



SOCIETY OF CONSTRUCTION LAW (SINGAPORE)

SINGAPORE CONSTRUCTION LAW NEWSLETTER

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Chairman's Message



The Society kicked off 2010 with an interesting spread of activities and programs.

PROFESSIONAL DEVELOPMENT

This 1st quarter of 2010 witnessed a number of visits and talks. In January, the Society organized a visit to Maxwell Chambers followed by talks in February and March on Dispute Boards and the independence of Certifiers.

The talk in April featured a double bill of Singaporean and Australian speakers discussing the adjudication experience in the two countries.

My thanks to the Chair and Vice-Chair of the Professional Development Committee, Karen Fletcher and Anil Changaroath, for their discipline and focus in putting together such an interesting and regular spread of professional development activities for our members.

ENGINEERING 101

The tireless Audrey Perez helmed the 2nd annual run of our popular 2-½ day evening training course "Engineering 101".

This course is specifically designed for lawyers, quantity surveyors and other non-engineering professionals interested in the basics of engineering principles, construction projects, construction techniques and related challenges.

The Society launched this course last year to overwhelming response from the course participants. The course was conceived and taught by Audrey Perez, a professional civil engineer with Dragages Singapore, and a Council member. Audrey attracted rave reviews for her teaching style and materials last year, and the Society is very fortunate to have her back this year.

In response to feedback from last year's course, this year's program consisted of 4 evening sessions to be held over two weeks.

I would like to recognize the enormous commitment and work put in by Audrey. Conceiving and teaching a course of this nature is a very demanding exercise. On behalf of the Society and all its members, I extend my thanks and appreciation to Audrey.

SOCIAL

As we are near the end of our 1st quarter of 2010, I sincerely look forward very much to meeting all of you at our forthcoming networking cocktails and our Annual Dinner scheduled in the middle of the year.

Last year's Inaugural Dinner was a tremendous success. I look forward to the cheerful combination of good food, great wine and excellent networking that made for such a thoroughly enjoyable evening last year, awaiting us all in a few months time.

EXTERNAL RELATIONS

The External Relations Committee headed by Johnny Tan has cemented reciprocal arrangements for the Society with six very esteemed partner organizations:

- National University of Singapore (Law Faculty)
- Chartered Institute of Building
- Singapore Contractors Association
- Singapore Institute of Arbitrators
- Singapore Institute of Surveyors & Valuers
- Singapore Institute of Architects (SIA)

The formal signing of the MOUs took place on 2nd March 2010 (a fuller report will feature in this newsletter).

The MOUs establish a framework and platform for mutual co-operation and sharing of expertise to promote and advance the practice of construction and construction law. They encourage the parties to collaborate on joint programmes such as conferences and forums and to promote each other's events, with preferential rates extended to the other's members.

Chairman's Message *Cont'd*

The Society is delighted to be able to work with partner organizations of the stature and standing of our six partner organizations.

My appreciation to Johnny and his External Relations Committee for bringing together for the Society this grouping of key partners in the industry and academia.

MEMBERS DIRECTORY

I had mentioned in my previous message that the Society was looking at the Members' Directory. It is therefore my pleasure, on behalf of the Council, to announce the launch of our online Members' Directory.

The Council debated the possibility of a hard copy publication but eventually decided that an online publication would be more efficient, and would offer the tremendous advantage of regular and constant updating, and easy access.

The Online Directory has both, a public and a private area with the provision of voluntary details in the form of members "pen portraits". The public section merely contains a listing of all the names of our members although each individual member has the option of listing their organization, designation, contact number and pen portraits if they so wish. Otherwise, this additional information will only be made available in the members' area.

You will see more details on this in the write up in this newsletter.

PAYMENTS ON LINE AVAILABLE ON WEBSITE

With effect 1st March, 2010 members will have the added convenience of online payments for membership renewal, and attendance at our seminars, social and other events. Members who prefer to pay by cheque still retain the option to do so.

You will find more details of this new facility in the separate write up in this newsletter.

CONCLUDING REMARKS

As we move past the 1st quarter into mid 2010, the Society's AGM will not be very far off.

There will be full Council election this upcoming AGM as the current Council's two years term will come to an end.

For those of you who are interested in the activities of the Society and would like to participate more actively and fully, the AGM will offer you an opportunity to do so.

In addition, we have seven standing committees (which focus on specific areas of the Society's activities) who always welcome enthusiastic interested members. So there are a number of varying levels and opportunities of participation.

As always, I end my message looking forward to your continuing support and participation in our ongoing activities and programs.

Your feedback and comments are always welcome, both on what we have been doing, as well as what we have not been doing, or on not doing right.

All comments, positive or negative are welcome. You can email me c/o the SCL Secretariat [secretariat@scl.org.sg].

Mohan R Pillay

Chairman
2008-2010

ON-LINE MEMBERS DIRECTORY

We originally conceived the idea of a Members' Directory as a "Who's Who" both for internal reference by members and also, perhaps, as a way to introduce our members to a broad professional community.

Of course, not all members want to circulate their professional details and perhaps even fewer wish to share personal details. We did not want our directory to contain too wide a variety of brevity and verbosity so, after much deliberation, we reached a compromise format which involves a brief "pen portrait" in which members may choose to record either or both professional and personal information.

We do hope members will take advantage of this new facility to introduce themselves to other members. Some of us attend functions and know each other well. Other members are less well known to each other. The Members' Directory will provide an additional means for us to interact with other members.

We urge you all to contribute to the development of the Directory by submitting the most comprehensive information you are comfortable sharing. In this way, we hope the Directory will become much more than just a dry listing of names and addresses!

With a convenient single log-in using their username and password to the Members' Area at www.scl.org.sg, members will be able to (1) update their personal profile – both to keep

the Society's records current, and to determine the members' information made available to the public and other members, (2) access the Members' Directory; (3) view/download extensive resources such as past seminar and conference papers; as well as, (4) renew their membership."

Chris Nunns

Secretary, SCL (Singapore)

ON-LINE PAYMENTS VIA PAY-PAL

We are pleased to inform the members that we have enhanced the features of our SCL website to facilitate payments online. By tying-up with PayPal, effective from 1st March 2010, users would be able to make payments on-line, via credit card, for renewal of subscriptions, membership applications, seminars, conferences and social or networking events. On-line payment applies to all types of credit cards. To encourage such usage, for the time being, the Society will be absorbing the admin cost of PayPal, which is estimated at 4% of the transaction. This feature is quite user-friendly, in that each type of transaction has its own process leading to its own links. It is also quite safe to use as security and payments are handled entirely by a reliable and trusted source, PayPal. However, do note that on-line payment is only an option and members can still choose to make their payment by ATM transfer, cheque or internet banking.

Brendon Choa

Chairman, Website Committee

Memorandum of Understanding Signing Ceremony, 2nd March, 2010



In 2002, the Singapore Society of Construction Law (the Society) was set up “for those whose work is directly or indirectly connected with the construction industry and the law relating to it and who have a serious and active interest in construction law”.

Since then the Society and its members have endeavoured to promote education and study in the field of construction law and related subjects for the benefit of the public, its members, and the construction industry generally.

The Society, through the dedication and passion of its membership, has fortified over recent years and grown more proactive in promoting and developing relationships with other organisations, locally and internationally.

On 2nd March this year, six significant local organisations joined the Society in establishing reciprocal relationships to further the similar objectives and exchange of information in their common field.

Energised by the Society’s tireless Johnny Tan, heading the incumbent External Relations Committee, a Memorandum of Understanding (MOU) was agreed to effect reciprocal benefits for members of the Society and six other specialist organisations in Singapore.

Under the auspices of the Society the formal MOU signing was attended and undertaken by the following organisations and their representatives:

- The Chartered Institute of Building, Singapore Centre, represented by Mr David Shuttleworth, President;
- National University of Singapore, Law Faculty, represented by Prof Tan Cheng Han SC, Dean;
- Singapore Contractors Association Limited, represented by Mr Andrew Khng, President;
- Singapore Institute of Architects, represented by Mr Ashvinkumar Kantilal, President;
- Singapore Institute of Arbitrators, represented by Mr Johnny Tan Cheng Hye, President; and,
- Singapore Institute of Surveyors and Valuers, represented by Dr Lim Lan Yuan, Council Chairman.



Members of the signing organisations will benefit directly from the availability of preferential rates and reciprocal access between the organisations.

The signing of the MOU represents a significant move forward in the promotion of the Society’s aims jointly and through an established platform of organisations who together encourage and serve the development and understanding of construction law.

The External Relations Committee is not resting on this month’s laurels. Plans are afoot to further extend the Society’s reciprocal access, internationally. A move which is presently being met with enthusiasm from targeted organisations.

Simone Fenton



About Construction and Construction Law

This is part of a series of articles written by engineer, Audrey Perez, the author and presenter of SCL's Engineering 101 series of seminars.



INTRODUCTION: A BIT OF HISTORY...

While the earliest “man-made” constructions can be traced to the end of the last world-wide glaciations, some 30,000 years ago - when man could finally find time other than continuously struggling for his survival – and despite the 2700 years of breath-taking constructions in Ancient Egypt, it was only in relatively very recent times, in Ancient Greece, that Architecture was formally born, with the recognition of classical orders forming what historians and archeologists call The Greek Miracle. The Romans developed laws and the first traces of “construction law” appeared during the Roman Empire. However, it is unanimously acknowledged that construction law has emerged more noticeably in the early part of the twentieth century, to become today a key component of a construction project. While construction is about 30,000 years old, construction law is a century old, developed certainly and vigorously in the 20th century to help put projects within their agreed frames!

Today, most contractors wary of the risks they have to face in the construction sector have become familiar with contract terms, indemnities and warranties, various construction contract models and standard forms, pricing and claim practices, what makes successful claims, redress for breach of contract, variations arising from ground conditions, valuation of variation claims, payments and certifications, time-related claims and computation of time-related claims, performance bonds, claims arising from termination and matters following termination, potential claims under negligence, expert witnesses, evidence, and so forth.

It is a trait of human nature to have disputes, and it looks like construction law will live and evolve for many centuries and as long as there will be constructions!

In this series of articles which will appear in various issues of the SCL Singapore Newsletter, we will have a philosophical, and somewhat light overall look at various technical aspects of construction and their related common disputes and issues, that may arise in in various phases of construction projects through design, procurement, execution and their durability after the completion of the works.

We will start this series with an introduction on the subject of defects, with particular emphasis on waterproofing.

DEFECTS

“In the construction industry, it is accepted that there are likely to be minor defects found in a newly completed building and that is why construction contracts generally provide for a defects maintenance period during which the contractor can touch-up the works.” Justice Judith Prakash in delivering the judgment in the Singapore High Court in *Yap Boon Keng Sonny v Pacific Prince Private Ltd and another* [2007] SGHC 16.

Defects are commonly known to originate from materials, workmanship; or from the design. The latter includes the knowledge and experience required for specifying the right material engineered to be handled, applied, installed, and maintained in the right manner given the particular purpose and environment of a given construction.

Defects are considered minor when they do not affect the structural or architectural integrity of a given project nor jeopardize its appearance, regardless of the stage at which they appear. There are defects that affect the use of the premises, some others the level of comfort and enjoyment of the building users. Some defects would make a place unsightly, while others are inherent to any construction whether they are perceived as unsightly or not. The latter are related to a key factor in engineering considerations called durability. Architects and engineers do – but not often enough it seems – include durability in their considerations. However, sometimes they cannot afford to do so, or simply have not been taught or experienced the consequences of not doing so.

Some defects appear during construction, others after completion and finally latent defects could appear many years or decades after completion! Some defects appear but are not noticeable or not an issue to the layman. Conversely, others defects become a nuisance and an obsession to the premises user while these are not specifically defects per se but rather natural aging signs of a given construction. Therefore, defects are often related to the end user’s perception, expectations, and feed back, regardless of whether they are technically defects or not and likewise, their perception will vary depending on the context and country where constructions are looked at!

Experienced engineers know that defects’ assessment is a science that requires great objectivity. However, managing them is an art. In addition, when rights and remedies take precedence in construction defects and when the question of “who can be held accountable” for defects precedes or becomes a priority vis-à-vis the technical analysis of defects, common sense is often ignored. There are certain cases where defects are dangerous, particularly when they affect the structure of a building or facades finishes, yet regrettably, it takes years before the matter is attended to when a legal battle becomes the priority to the parties involved. In this vein, objectivity and common sense are often lost when the question “who is liable and how to make the other pay for it” becomes more important than the matter of “what has caused the defect and how to attend to it”. In such instances, even some defects’ experts lose a sense of perspective and reality, as well as their duty to be objective, in the midst of debates on liability!

WATERPROOFING

While defects may appear in all trades and for many reasons, many common defects appearing in contemporary reinforced concrete constructions in this part of the world relate to the building enclosure (facades and roofs) and water-tightness. A building or structure needs waterproofing, as concrete itself will not be watertight on its own to a certain degree of exposure to a flow of water, in particular horizontal concrete structures. Areas that require waterproofing are roof terraces, balconies, wet rooms (toilets, bathrooms, kitchens, powder-rooms, swimming-pools, water-tanks), some underground and basement slabs, (to prevent water ingress from soil behind underground walls) and some ground floor common areas slabs when there is an access underneath or other common areas equipped with wet rooms (eg - spa, saunas, jacuzzis, wave pools, hot water pools, mud treatment rooms, and such)

The conventional system of waterproofing involves membranes. This relies on the application of one or more layers of membrane (available in various materials: such as bitumen, silicate, PVC, EPDM, and many others) that acts as a barrier between the water and the building structure, preventing the passage of water. Depending on the specifications, there are added layers of insulations (underneath the waterproofing layer in cold countries, or above the waterproofing layer in warm countries to keep possible condensation respectively within the waterproofed area) and waterproofing hard protection.

However, the membrane system relies on perfect application, and this itself presents difficulties in reaching such perfection during construction, as many trades have to be installed after the waterproofing membrane is completed and tested. If not tightly controlled during execution, waterproofing membranes can be subject to many failures and disputes. Problems with adherence to the substrate can lead to leakage too.

In Singapore, the Building Construction Authority's CONQUAS and Quality Mark system are very good safeguards to control the quality of application of waterproofing for residential developments' apartments, and 100% water-ponding tests are now the common practice for wet areas. Water ponding tests are simple in nature and are performed as soon as the waterproofing applied dries. The entire waterproofed area is filled with water to a given height and left for about 24 hours after which duration the water level is measured again. If there are no changes in the water level, this would mean that there

is no water loss, no leaks, and therefore there were no defects within the waterproofing applied to the tested area. Thereafter, the water is drained or pumped for finishing to be applied on to of the waterproofing. Particular attention and tight supervision is required at this stage to control the access to the tested area to prevent the waterproofing from being damaged by subsequent trades' installation!

New membrane materials seek to overcome shortcomings in older methods like PVC. Generally, new technology in waterproof membranes relies on polymer based materials that are extremely adhesive to create a seamless barrier around the outside of a structure. Over the past 15 years, the construction industry has had technological advances in waterproofing materials, including integral waterproofing systems as well as more advanced membrane materials. Integral systems work within the matrix of a concrete structure, giving the concrete itself a waterproof quality.

There are two main types of integral waterproofing systems: the hydrophilic, and the hydrophobic systems.

A hydrophilic system typically uses a crystallization technology that replaces the water in the concrete with insoluble crystals. Various brands available in the market claim similar properties, but not all can react with a wide range of cement hydration by-products, and thus require caution.

Hydrophobic systems use fat acids to block pores within the concrete, preventing water passage. This is widely used in construction and has proven to be extremely reliable and cost saving, in the short and long run.

Waterproofing failures and leaks in connection with waterproofing are source of a large number of disputes. However, it appears that the most probable source causes is the integrity of the persons specifying and selecting the most suitable product/membrane (ie to achieve costs savings), in the rigor and skill of the contractor applying this product and finally the resources allowed for maintaining and protecting such works until they are fully covered with the final finishes.

Further, like many other trades, waterproofing products do age and may deteriorate with time without this being specifically connected to defective designs, engineering or workmanship. Waterproofing suppliers and applicators are usually committed in their contracts to provide warranties for ten years. After this period, waterproofing products inevitably require regular maintenance, and defects such as water-failures, seepages, and infiltrations require minor touch-ups or partial replacement from time to time.

Audrey PEREZ

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Above, from left: Waterproofing membrane, Liquid applied waterproofing, sprayed waterproofing and wet room with waterproofing before execution of finishes

The Independent Certifier Talk - 2nd March 2010



The Society was treated to a fascinating review of the historical and current role of the Independent Certifier in construction contracts on Tuesday 2nd March.

Our speaker, David Streatfeild-James QC, held the rapt attention of an audience of some 70 attendees as he explored the concept of the independence of the certifier.

Issues such as variations, extensions of time, and critical completion can have the most critical impact on cashflow in a construction project. Significant amounts of money often turn on whether they are accepted as having taken place on a particular project. They all, of course, involve one single critical common feature – the certifier. He is known by a number of names in the Singapore construction industry - architect, superintending officer (SO) or engineer.

The independence of the certifier is a vexed subject not least because the engineer/SO is often the employee of the developer and the architect is sometimes viewed as too commercially wedded to the developer. This very

often raises the question of whether the concept of a truly independent certifier is ever possible in reality.

David is eminently well qualified to discuss the topic. He has been in practice at Atkin Chambers in London for over 20 years, acting for governments, private employers, contractors, and professionals both domestically and internationally. He is a leading practitioner in the fields of construction, energy, and natural resources.

He was an expert guide as he whisked the audience through an impressive tour of some very important cases on the subject. David proffered the view that the key element of an independent certifier is not really independence, but rather fairness.

The talk was quickly followed by an enthusiastic round of questions. As the session concluded it was evident that David had very much lived up to his well earned reputation (as observed by Chambers and Partners 2009) of being “frighteningly clever ...[and]... never short of a bright and articulate response to any question”.

Dispute Boards – An Overview and Selected Experiences - 9th February, 2010

Dispute Boards are not well known in Singapore, so this talk by Chris Redfearn and Chow Kok Fong was very timely. Both speakers shared from their first-hand experience in this method of alternative dispute resolution. Chris Redfearn took delegates through the bewildering terminology (is there any difference between a Dispute Board and a Dispute Resolution Board -well, apparently not,) and explained how Dispute Board members are appointed and paid. He then explained the procedure that is usually followed, with particular emphasis on the importance of site visits to monitor progress and to address potential issues as early as possible.

Chow Kok Fong then contrasted two case studies where dispute boards had been utilised successfully, in one case, and rather unsuccessfully in the other. Nevertheless, Mr Chow concluded, from published research, that the total value of projects worldwide using Dispute Boards exceeded US \$100 billion and only 2% of these projects had disputes which subsequently went to arbitration or litigation.

A lively Q&A session followed the talk. Delegates were interested in the practicalities of the selection process for Board members. The potential for Dispute Boards in Singapore was also debated although it must be said that the potential for a new initiative locally seems rather limited, if delegate feedback is anything to judge by.



Site Visit - Maxwell Chambers - 13th January, 2010



On the evening of Wednesday, 13th January, 2010 a group of SCL members took part in the tour of the recently opened Maxwell Chambers. Wong Sheng Kwai, Chief Executive, gave a brief introduction to the “integrated dispute resolution complex” which provides not just top class hearing facilities, but is also home to several international ADR institutions. Maxwell Chambers would help reinforce Singapore’s position as the preferred venue for ADR in Asia.

Delegates toured the 3rd and 4th levels of what was originally designed as the Customs House in the early 1940’s. It has now been transformed into 14 purposely designed hearing rooms and 12 preparation rooms. Members viewed a cross-section of rooms, which are all symbolically named after bridges in Singapore. Members attending the tour were impressed with the quality of the facilities and considered this to be a welcome alternative venue for hearings in Singapore.

Any members who were unable to join the tour are welcome to make direct arrangements with Maxwell Chambers to view the facilities and should contact Ms Sophie Lee at 6595 9010.

Procurement of Energy Related Infrastructure Projects in Singapore - 12th November, 2009



About 50 SCL members and their guests were given an insight into the contractual issues arising from several large scale power and LNG plant projects in Singapore when Ho Chien Mien shared his experience on working with such projects. The projects in which he had been involved with included –

- (a) a biomass clean coal plant;
- (b) co-gen and tri-gen plants;
- (c) incineration and electricity generation plants;
- (d) LNG terminal and regasification plant; and
- (e) oil tanks and terminal facilities.

The participants heard that Singaporean owners of such projects preferred to use lump sum turnkey Engineering Procurement and Construction (EPC) contracts and reimbursed design competitions for the procurement of such projects. His talk was followed by a lively Q&A session. The session was chaired by Goh Phai Cheng, SC.

2nd Networking Cocktail 2009 - 22nd October, 2009



The second Networking Cocktail in 2009 was on Thursday 22nd October, 2009 at the L2 Space Gallery in Tanjong Pagar Distripark.

Nestled in a surprising place in the midst of PSA containers, the venue - a photography art gallery – was uniquely charming for a networking event. Vice-Chairman Karen Fletcher warmly welcomed the group of more than 30 members and guests and Audrey Perez followed up explaining, why the venue was chosen. The venue for the Networking Cocktail was intended to allow attendees to enjoy, in one evening, more than just the gathering itself but the ambience as well as to bring the arts to members and guests for their enjoyment. It was a unique opportunity to venture into an unusual place in the heart of the impressive and iconic PSA area, where a beautiful photo art gallery hides discretely amongst containers, delivering inspiring moments through the work of talented Singaporean photographers.

The striking contrast between the beautiful photos displayed in this Gallery and the environment (within a mega containers’ storage area) evoked a great excitement voiced by many! Finding and reaching the venue was reportedly an adventure and great fun. The food and wine/beer was abundant and heartily enjoyed while members and guests networked until late hours!

The evening was indeed a complete success.

THE ESSENCE OF AN EXPERT REPORT

BRIAN KOOYMAN

(B.Arch., R.A.I.A., F.A.I.P.M., M.A.I.C.D., M.P.D.)

Chairman (ConfluenceTBH) and Director Global Business (TBH)

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Adjunct Professor of Project Management, University of Technology (UTS, Sydney)

Honorary Associate of the Graduate School of Government, University of Sydney

INTRODUCTION

1. The case of *Seven Network v. News Limited*, the Australian Federal Court took a tough stance on expert witnesses and the admissibility of experts' reports as evidence. As stated in this article:

In *Seven Network* one of 20 respondents successfully challenged one of the Seven Network's expert reports on the basis that:

- The reasonings behind the opinions given in the report were not sufficiently explained so it was not possible to determine whether the opinions reflected the expert's specialised knowledge based on his training, study or experience.
 - No explanation was given for certain conclusions reached by the expert.
 - The report used analogous examples from international jurisdictions but made no attempt to analyse the individual circumstances of each case
 - Many of the figures used to determine damages were not sufficiently justified.
 - It was not apparent that the expert had substantial or relevant industry experience.
 - There was a lack of reasoning in arriving at many of the conclusions contained in the report.
2. In the construction industry, expert evidence plays a vital part of litigation. An expert report is the basis on which expert evidence is often provided. If the expert report is not properly prepared and presented, it may be ruled inadmissible or at best of diminished weight. Such an outcome can be disastrous to a principal or contractor engaged in litigation. It is therefore in the interest of principals, contractors, consultants who may appear as experts, and lawyers representing the parties, to ensure that the expert report is properly and effectively prepared.

GUIDELINES IN AUSTRALIA

3. In 1998, the Federal Court of Australia issued a Practice Direction for expert witnesses in proceedings in the Federal Court of Australia.
4. In 2000, the New South Wales (Australia) Supreme Court issued *Schedule K – Expert Witness Code of Conduct*. Schedule K is very similar to, but not identical to the Practice Direction Guidelines.
5. It is vital that any 'expert' intending to prepare a report and give evidence, carefully examines the guidelines/code of conduct and acknowledge that they have examined and are committed to complying with those guidelines in their report. We are aware of at least one instance where the court did not accept the expert's report because the expert had not been made aware of the code of conduct prior to preparing his report .
6. Of particular significance to experts is the requirement that the expert witness shall not be an advocate for a party, and that the expert's paramount duty is to the court and not the person retaining the expert.

ADMISSIBILITY CONSIDERATIONS

7. The Federal Court Guidelines and the NSW Supreme Court Code of Conduct set out the general conditions for expert evidence to be admissible. It is important to highlight some of the requirements that are particularly pertinent to the preparation of an expert report.
8. The first hurdle to be addressed is the establishment of the credentials of the 'expert'. It may need to be established that there is a field of specialised knowledge. Assuming that the existence of a specialised field of knowledge can or has been established, the 'expert' must demonstrate that they have that specialised knowledge by reason of training, study or experience .
9. The expert's specialised knowledge is usually demonstrated in the curriculum vitae of the expert, which should be included in the expert report. Care needs to be taken to ensure that the curriculum vitae includes references to experience or training in the matters that are the subject of the expert report. This is commonly achieved by references to experience in similar projects and/or similar issues as the matters in dispute, and which are the subjects of the expert report. It is useful to also refer to papers prepared and presented or published by the expert that deal with the subject of the expert report. The demonstration of appropriate expertise is an aspect of expert reports that is sometimes given insufficient attention, a consequence is that the expert report is given less weight than it might otherwise deserve. Some 'expert' reports in which exaggerated claims of expertise are made, can be very embarrassing in cross-examination.
10. Having established the credentials of the expert in a particular field, the next step is to ensure that opinions expressed by the expert are wholly or substantially based on that knowledge. It is then necessary for the expert to clearly explain the logical basis of their opinion and how it relates to the established evidence and to his or her specialised knowledge. The Courts require that the expert give reasons for his or her opinion, and to clearly expose the process by which the expert's conclusions were reached.
11. Another issue to be recognised at the outset is the requirement for the expert to be impartial and not become an advocate of the party instructing him or her. Although the guidelines and code of conduct both require the expert to be impartial, 'expert' reports that are full of conjecture, speculations and observations that clearly advocate the position of one party, run the risk of being rejected by the court. The language of the report and the selection of words need to be carefully considered to avoid the impression of advocacy.

THE BRIEF

12. One of the most important documents in an expert report is the brief. The guidelines and the code of conduct both require that the instructions to the expert be attached or summarised in the report. The instructions may be in

writing, or oral, or both. The instructions may come as a single document or as a series of written and oral directions from the instructing solicitor.

13. It is also important to understand that different jurisdictions have different provisions concerning the legal professional privilege that attaches to the instructions between a legal adviser and an expert witness. It is therefore important that the expert obtains explicit directions from the instructing solicitor as to the type and extent of disclosure of the Brief. It is also important to note that there are differences between jurisdictions concerning the privilege that attaches to material prepared by the expert. For example in Queensland Courts, draft reports, working notes, and virtually any written document prepared by the expert are disclosable documents, while in NSW, the extent of disclosure required is not as wide. In arbitration, the position may be different to either of those jurisdictions. It is therefore important that the process to be undertaken for preparing and reviewing drafts of the expert report is clearly agreed with the instructing solicitor before pen is set to paper, in order that legal professional privilege can be properly maintained.
14. The brief defines the questions that the expert is required to address, written instructions from instructing solicitors are often carefully worded and require a precise response. Often an expert fails to carefully read his brief and produces a report that strays into topics that have not been asked, or that do not take proper account of the precise questions that have been put. Needless to say, if the expert does not address the brief, there is a serious risk that the report that the expert prepares will not address the evidence and/or will not go towards the case that is before the tribunal. It is therefore important that the expert carefully examines the brief and clarifies any parts of the brief that are not clear before commencing on the report. In examining the brief it is also useful to see if there are aspects of the brief that may be worth expanding or modifying in order to more precisely focus on the issues.

FORM OF THE EXPERT REPORT

15. The best expert report that one Senior Counsel had seen was four pages long, with appendices. Page 1 set out the brief. Page 2 set out the method by which the expert carried out his response to the brief. Page 3 set out the results of his investigations. Page 4 set out his opinion and response to the brief. The Appendices can provide the detail calculations. Despite this excellent advice, most reports are longer than four pages.
16. The expert report should be succinct, in plain language and should explain any technical terms or processes that are used in the report, but that are possibly outside the general knowledge or experience of lay persons. The primary purpose of an expert report is to provide evidence to a tribunal, and therefore it must clearly convey that evidence to the reader of the report.
17. After the brief, the next section of a report that is of most interest to the instructing solicitor is the list of documents on which the expert has relied. One of the reasons for such interest concerns the legal professional privilege that may be claimed for documents on which the expert relies. Another reason is to ensure that the expert has had access to all material that is relevant to the questions in the brief. A favorite approach for cross-examining an expert is to refer to some document that the expert has not seen, or at least has not referred to in the expert report, and to suggest that the conclusions reached by the expert cannot be accepted because the expert has not had regard to all of the relevant material. If it can be established that the expert has not had regard for some significant material,

then their evidence may well carry much less weight than would otherwise have been the case, even if the "omitted" material would not have changed their conclusions.

18. The guidelines and code of conduct both require that the expert state that they have made all inquiries that they believe are desirable and appropriate and that no matters of significance have been withheld. They also require that the expert identifies if he believe that inquiries or documents are incomplete.
19. It is important that the expert report clearly identifies and differentiates between assumed facts and opinion. It is up to others to make good the assumed facts, and the instructing solicitor needs to know what assumed facts need to be included in lay witness evidence in support of the expert's assumptions. The expert gets cross-examined on validity of his or her opinion. If the assumed facts and the opinions are not clearly identified and separated in the expert report, cross-examination can get very uncomfortable. It is not sufficient for an expert to merely state an opinion and hope that he or she will have that opinion accepted. Opinions must be supported by reasoning. The tribunal must be able to understand why a conclusion or opinion has been reached in order that it can judge for itself the appropriate weight to be given to that conclusion or opinion.
20. It is helpful to refer to published references on topics that are relevant to the subject matter of the report. For example, the calculations of float in a critical path programme and the characteristics of the various types of float are quite technical and would require many pages of text to properly explain to the reader. Rather than embark on such a lengthy explanation, it may be better to refer to a number of texts on the subject of critical path programming, and rely on those texts to provide the necessary detailed explanation. Of course, by referring to some published texts, it may open an avenue for cross-examination, so it is important for the expert to fully understand the whole of the text, and the extent to which it actually supports the expert's position.
21. The expert must resist the temptation to apportion liability or draw conclusions on matters of law. While a client may initially be happy to hear the expert say what the client would like him or her to say, the chances are that such apportionment of liability or conclusions as to the law will be struck out of the expert report prior to evidence being heard.
22. It must at all times be remembered that although the client may pay the fees, and the client's solicitor may give the instructions, the expert's first duty is to the Court.
23. It is important that the expert report is easy to read, and that the various topics are clearly identified.
24. The expert may find it necessary to qualify a conclusion that he or she has reached because of some uncertainty as to the meaning or context of some element of the material supplied to the expert. It may also be necessary to make some assumptions as to the meaning of documents. In our experience, it is important to document any qualifications and assumptions as early as possible so that the instructing solicitor has time to examine such qualifications and assumptions and seek further evidence that may remove the qualifications or prove the assumptions. Ideally, an expert report contains no qualifications or assumptions.

THE CONTRACT

25. The contract between the disputing parties represents the rules by which the positions of the parties must be judged. The contract often gives guidance as to the appropriate

manner by which to assess the issues raised in the brief. For example, if extensions of time are the subject of the report, there are usually clauses in the contract and the specification that set out how entitlement to extension of time arises. On a number of occasions, we have come across reports from other experts that go into great length in the analysis of delay and produce volumes of data that purport to establish entitlement to extension of time. However, the methodology by which the analysis has been carried out is often not consistent with the requirements of the contract between the parties, and therefore not relevant to the questions at issue. Similarly, if the Brief involves cost, then the contract usually sets out the regime by which entitlement to extra cost may arise.

26. Where an expert is not a lawyer, he or she needs to tread carefully when interpreting the provisions of a contract. However, it is quite proper for the expert to set out his or her assumptions as to the meaning of the contract, to the extent that it affects the expert's response to the Brief, and proceed with the analysis on the basis of such assumptions. Naturally, it would be prudent for the expert to seek some support for his or her assumptions prior to developing analysis that depends on those assumptions.

METHODOLOGY & CALCULATIONS

27. The guidelines and code of conduct require that reasons for each opinion reached by the expert, be given in the expert report. The expert must clearly explain the logical basis of their opinion and how it relates to the established evidence and his or her expert knowledge. In order for the reader of the expert report to understand the logical basis for the opinions reached, it is firstly necessary to understand how the expert has gone about reaching his or her conclusions. The expert report should therefore set out the sequence of steps by which the expert has carried out their analysis and explain why that process is appropriate to the brief.

28. Following similar logic, it is necessary for the expert to demonstrate how, by following the methodology set out in the expert report, one logically reaches the conclusions stated in the expert report. This demonstration is frequently achieved by including calculations carried out by the expert that are the logical basis for the opinions stated by the expert. Calculations are often voluminous and are therefore preferably included as appendices to the expert report. Similarly diagrams, tables, drawings, photographs, programmes and the like may conveniently be included as appendices, and referred to in the text of the expert report.

29. It is probable that the expert report depends on, and refers to various documents. It is important that the expert report clearly identifies those documents on which the expert depends in their analysis. It is sometimes convenient for the reader to be able to examine significant documents to which the expert refers by reference to copies of those documents in the appendices to the expert report. This is especially the case in large matters where the documentation can run to many hundreds of lever-arch files.

30. In our field, the as built-in programme has proven to be of significant benefit in concisely summarizing the sequence and timing of events during a project or part of a project so that inter-relationships between what might otherwise be apparently unrelated events, can be seen. It is important that forensic evidence developed by the expert, such as the As-built Programme, clearly identifies the sources of data and whether the data is based on documentation or the expert's experience.

EXPERT CONFERENCES & JOINT REPORTS

31. The guidelines and code of conduct refer to Experts' Conferences. The court may direct that experts for each party meet with a view to reaching agreement on material matters for expert opinion, and to prepare a joint report setting out the matters agreed and the matters not agreed, and the reasons for non agreement. The guidelines and code specify that the experts must exercise their professional judgement, and not be influenced by any instruction or request to withhold or avoid agreement.

32. Expert Conferences can work well, and save considerable time and cost, when the experts conduct themselves in accordance with the guidelines and code. However, Expert Conferences can be quite counter-productive if one or both of the experts attempt to advocate for the party that he or she represents.

33. There does not appear to be any agreed requirement for the form or content of a joint report. We have seen joint reports that contain a lot of narrative, and other joint reports that closely resemble a scott schedule. My preference is for a succinct report that lists the agreed issues. Each issue should be briefly addressed in terms of the significant points that can be agreed between the experts, and the points that cannot be agreed. For each point or matter that cannot be agreed, each expert should set out his or her position briefly, with reasons for maintaining that position. It is important that the tribunal is provided with sufficient explanation and reasoning concerning any differences between the experts to enable it to determine which expert's position it prefers.

34. I have found that it is usually possible for the experts to agree 'facts' such as an as built-in programme, programmes or other documents issued and/or received by the parties, numbers of workdays per calendar week, quantities, reasonable costs (under specified conditions), and the like. Any such agreement that can be reached will reduce the tribunal's time and the cross-examination process, and consequently the cost of the dispute. It is often convenient for these agreed 'facts' to be scheduled as appendices to the joint report, and where appropriate, copies of relevant documents may also be appended to the joint report.

35. In technical matters, such as programming, where there is disagreement between the experts, it is sometimes helpful for each expert to take the other expert's position and identify what his or her advice would be if the other expert's position was found to be preferable by the tribunal. This provides the tribunal with a schedule of results that could be applied, depending on which expert's position the tribunal adopts in its findings.

SOME FINAL THOUGHTS

36. The expert needs to be careful to take a balanced position and not to give any hint of advocacy. It is equally important for the expert to stay within their area of expertise.

37. Briefs often seek a report on very short notice. It is important that an expert is given enough time to properly research all relevant issues and to produce a considered and reliable expert report. That may mean that the expert needs to convince the instructing solicitor, and their client, and perhaps the tribunal, that more time is required than has been offered to the expert for the preparation of the expert report. If time cannot be provided to allow the expert to comprehensively address the issues in the Brief, or if all relevant material cannot be satisfactorily examined, then the report will need to be appropriately qualified.

Brian R. Kooyman, 4th November, 2009
www.tbh.com.au
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LIST OF NEW MEMBERS WHO HAVE JOINED SCL (SINGAPORE) IN 2010

- | | |
|---------------------------|--------------------------------------|
| 1. Anthony Raditya Lee | 16. William Khater Georges Abi-Habib |
| 2. Ben Giaretta | 17. Yasmeen Jamil Marican |
| 3. David Liu | 18. Daniel Tay Yi Ming |
| 4. Gordon Smith | 19. Ian Robert Lander |
| 5. Hwai Bin Lee | 20. Jasmine Kok Pinn Xin |
| 6. James Dawson | 21. Joanne Wong Pui Fan |
| 7. Kelvin, Ken Jin Goh | 22. Kelvin Teo Wei Xian |
| 8. Khon Ling Sim | 23. Kishan Pillay |
| 9. Linda Low | 24. Kris Chew Yee Fong |
| 10. Phuong Quynh Tran | 25. Tan Geok Eng |
| 11. Raja Bose | 26. Steven Cannon |
| 12. Richard LB Lau | 27. Irfon Dawkes |
| 13. Robert Palmer | 28. Adriano Giacchi |
| 14. Timothy, Wai Keong Ng | 29. Tan Hee Chai |
| 15. Venarico Lalican Cruz | 30. Ho Yu Chong |

CALENDAR OF EVENTS - 2010

No.	Date	Event
1	13 Jan 2010	Site Visit – Maxwell Chambers
2	9 Feb 2010	Dispute Boards - An Overview And Selected Experiences
3	2 March 2010	The Independent Certifier - Nineteenth Century Fiction, Necessary Evil or The Way Ahead?
4	9, 11, 16 & 18 March 2010	Engineering 101 for Non-Engineers (2nd run)
5	15 April 2010	Adjudication: An Update
6	21 April 2010	SCL Networking Cocktail
7	19 May 2010	Interactive Time Management Using 4D Visual Modelling, A Methodology for Visual Programming
8	28 July 2010	SCL Annual Dinner
9	3 August 2010	SCL Annual General Meeting and Pre-AGM seminar
10	17 September 2010	SIAC-SCL Joint Conference

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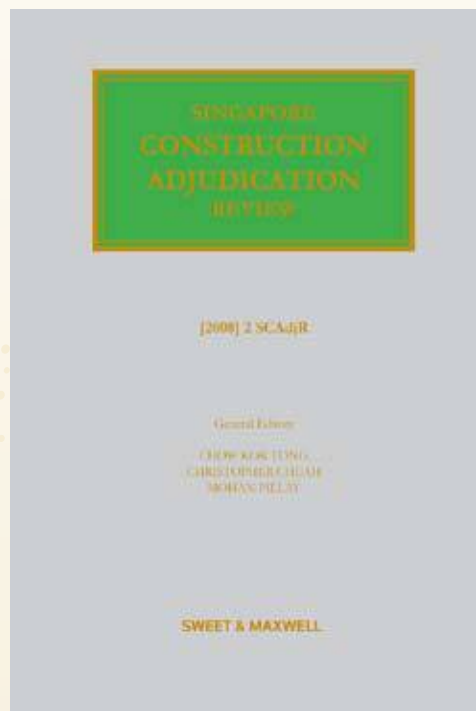
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