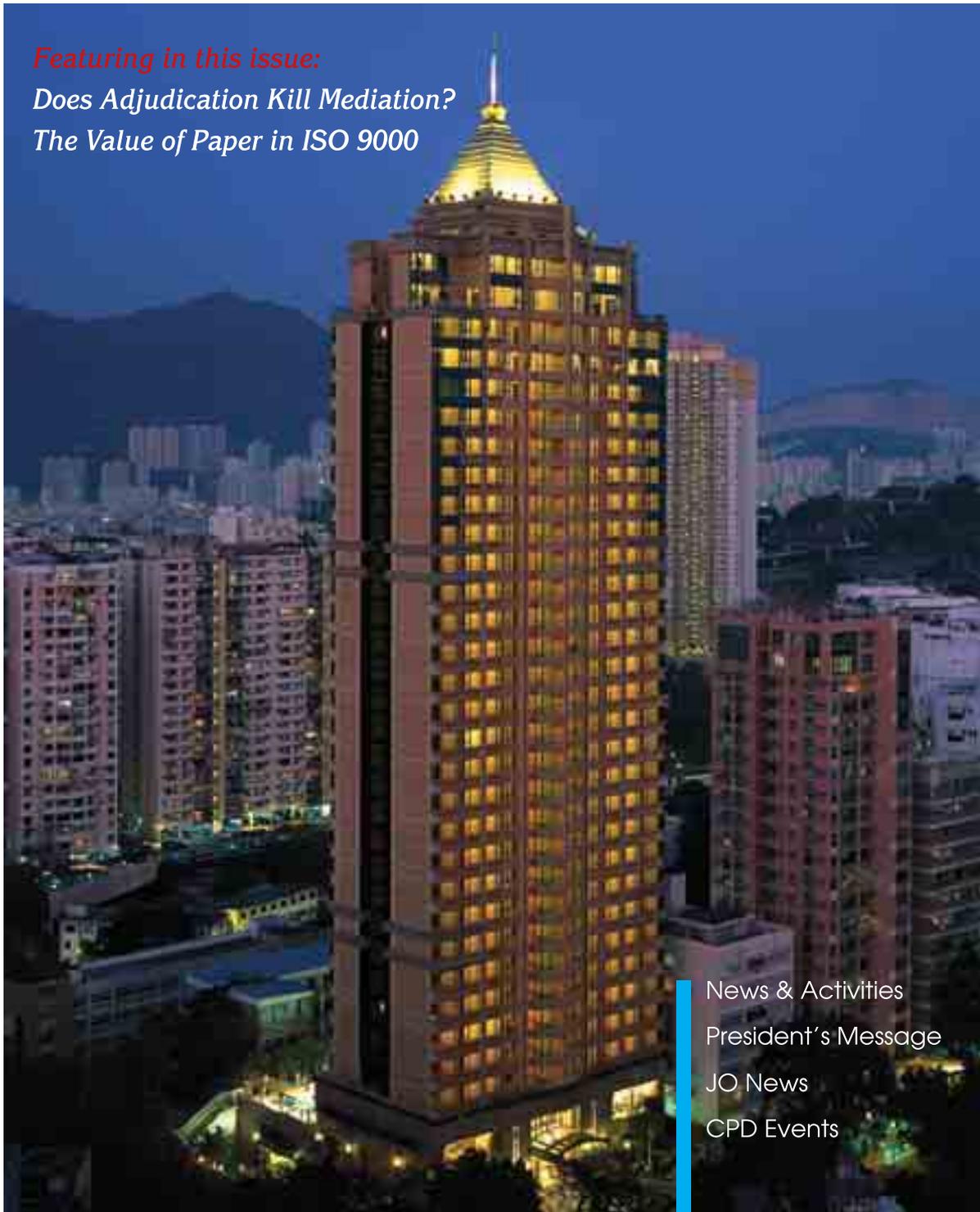
營
造

Summer 2005 夏季

Featuring in this issue:

Does Adjudication Kill Mediation?

The Value of Paper in ISO 9000



News & Activities
President's Message
JO News
CPD Events



Long Expected Birth of the... Standard Form of Building Contracts 2005 Private Edition (SFBC)



Mr. Henry YY Tang, the SFBC Drafters, Guests of Honour and Members of the Working Group who realised the publishing of the SFBC.



From left: Presidents of HKIA, HKICM, HKIS.



From left: Past HKICM Presidents Mr. Dicky Sung & Mr. Peter Mok, Mr. WH Lam and Mr. Marco Wu.



The Presidents, the SFBC Drafters and the Guests of Honour.



President KL Tam and Mr. William Wang (left).



HKICM Council Members and guests.

Acknowledgement of sponsors to the Ceremony (in alphabetical order):

China Resources Construction Co. Ltd., Chun Wo Construction & Engineering Co. Ltd., E Man Construction Co. Ltd., Formica (Asia) Limited, Hang Lung Properties, Hip Hing Construction Co. Ltd., KCRC, Levett & Bailey, Li & Partners, Lovells, MTRC, Sino Group, Sun Hung Kai Properties, The Society of Builders, Tysan Group.

Dear Members,

At long extended last, the Standard Form of Building Contracts 2005 Private Edition (SFBC) was officially launched on 11 April 2005 through a ceremony officiated by the Hon. Mr. Henry YY Tang, Financial Secretary of the HKSAR. We are indebted to major construction companies, professional service providers and peer professional bodies for their generous sponsorship, without which the launching ceremony could not have been so successful.

The SFBC booklets are now available for order. Please refer to p2 for details to purchase from the Secretariat Office.

In line with our expansion plan in the Mainland, following the appointments of the Beijing Representatives the Institute has further appointed Mr. Kane K. Chen, Managing Director of China Resources Land (Shanghai) Ltd, as the new Representative of HKICM in Shanghai.

It is anticipated that there will be an increasing number of membership applications arising from practitioners stationing in major cities of the Mainland who would need the Institute to conduct professional assessments (PA) locally in their working locations.

Members who are working in major PRC cities like Beijing and Shanghai are invited to join the Panels of Professional Assessors to deal with the PA demand of membership applicants. Volunteers please email the Secretariat Office to offer your service that would also help building up a useful network in the PRC.

My term of office will be fully served in July 2005. I would like to take this opportunity to thank you all for the support dedicated to the Institute in the past two billowy years.

It is your support that would strengthen our endeavours. I am sure the Incoming Council for 2005/2006 will continue to have your earnest support to sustain the growth of the profession and hence the industry.

Yours sincerely,



K. L. Tam
President

The Communication, Publicity & Publications Committee of HKICM 2004/ 2005
Chairman: Mr. F. P. Chung
Members: Mr. Jeff Cheung, Dr. Thomas Ng, Mr. Stephen Siu, Mr. Christopher Wong, Mr. C. L. Wong, Mr. Robin Yip

Secretary General & Executive Editor: Mr. Monty Chan
秘書長兼執行編輯：陳子健
Publisher: The Hong Kong Institute of Construction Managers, Ltd.
Room 801, 8/F, 25 Des Voeux Road Central, Hong Kong.
Tel: (852) 2523 2081 • Fax: (852) 2845 4749
E-mail: info@hkicm.org.hk • Web Site: www.hkicm.org.hk

Disclaimer: The views and opinions expressed or implied in this publication and those of the authors do not reflect those of the HKICM, its officials or editorial staff. The HKICM, its officials or editorial staff therefore do not and shall not accept any liability or responsibility of whatsoever nature in the context of this publication. Opinions, conclusions, representations, views and such other information in this publication shall be understood as neither given nor endorsed by the HKICM, its officials or editorial staff.





Appointment of Shanghai Representative of HKICM

Mr. Kane K. Chen was appointed Shanghai Representative of HKICM on 22 April 2005. Mr. Chen is the Managing Director of China Resources Land (Shanghai) Limited, a young elite in the Shanghai construction industry.

President Tam presenting the Appointment Certificate to Mr. Chen

Recruitment of Volunteers to serve the Institute and members

To strengthen the working teams of the Institute including Professional Assessors and Interviewers, we are recruiting new blood to serve on voluntary basis for the coming (2005/2006) Council Session. All classes of members are welcomed to make contributions in serving the Institute. Applicants for Professional Assessors should be FHKICM or MHKICM. Interested parties please fill in the form below and fax to 2845-4749 for the attention of the Secretariat, or e-mail to: info@hkicm.org.hk

HKICM Service Application Form	
Name :	
Membership Class & Number :	
Contact Telephone Number (Mobile) :	
E-mail Address :	
Position you are interested to serve:	<input type="checkbox"/> Professional Assessor (HKSAR)
	<input type="checkbox"/> Professional Assessor (PRC)
	<input type="checkbox"/> Professional Interviewer (HKSAR)
	<input type="checkbox"/> HKICM Sub-Committee Member
	<input type="checkbox"/> Junior Organisation Committee Member

Order of the Standard Form of Building Contracts 2005 (Private Edition)

The following booklets are available from the stock of the Secretariat Office at Room 801, On Lok Yuen Building, 25 Des Voeux Road Central, HK; Tel: 2523-2081

Title	Unit Price (HK\$)
Agreement & Schedule of Conditions of Building Contract - With Quantities	120.00
Agreement & Schedule of Conditions of Nominated Sub-Contract	100.00
Agreement & Schedule of Conditions of Nominated Supply Contract	100.00

Site Visit Report

by Carrie Cheng, Clare Chau, WS Lo and KT Leung, final year students of Higher Diploma in Building Surveying, Hong Kong Institute of Vocational Education (Morrison Hill)

On the 12th of March 2005, we joined a site visit organized by the HKICM, visiting a highway project at Yuen Long. It was a pretty large-scale road widening project for Yuen Long Highway between Tan Kwai Tsuen and Shap Pat Heung Interchange (Contract No. HY/2002/19). Although the weather was a bit annoying, with a heavily clouded sky and scattered shower, it did not affect our excitement at all. We were able to see many interesting construction features, and also learnt from this project how the design team and the construction team could work together in dealing with site problems from time to time. We must thank the Highways Department, Scott Wilson Limited, and Paul Y. Construction Co. Ltd. for offering us such a precious learning opportunity. Their kind reception and the excellent explanation throughout the entire trip are very much appreciated.



Group photograph of the site visit team including representatives from host organizations

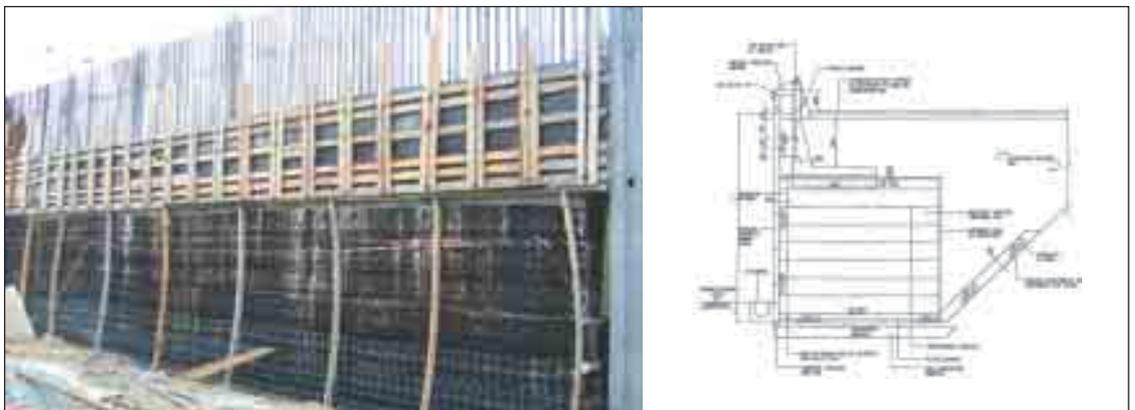
The existing Yuen Long Highway is a 6.8 km long dual two lanes carriageway. It connects Tuen Mun and Yuen Long in the North West New Territories and forms part of the major road network serving Tin Shui Wai. At present, the Yuen Long Highway is already operating near its full capacity. The proposed road widening is necessary to cope with the increasing traffic demand generated from the population growth and the increase in the cross-boundary traffic. The contract mainly comprises: widening the approximately 4.5 km long section of Yuen Long Highway; modifying the associated interchanges and slip roads; widening or extending existing highway structures affected by the proposed road widening; construction of noise barriers and noise reducing road surfacing; and associated works including road rehabilitation, geotechnical, drainage and sewage work. The total contract sum of the project is HK\$ 678 M. The Client is Highways Department of HKSAR Government, Consulting Engineer is Scott Wilson Limited, and Paul Y. Construction Company Ltd. the Contractor. The project commenced in July 2003, and is expected to complete in late 2005.



Location Plan

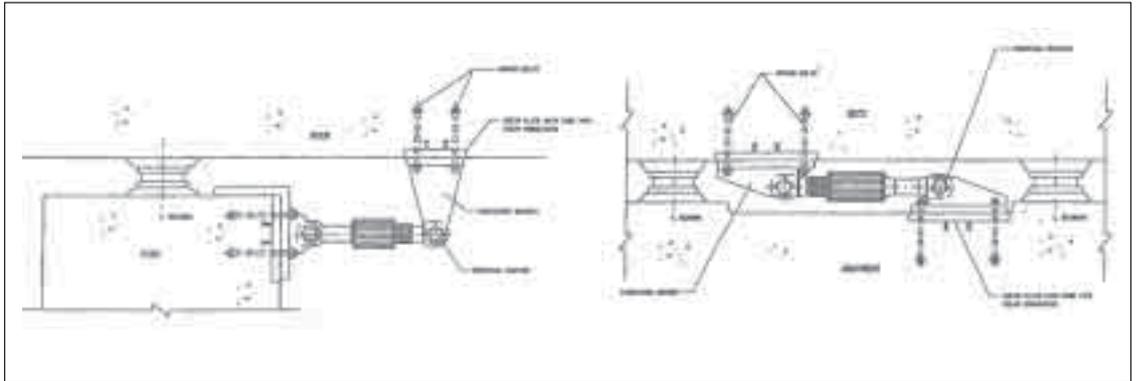
Managing a road widening project is more demanding than constructing a new road. The difference is that, for the former, the traffic flow of the existing carriageway has to be maintained smooth when the extended part is under construction. The very limited working space by the side of the existing highway also posed problems to the site management team. As the highway passes through residential areas and villages, the nuisance caused by the construction activities to local residents must be kept to minimum. Furthermore, environmental protection is also an important issue to be attended to. Throughout this visit we were deeply impressed by a number of special construction features. They are (i) Reinforced Fill Retaining Wall; (ii) A box shaped retaining structure; and (iii) Techniques to join the new bridge deck to the existing deck.

Reinforced Fill Retaining Wall is basically a kind of gravity retaining wall working on the similar principle of a crib wall. Selected cohesive frictional fill is compacted in layers, with galvanized steel reinforcing grid in-between, and wrapped up with filtering blankets. Pre-cast concrete facing panels are tied to the reinforcement through hooks. The photograph below was taken before the installation of facing panels, thus wire nets and hooks were exposed to sight. Granular materials are filled behind the panels for draining away water at the back and for stabilization. This technology is borrowed from foreign countries, and is its first time to appear in Hong Kong. It is proven to be a very environmental-friendly design when compared with reinforced concrete. Filling material is from the construction site, and the use of concrete is reduced to minimum.



Reinforced Fill Retaining Wall

deck, which has not been taken care of in the original design. To address the first problem, a specially designed jointing method was introduced. At the time of concreting to the joint, the speed of traffic on the existing deck is to be controlled such that the vibration is kept to an acceptable level. A special rapid-hardening concrete would be used in order to shorten the duration of slow traffic. Horizontal movement of the new deck is to be absorbed by Shock Transmission Units which are products of advanced technology. The principle is to transfer the horizontal force of the new deck back to its own pier or abutment.



Shock Transmission Unit (on pier)

Shock Transmission Unit (on abutment)

Acknowledgement

Highways Department for permission to make reference to contract drawings

進營社遊船河活動日

為加強會員的溝通聯繫及持續專業發展，進營社於今年先後舉辦了「元朗公路路面擴闊工程工地考察」(活動報告於本刊第3頁)及「專業教育學院摩理臣山分校探訪」。

在各會員的支持下，本社更於2005年6月5日星期日舉辦了「進營社遊船河活動日」，參加人數多達50名，乘坐前港督專用遊艇「慕蓮夫人號」欣賞維港景色。天公造美，在連續數日的惡劣天氣之中，6月5日和暖帶陰，清風送爽，令是次活動得以完滿舉行。雖曰成事在天，如非各會員及各界友好支持及參與，進營社的活動不會成功，謹此致謝。並期望會員及各界友好，給予進營社更大力度的支持和參與。



樂也洋洋的來賓



輕輕鬆鬆的送贈

CPD Events Held in the Season



Factory Visit



Mr. David Tai receiving the souvenir from Mr. Y. K. Lau



JO School visit to IVE, Morrison Hill



Mr. Michael Leung and Mr. Stephen Siu



Mr. Y. K. Lau and Mr. Eric Chung



Mr. Y. K. Lau and Mr. Y. Y. Yip



Mr. Y. K. Lau and Mr. Johnson So

CPD Schedule for 2005/2006 will be published in the next issue of 'The Constructor'.

Does Adjudication spell the death of Mediation?

Peter Ho

Mr. Peter Ho is a Chartered Quantity Surveyor, a Fellow of the Chartered Institute of Arbitrator and an accredited Mediator of Hong Kong International Arbitration Centre. Mr. Ho is also a Dispute Resolution Advisor on the lists of Architectural Services Department and the Hong Kong Housing Authority Panel.

In recent years mediation in Hong Kong has successfully resolved a good number of major disputes in building and civil engineering projects. It has firmly established itself as the preferred alternative to arbitration and litigation. However, the Government of the HKSAR has now introduced adjudication as a further alternative on some projects, albeit on a pilot basis. So what is this new alternative and how will it affect mediation in HK?

What is adjudication?

Some people say adjudication is fast-track arbitration. Like an arbitrator, the adjudicator has to decide on issues based on findings of facts and law in a judicial process. The adjudicator has to act impartially and follow the rule of natural justice. There is a strict timetable for the publication of an adjudicator's decision once the process is set in motion. In a nutshell, adjudication gives the parties a temporary fix for their problem so that they can put their difference aside and move on whilst retaining a right to challenge the decision through arbitration at a later date. The difference with arbitration is that one does not have to wait until project completion before commencing adjudication proceedings and the strict time limit means that adjudication should be cheaper than full-blown arbitration.

Adjudication has taken a firm hold in the UK construction industry because it is mandated under the provision of the Housing Grants, Construction and Regeneration Act 1996, which amounts to a statutory interference of the civil rights of contracting parties under Construction Contracts¹. Such success may not be repeated in HK unless the Government were to provide similar legal infrastructure and judicial support to the process as their counterpart in the UK.

Proponents of adjudication say the temporarily binding effect of an adjudicator's decision will re-focus the parties' attention and effort on the project, which avoids hardening of attitude and mistrust should the difference be allowed to become a protracted dispute. They argue that speed is of the essence and the process is particularly apt to handle differences over interim payment or standard and quality of workmanship without adversely affecting the progress of the Works.

However, anecdotal evidence from the UK suggests that adjudication might actually create more stress and tension amongst employers, project teams and contractors because the tight timescale for delivering the adjudicator's decision leads to:

- (a) complaints that some parties abuse the process with tactical play in order to ambush the opposing party, and
- (b) rough justice for want of a proper evaluation of the issues involved.

Whilst retaining the right to appeal the adjudicator's decision in arbitration later aggrieved losing party might not be amenable to work co-operatively in the meantime. It is not uncommon to find a series of adjudication referrals on a tit-for-tat tussle between the parties on the same project. This has the undesired counter effect of engendering mistrust between the stakeholders which might deteriorate into outright hostility, further endangering the wider success of the project.

Adjudication – v – Mediation

Much has already been written about mediation as an appropriate alternative resolution process to confrontational, antagonistic and costly processes such as arbitration and litigation to resolve construction and engineering project disputes. Under the right circumstance, the benefits of mediation over these traditional processes are real. It is often said that one of the most valued benefits of mediation is how it empowers the parties to take control of the process to resolve mutual problem or difference in a collaborative spirit, which has the added benefit of preserving or mending frail commercial relationships. So how will it fare against adjudication?

First and foremost, these are different processes and it would be wrong to compare them and say one is necessarily better than the others. For courses, they are both appropriate alternatives to traditional processes in their own right and their suitability will depend on the nature as much as the timing of their introduction in the life cycle of the dispute. Another consideration is the expectation of the parties. How much control of the process and outcome do they intend to retain? In this respect, mediation offers more flexibility and the parties have more power over the eventual outcome.

It is important to understand the different features of the processes so that parties can make an informed decision on which process to adopt to facilitate the resolution of their issues. The following table highlights some of the differences between the two processes. These are representative and not intended to be exhaustive.

Characteristics of the Processes	Adjudication ²	Mediation
Voluntary & confidential	Yes	Yes
Administration authority	HKIAC ³	No
Involvement of a third party neutral	Yes	Yes
Strict time limits	Yes ⁴	No
Strict rule of evidence	No	No
Private meeting with one or the other party	No	Yes
Investigate inquisitorially to establish facts and law	Yes	No
Findings of facts and law	Yes	No
Formal hearing/meeting with the parties	Sometimes	Yes
Making order for directions	Yes ⁵	No
Based on contractual rights and obligations	Yes	No
Based on commercial reality and acceptable compromise	No	Yes
Process conclude with enforceable Decision by other	Yes	No
Process conclude with enforceable agreement by parties	No	Usually
Party autonomy in choice of options for resolution	No	Yes
Decision subject to challenge in subsequent arbitration	Yes	No ⁶

So, the choice is not, which is a better process? Rather, the question is what do the parties want from the process and how do they intend to achieve that objective. If the parties expect a deterministic approach with a declaration of respective rights and obligations in accordance with the contract then adjudication fits well. On the other hand, in many disputes parties just want to find a reasonably acceptable solution so they can draw a line in the sand, close the chapter on the particular issue involved and move on. In that case, mediation is more suited since it allows the parties to maintain their relationship without facing each other in confrontation. Mediation gives them a non-threatening forum to negotiate with the assistance of a neutral mediator in a confidential basis. In collaboration, it has been demonstrated that parties with genuine effort and intent can and will achieve breakthrough in mediation to resolve their difference, sometimes with amazing options that no tribunal or the Court could imagine or be able to deliver.

Unless one were to accept the perceived notion, rightly or wrongly, that parties in dispute subscribe to the axiom that 'a problem given away is a problem solved' then adjudication, like arbitration, may just represent the answer to their prayer. Why? Because it is not difficult to see it is easy to wash one's hands of responsibility by passing the buck and hiding anonymously behind the process, the adjudicator and the advisors for a 'wrong' decision. The alternative of taking responsibility and being accountable for one's choice and decision can be daunting and harrowing for some particularly when the organisation culture does not encourage individual's proactive initiatives or endorse and support collective responsibility and accountability within a team or a department. In this circumstance an adjudicator's decision is a convenient way out for them since the decision by a third party under a judicial process legitimately takes the decision making out of their hands and accountability of the decision becomes impeachable. However, the argument for accountability is often an extension of the excuse to abdicate responsibility because the manager does not want to make hard decisions himself.

It is uncommon to find arguments involving complicated issues of law in the majority of construction disputes. It is probably more important to consider commercial reality and the impact on the business relationship if the parties were to go through an acrimonious fight. With an international acknowledged statistical success rate of around 70% in both voluntary and mandated mediation one is bewildered to answer why so many parties still fail to give mediation a go before adopting other processes to resolve their disputes.

It may not be the panacea for all things but mediation allows management to retain maximum control of the procedure and outcome without compromising on legal rights. Responsibility is accountability. Properly prepared, negotiation can achieve responsible and accountable win-win compromise in mediation. Should responsible managers give up the control and management of the resolution process to other people and allow a third party to dictate the terms of settlement for their disputes? Shouldn't they and their advisers explain why mediation is not used or considered before the matter is turned over to judicial process such as adjudication?

What would you rather have, draw of the luck by referring your dispute to an adjudicator or take control of your destiny with the assistance of a mediator to fashion a compromise that both sides can live with?

¹ Ref. Sections 104, 108 of Part 2 of the Housing Grants Construction and Regeneration Act 1996

² Ref. Government of the HKSAR proposed Construction Adjudication Rules (2004)

³ Ref. Clause 1.3 nominating the HKIAC to administer the adjudication

⁴ Ref. Clause 9.1 adjudicator shall make his decision within 56 days from the Commencement Date or within such other period by consent of the parties in writing and, shall not extend by more than 28 days on his own accord

⁵ Ref. Clause 8 Power of the Adjudicator

⁶ There is no decision on right or wrong and entitlement or damages in mediation

Document Requirements Attributed to ISO9000-Based Quality Management Systems

S. Thomas Ng, MHKICM

Mohan M. Kumaraswamy, FHKICM

Centre for Infrastructure and Construction Industry Development, The University of Hong Kong, Pokfulam, Hong Kong.

Introduction

ISO9000-based Quality Management Systems (QMSs) have been extensively implemented in the construction industry of Hong Kong for over a decade. While the benefits of ISO9000-based QMSs are well recognized, some operational staff believe there is a drastic increase in workload as a result of the extra documentation requirements of ISO9000 (Moatazed-Keivani *et al*, 1999).

According to Fok *et al* (2000), a number of systems have met with significant resistance from the workforce, and it is difficult to generate commitment of site personnel to the QMSs due to excessive workload and deep-rooted culture (Serpell, 1999). Tang and Kam (1999) even suggested that some documents required by ISO9000-based QMSs may be excessive and do not add value to the construction quality.

Although a series of documents generated and maintained for satisfying the design, time, cost, quality, safety and environmental requirements of various stakeholders, some of them are known to be contractually specified because of a client's own quality and safety initiatives rather than purely for facilitating the implementation ISO9000-based QMSs. Without knowing the extent of any increase in documentation after ISO9000-based QMSs were implemented, it is difficult to estimate the extra workload imposed upon the operational staff.

Survey Method

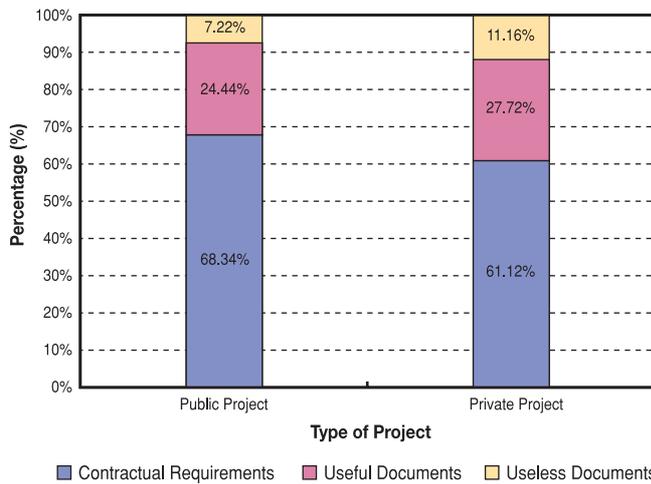
In order to find out more about the documentation required during the implementation of ISO9000-based QMSs, a survey was conducted with contractors in Hong Kong. The objectives of the study were to uncover the proportion of documents which are required by (i) the client; (ii) ISO9000-based QMSs and considered useful; and (iii) ISO9000-based QMSs but considered to be not adding any value.

To ensure the samples come from a diversity of disciplines and sizes, random samples were drawn from various categories of listed contractors being maintained by the Environment, Transport and Works Bureau and the Hong Kong Housing Department. Out of the 112 targeted samples, 36 valid replies were received representing a response rate of around 32%, which is considered reasonably high for a study of this kind.

In this survey, respondents were invited to estimate the percentages of project documentation (procedures and records) that are generated by (i) contractual requirements from the client and/or statutory or regulatory requirements (i.e. documentation that they would still have to produce even if they were not ISO9000 certified); (ii) specific ISO9000 requirements over and above item (i) which they consider to be useful to their organisation in achieving customer satisfaction; and (iii) specific ISO9000 requirements over and above item (i) that add little or no value to their organisation. Besides, respondents were asked to estimate the percentage decrease in 'non-valuable' documentation after changing from ISO9000:1994 to ISO9001:2000.

Distribution of Project Documentation

Figure 1 depicts the normalised average distribution of the three types of documentation generated for a construction project, as perceived by the respondents. As shown in the Figure, 68% and 61% of the documents are required by the public and private clients respectively as a result of contractual requirements and/or client's quality initiatives. Conversely, 32% and 39% of the documents in the public and private projects respectively stem from the implementation of the ISO9000-based QMSs. Of this, 77.2% (i.e. 24.44% out of 31.66%) was considered as useful in improving the quality of a



public project, and 71.3% (i.e. 27.72% out of 38.86%) was rated useful to the quality of a private project. One could argue that while the public clients require a high volume of documents, the documentation required by ISO9000-based QMSs would still play an important role in ensuring the desired quality of construction project is attained. Furthermore, it may be argued that most of the documents in the second and third categories, i.e. those considered to be generated by a ISO9000-based QMS are in fact largely developed to fulfil the contractor's own quality management requirements.

Figure 1: Documents required by ISO9000-based QMSs

Change in Non-Valuable Documentation after ISO9001:2000 is Introduced

When asked whether the introduction of the ISO9001:2000 would reduce the amount of non-valuable documentation, only 7 respondents did not think there would be any reduction. All other sampled contractors indicated that there was a remarkable decrease in the non-valuable documentation after migration to the 2000 version, and the reduction could be as much as 40% (Figure 2). On average, a 12% decrease is perceived. ISO9001:2000 offers a greater flexibility and contractors thus have a much better control in deciding on useful documentation to be maintained.

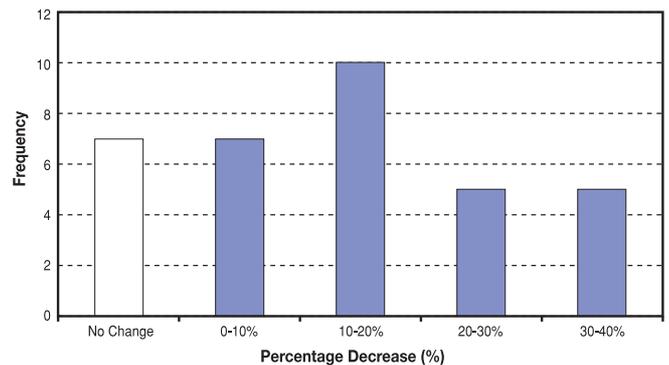


Figure 2: Decrease in 'non-valuable' documentation after changing to ISO9001:2000

Conclusions

Although the above findings are from a small sample, the evidence appears adequate to reconsider any perception of blaming ISO9000-based QMSs for drastically increased paperwork. Some staff may still consider any extra documentation stemming from the implementation of ISO9000-based QMSs as a burden to them, and they may choose to bypass some of the checking procedures by just signing the forms without doing the actual checking.

This is supported by the findings in a recent survey that some less committed contractors would try to bring the paperwork up-to-date just in time for auditing (Love and Li, 2000). If ISO9000-based QMSs are not maintained effectively, companies may find themselves being channelled into managing the documentation aspects of the certification process, rather than into achieving the objectives of the quality system itself (Kelada, 1992).

As the majority of any extra documentation required by ISO9000-based QMSs were considered useful to the contractors in improving project quality, an attitudinal and cultural change to the staff is needed (Tam *et al*, 2000; Love *et al*, 2000). Frontline staff should be guided into a culture that ISO9000-based QMSs are an integral part of daily work, so that the system is almost 'automatically' maintained on a regular basis and documentation becomes easier and a reflection of the way things are done (Love and Li, 2000). By drawing the attention of management and operational staff to the benefits of ISO9000-based QMSs such as reduction in non-conformity and rework, it is possible that their commitment to ISO9000-based QMSs would increase and hence achieve the desired goals of customer satisfaction and continual improvement as required by the latest ISO9000 standard.

Furthermore, the provisions in the latest ISO9000 standard provide opportunities for each organisation to further reduce what may be identified as non-value adding documentation. Therefore, it may now be worth investigating whether any of the client-required documentation is non-value adding. Finally, an open minded approach is suggested when examining the value of each piece of quality management documentation, given general misgivings as to a feared volume of extra paperwork. Such fears may have been initially fuelled by a general inertia to any system change, as well as by resistance to some big changes needed in organisations which had not yet developed an effective QMS. It appears that extra documentation for ISO9000 purposes alone should be somewhat marginal if a good system is in place; and it is therefore worth looking objectively at the overall costs and benefits of ISO9000-based QMSs rather than merely dismissing them on the potential for extra paperwork. The findings presented here indicate the need for an overall re-assessment, with a view to optimising approaches to useful quality management systems for construction organisations.

References

- Fok, L.Y., Hartman, S.J. Patti, A.L. and Razek, J.R. (2000) Human factors affecting the acceptance of total quality management, *International Journal of Quality and Reliability Management*, 17(7), 714-729.
- Kelada, J.N. (1992) *Integrating Re-engineering with Total Quality*, ASQC Quality Press, Milwaukee.
- Love, P.E.D. and Li, H. (2000) Overcoming the problems associated with quality certification, *Construction Management and Economics*, 18(2), 139-149.
- Love, P.E.D., Li, H., Irani, Z. and Faniran, O. (2000) Total quality management and the learning organisation: a dialogue for change in construction, *Construction Management and Economics*, 18(3), 321-331.
- Moatazed-Keivani, R Ghanbari-Parsa, A.R. and Kagaya, S. (1999) ISO 9000 standards: perceptions and experiences in the UK construction industry, *Construction Management and Economics*, 17(1), 107-119.
- Serpell, A. (1999) Integrating quality systems in construction projects: the Chilean case, *International Journal of Project Management*, 17(5), 317-22.
- Tam, C.M., Deng, Z.M., Zeng, S.X. and Ho, C.S. (2000) Quest for continuous quality improvement for public housing construction in Hong Kong, *Construction Management and Economics*, 18(4), 437-446.
- Tang, S.L. and Kam, C.W. (1999) A survey of ISO 9001 implementation in engineering consultancies in Hong Kong, *International Journal of Quality & Reliability Management*, 16(6), 562-574.

The Centre for Infrastructure and Construction Industry Development (CICID), HKU is a not for profit organisation aiming at fostering continuous improvements, while targeting excellence in the construction industry in general and infrastructure development in particular, through the development of innovative strategies and techniques. For further information about our R&D centre, please refer to <http://www.hku.hk/cicid/index.html>.