

# The Canadian Boiler & Machinery Underwriters' Association L'Association Canadienne des Assureurs Bris des Machines

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## IMIA Report 2007

The CB&MUA is a member of the International Machinery Insurers Association (IMIA) and has access to the resources and papers of the Association. It has been the practice since CB&MUA joined the Association for the Chairman to attend the IMIA Annual meeting.

This year as the meeting was held in Tokyo in October, and hosted by various Japanese Companies and Swiss Re. there being no equivalent of the CB&MUA in Japan.

The papers presented and the various break out sessions were extremely informative. The papers and those from previous years are presented on the IMIA website to which all members have access.

Attached to this note is a copy of the Canadian Report which was prepared by the Chairman and appears on the IMIA website.

Brian Storey



## IMIA CONFERENCE HELD IN TOKYO, JAPAN 1<sup>st</sup> to 3<sup>rd</sup> OCTOBER 2007

Forty seven delegates from seventeen countries (Insurance Associations, Insurers, Reinsurers and Associate Members) attended this conference. Three member countries (Israel, Spain and Taiwan) were unfortunately unable to attend this year. President of this year's conference was Mr. Masami Suzuki, Managing Director and Member of the Board of Tokio Marine & Nichido Fire Insurance, and the IMIA Chairman, Detmar Heidenhain of Munich Re, Munich presided over the meeting. MR was also represented by Hervé Landrin, as MR delegate, and by Allan Obando (MHA) as Australian delegate. Utz Groetschel (former CUGC2.4) took also part as IMIA permanent secretary. The Hosts were jointly formed by the Delegates of the three Member Companies, Munenori Takemura of Tokio Marine & Nichido Fire, Yutaka Matsuoka of Mitsui Sumitomo and Kenji Ito of Sampo and they were excellently supported by the conference organiser Kei Kato, Deputy Manager, Engineering & Contingency Insurance Group Commercial Lines Underwriting Department of TM & NF.

### 1. Working Group Papers and Documents

The presentation of working group papers prepared by delegates and their colleagues on topics of specific interest to Engineering Insurers continues to be the major contribution at the IMIA conferences. All IMIA papers are based on the opinions, knowledge and experience of the delegates involved and the information available at the time the papers were written.

Some papers from sources other than from delegates are also included in the library of [www.imia.com](http://www.imia.com). These are available under "External Papers" which are put there if they are believed to be of interest and contribute to ongoing discussions amongst insurers and others about matters relating to the subject of Engineering Insurance.

The papers presented this year at Tokyo are mentioned below. They will be seen later in the Library of [www.imia.com](http://www.imia.com) once approved for publication.

### **1.1. Engineering Insurance Exposure related to Wet Risks IMIA WGP 50 (07)**

The working group was chaired by Xavier Touzé of XL Re, France and presented by Oscar Treceno of Swiss Re, Zürich and Hans Marla of Infrassure, Zürich.

Wet-works are during construction exposed to the elements of natural hazards and the action of the sea in a serious way. The goal of this paper is to help the Underwriter's understanding of wet-works construction, to build up awareness for the wide variety of perils construction of wet-works is exposed to, in order to help to perform professional risk analysis, underwriting and risk management, and to draw attention to possible loss scenarios by a few illustrative loss examples.

The paper explains in the first part various types of wet-works and the technical aspects of wet-works construction. In the second part, the paper describes a variety of exposures, individual underwriting considerations, typical loss scenarios as well as risk management, safety and security aspects.

The paper closes with the description and illustration of typical losses and loss scenarios.

Risks involved in construction of offshore projects are not dealt with under this topic.

### **1.2. Revamping and modernisation of machinery and equipment IMIA-WGP 51 (07)**

This paper was produced by a working group chaired by Jean Scheidecker of AXA Enterprises, France, who also presented the paper.

Industry requires machinery and equipment in operation to be revamped and modernised at certain times for reasons that may be quite diverse, such as safety, law, efficiency, adjustment to new technology or change of market or product. The risks involved in such works must be carefully analysed as well as the values at risk, before terms and conditions of cover can be decided upon and an adequate price be set. The aspects of the existing plant and machinery undergoing these works involve dismantling and probably transportation to workshops and adjustment to new working conditions to be tested at the end of the works.

Brokers and underwriters are required to put the necessary information together, on the existing plant and machinery as well as for all details of the contract works.

This paper aims to provide guidance for making the necessary technical considerations of risk evaluation and values involved and suggests some relevant insurance concepts in respect of possible extension to existing insurance covers as well as additional contract works covers and associated business interruption protection.

### **1.3. Emerging Technologies: Insuring what has not been insured before IMIA – WGP 52 (07)**

This paper was produced by a working group chaired by Clifton Lancaster of HSB, USA who also presented the paper in Tokyo.

Lack of understanding new technology and the lack of relevant loss experience are a specific challenge for Engineering insurance underwriters.

This paper describes and illustrates some special risk evaluation tools that are useful in meeting the challenge of insuring new technologies. Risk models can be used to guide pricing and quantify portfolio risk, in particular information risk and technology risk, so important in the case of insuring new technology. It is shown how to quantify the value of information. The use of expert opinion to develop risk models is discussed and Bayesian updating is suggested as the best way of updating risk models with data as claims data becomes available for new covers.

#### **1.4. Rehabilitation Works and High Coverage Limits for Existing Property IMIA – WGP 53 (07)**

This paper was produced by a working group chaired by Chris Blücker, Zurich, Sweden who also presented the paper in Tokyo.

The exposures to existing property may vary substantially depending on type and extent of work, the value of existing property and the extent of its involvement in the works.

Where a smaller contract is taken out in an environment of existing property of high value, the contractor's insurer may find it problematic to include high limits for existing property in the contract works policy. For larger projects the main contractor or consortium leader may take out contract works insurance for the full contract value and for all contractors involved. The high contract value improves the basis for granting higher limits for existing property. Whenever important rehabilitation works are undertaken and high coverage limits for existing property are required, often contract works insurance is taken out by the Principal for all parties involved. He is the most interested party in seeking the most adequate cover or covers for his interests in the existing property (as regards property damage and business interruption), and he will have to look at what is available under the contract works cover and what within his existing property and machinery policies and any possible inclusions in order to supplement the cover and avoid unnecessary gaps.

The paper discusses a number of different cases and the possibilities of composing cover under existing policies, suggested extensions and under contract works policies for material damage and BI exposures.

#### **1.5. Water Distribution Systems in Buildings during Construction IMIA WGP 54 (07)**

This paper was produced by a working group chaired by Anders Lindberg of If P&C Insurance, Sweden. He also presented the paper in Tokyo.

Water damage has become a major and increasing problem to insurers in certain markets. This paper compares the experience from some European markets and as the experience varies it tries to focus on the most important factors influencing the occurrence of water damage losses and the measures which can be taken to reduce their number and severity.

The paper has been limited to the experience from the countries of the working group members France, Sweden, Switzerland and the UK.

The increasing sophistication of water distribution systems in buildings means an increasing risk of damage caused by the accidental escape of water from such systems in buildings whilst being constructed, extended or refurbished. Water damage may occur during either the construction period or the maintenance period following completion resulting in claims under CAR policies. Third party property may also be damaged.

There are numerous causes of water damage. The use of new materials, such as plastic rather than copper pipe work, often requires more complex fitting procedures and there is a danger that these procedures are not rigorously followed by plumbing contractors. In certain territories, shortages of experienced plumbers can lead to the employment of operatives who lack the skills and training necessary to do the work properly and are unfamiliar with standards, rules and regulations. The use of expensive and vulnerable materials in luxury apartment blocks, as well as designs which hide pipe work and require more water-using appliances increase the cost of losses.

It is evident that the extent and nature of this problem varies by country. For example in Sweden and in the UK failures of pipe connections have resulted in substantial escape of water losses, whereas in Switzerland extraneous damage to pipe work caused by say careless drilling is more of an issue. The prevalence of design and build contracts in the UK and Sweden as opposed to more traditional contracts used in France may lead to more losses, because of fewer design and workmanship checks and need for reduced construction times. Differing insurance requirements, such as the statutory requirement in France for "dommage ouvrage" cover, and deductible levels also have an impact on the level of claims.

The objective of this paper is to:

- a) increase awareness amongst IMIA members and the wider engineering insurance community of the problem of water damage associated with water distribution systems during construction of buildings; and
- b) propose a framework for a code of practice which could be adapted as required by CAR insurers worldwide, which would serve to reduce the likelihood of water damage during construction, thus reducing costs for both insurers and insured parties.

### **Special additional presentations by IMIA Members**

#### **1.6. Damage to Tunnel Boring Machine and Contract Works**

David McGhie of Advanta Global Services, Munich presented this complex claims example of a tunnel collapse at a hydroelectric project in Ecuador.

Faults in the rock formation of the tunnel were unexpected in respect of excessive rock mass deformation and sudden change in ground condition causing two cases of tunnel collapse and damage to the works and the tunnelling machine. For rescuing of the machine certain remedial measures were necessary:

- Installation of drainage and pumping equipment to handle water ingress
- Rock massive support and consolidation by installation of steel girders, rock bolts and grouting
- Excavation of pilot tunnel along TBM crown to cutter head and enlargement down sides to access for repair

The liability of the policy included extensions of "removal of debris", "extra charges" and the MRe Tunnelling clause 101, excluding / limiting certain claims elements.

The fact that the tunnel boring machine was insured under section 1 of the policy within the contract works sum insured instead of a CPM (contractor's plant and machinery) section or policy, complicated the case substantially. Discussions centred on the questions of

- whether all activities associated with saving TBM for further use are covered
- the uncertainty regarding the meaning of "recovery"
- the Legal council that held that to "recover" an item this must first be "lost"
- the designer's risk covered under MRe clause 115
- and other elements of cover / exclusion of the policy.

The claimed amount was approx. USD 20 Million for both cases of collapse. The final amount was negotiated on basis of applied adjusting principles.

### **1.7. Decennial Insurance – Loss Experience**

Hervé Landrin, Munich Re, gave this presentation describing essential features of this special type of insurance, its broad variation of cover in certain countries and the experience with some interesting larger losses loss incurred between 1979 and 2004.

He drew some conclusions from the lessons learned:

- Prestigious buildings are often assumed to be better risks but prove not to be
- Technical inspection service (TIS) should be involved from the design stage
- The lower the fees of TIS are, the more losses you can expect
- Very modern architecture design can cause unexpected losses
- Are prototypes insurable?

A very lively discussion followed these presentations.

## **Presentations by outside guest speakers**

### **1.8. Earthquake and its reduction technology in Japan**

Dr. Saburoh Midorikawa, Professor of Earthquake Engineering, Tokyo Institute of Technology presented this highly interesting topic.

In the first part of his presentation he described the circumstances of the Earthquake risk accumulating in the Tokyo metropolitan area. The natural hazard risk index for this region is 7 times higher than for Los Angeles and is by far the highest in the world. The index is defined as the product of hazard x vulnerability x exposure.

The key factor to influence the index positively is vulnerability. If the stability and earthquake resistance of buildings can be reduced by adequate measures then the index will reduce. Improvement on old buildings is difficult, but building (also bridges and other civil works) of more recent years have already been built adhering to stricter codes. Further improvements of reduction can be achieved by newly designed measures such as reinforced outer systems, rubber base foundations, sliders and also shock absorbing dampers in upper floors of tall buildings. Various examples were shown.

In the second part a new system of earthquake warning was introduced. Shortly before an actual larger earthquake a characteristic minor shockwave is emitted. When this is recorded by several of the many sensors installed in the area, an automatic warning signal is triggered in all official buildings and private homes and also trains. Then there are only some 10 to 15 seconds to prepare and to take protection measures before the actual shockwaves will follow. This would leave time just to shut down some machines, shut off gas and power and move away from collapsible furniture and hide under desks or tables. A certain number of casualties, injuries and fires are expected to be prevented thereby.

### **1.9. Modelling study of the earth's environmental change and global warming phenomenon**

Professor Teruyuki Nakajima, Director of the Centre for Climate System Research University of Tokyo discussed this very topical subject.

The presentation showed the dramatic CO<sub>2</sub> increase over the last thirty years and the reverse development of the O<sub>2</sub> reduction in the air. Prof. Nakajima explained the various positive and negative factors influencing this development and that besides the man made air pollution clouds have an important role in reducing the global warming within the balance of incoming and outgoing heat.

He stressed the problem of a raising sea level due to the global warming which could be up to 70 cm within the next 50 years, certainly causing flooding of a dramatic area of land. Another previously underestimated factor is sulphur emission by human activities. An immediate reduction of sulphur content in the air was notable following the fall of the Soviet Union and the shutdown of relevant industries.

Cloud modelling is one of the major activities of his research works. From these works a prediction of likely development of typhoons and hurricanes can be made. The frequency of smaller typhoons is likely to reduce, whereas the larger ones will be more frequent and of increasing intensity. Rainfalls are likely to become more catastrophic. Ocean currents and influence on fish production is another topic to research on. Very fast and capable super computers are needed for better modelling result.

These two presentations were not approved for external publication. Only a printout of rather poor quality was handed out to me and can be seen by you on request.

## 2. IMIA News Sheet

The IMIA News sheet composed by the Executive Committee for IMIA Delegates has been issued six times so far. The responses from Delegates on the news from the work of the Executive Committee, other events, new risks, losses and notes on anything which is of mutual interest for the Delegates and their Colleagues was very positive. Delegates confirmed last year they would be prepared to contribute with news they would supply to the Secretariat. We should bear this in mind more actively than the past year when we have interesting risks, losses, events or other news which might be of interest for the Engineering Insurers community. If you are aware of such news, please let me know and I will pass them on to the IMIA Secretariat.

## 3. National Reports

As in recent years the National Reports from the member countries of IMIA are prepared and issued to the Delegates before the conference and should any reader wish to see the reports from a particular country then please ask. Abbreviated versions (Country Analysis reports) are also contained under the section "Country Reports" of the Library on [www.imia.com](http://www.imia.com)

### **Highlights of National Reports from three countries**

This year the agenda included presentations of "Highlights of National Reports" of the following three countries:

- Australia presented by Allan Obando, Munich Re Australia
- Germany by Frank Thyrolf, German association GDV, and
- The Netherlands by Wilko Emmens, Delta Lloyd, Amsterdam.

The presentations will be shown on [www.imia.com](http://www.imia.com) Members' Area.

Delegates of three other member countries agreed / volunteered to present their highlight presentations next year: Austria, Finland and Canada.

## 4. Statistics 2006 (Premiums and Claims)

Hans Poettker of Allianz, Munich presented the Engineering Premiums and Claims statistics for 2006 which were again prepared by the statistics working group of Allianz. Hans Poettker explained again



that the figures must be read with care, understanding that they are not on uniform basis and only reflect the information as provided by the delegates and their Associations. The setup of the presentation of the statistics was in some detail modified compared with previous years in order to make it easier to understand. Lively discussion arose about the IDI / Decennial business which now shows a substantially boosted figure since France provided their country's figures (premium and claims) for the first time. These still did not include a figure for large losses, although some cases are known and later, on Wednesday, were presented by Hervé Landrin in his presentation. The question of allocation of these losses to periods for this specialised business arose again. The presentation of statistics will be contained in the Library of our website soon after the conference.

#### **5. Breakout Sessions at this year's conference**

As in previous years informal working groups were organised at the conference and these allowed the delegates to share their experiences with their fellow delegates on the subjects detailed below. Needless to say these informal discussions were very active and all involved found them very helpful for the many views and opinions expressed.

1. What is the future of software insurance within EEI? Options for virus coverage; clauses to be applied; software risk management  
Chairman: Neil Clutterbuck
2. Engineering covers affected by Material Change in risk: Scenarios & Insurers options  
Chairman: Richard Radevsky
3. IMIA's activity in member and non-member countries: ways & options to expand IMIA's influence and to obtain increased commitment from delegates  
Chairman: Frank Thyrolf
4. Lessons learned from covering tunnelling risk. - How to adequately define terms relevant to coverage of tunnelling risks  
Chairman: Jean-Paul Perrin
5. Brokers role in today's insurance market environment  
Chairman: Brian Storey

#### **6. Working Group Topics – 2008**

From the suggestions we received last year for future working group papers, five topics were selected and the cooperation as working group member or chairman requested. The topics approved for 2008 and the names of the members who agreed to chair are:

- Contingent BI in Engineering Insurance - Relevant Risk & Underwriting considerations to improve clarity and achieve Best Practice standards  
IMIA-WGP 55 (08)  
Chairman: Alessandro Stolfa, Generali, London
  
- Deregulated electricity markets: Engineering Insurance BI exposures related to construction & operation of power generation plants  
IMIA-WGP 56 (08)  
Chairman: Nigel Chapman, Clyde & Co. London
  
- Desalination plants - Technological development, Risks affecting Engineering Insurers & Claims experience  
IMIA-WGP 57 (08)  
Chairman: Hans Mahrla, Infrassure and Co-Chairman Jean-Paul Perrin
  
- CO2 free coal combustion technology - Influence on insurance  
IMIA-WGP 58 (08)  
Chairman: Mike Bove, HSB
  
- Engineering Insurance Exposure related to the Construction of Bridges  
IMIA-WGP 59 (08)  
Chairman: H. Wannick, Munich Re, Munich

If you know of anyone in or associated with our industry who would like to contribute to any of these papers please refer him or her to the IMIA Secretariat.

## **7. Report on the Development of the Website**

Louis Wassmer reported on the development of the new IMIA website which was completed in April this year. The new appearance, additional information and clearer structure was appreciated by Members, Delegates and site visitor generally, and a growing interest has been recorded by the website statistic, identifying also the most popular pages and documents visited or downloaded.

Quite a number of site visitors used the contact, addressing the Secretariat with suggestions, questions, search for help and also request for membership.

Only recently the IMIA website search function (Google-based) could be attached to the website. The time lag was caused by the feature of the search system recording previous search results for quite some time and only after some four or five months the system lost records of our old website. Most of the webpage activities can now be done by the Secretariat using a content management system (CMS) thus we can save time and costs.

## 8. Interesting Claims

Juha Ettala from our claims working group reported on the present situation on interesting claims. The reporting of new interesting claims by Members and Delegates is not very active, but during the past year we had at least a handful of new claims advised besides some more claims extracted by the claims working group from previous IMIA papers.

These losses will be added to our collection of interesting claims in the library of our website as soon as approved by the claims vetting group.

Oscar Treceno stressed, the importance of having the cases of claims examples increasing for the reason is that in today's engineering insurance market a lack of experts exists and many companies have separated claims handling and underwriting which is a major disadvantage for underwriters to see and learn from losses.

Some of the Delegates responded immediately by remembering specific losses of interest and we hope for many additional claims to be reported.

## 9. Changes in the Executive Committee

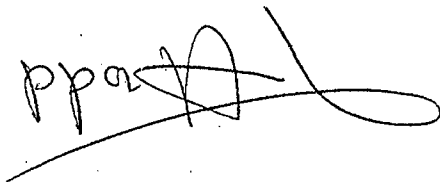
Peter Tailby has moved from London to join Swiss Re in Zürich, leaving the British association BMIA, and due to this he has discontinued being an IMIA Delegate and EC Member. Two new Delegates, Volkan Babür and Wilko Emmens were nominated to join the Executive Committee and they were welcomed and confirmed by election at the meeting in Tokyo.

## General Comment

This was an excellent conference and you are recommended to read all the papers presented and advise your business colleagues and brokers of their forthcoming availability on [www.imia.com](http://www.imia.com).

The conference next year will be held at Gleneagles, Scotland from Saturday 13th to Wednesday 17th September 2008.

Enclosure: List of Participants at the Tokyo conference 2007



Herve Landrin



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### List of Participants at the Tokyo conference 2007

Masami SUZUKI	President
Detmar HEIDENHAIN	Chairman
Anders LINDBERG	EC Member
Hans PÖTTKER	EC Member
Michael PETRUZZELLO	EC Member
Louis WASSMER	EC Member
Oscar TRECENO	EC Member
Emanuel BALTIS	EC Member
Volkan BABÜR	EC Member
Wilko EMMENS	EC Member
Utz GROETSCHHEL	Secretariat
Allan OBANDO	AUSTRALIA
Steve BATES	AUSTRALIA
Norbert HRUSKA	AUSTRIA
Brian STOREY	CANADA
Hans SCHOLS	CANADA
Bo BALSCHMIDT	DENMARK
Niels KRAGELUND	DENMARK
Thomas ÅSTROM	FINLAND
Juha ETTALA	FINLAND
Jean SCHEIDECKER	FRANCE
Karl-Chr. HERTENBERGER	GERMANY
Frank THYROLF	GERMANY
Tim CRAMPHORN	GREAT BRITAIN
Neil CLUTTERBUCK	GREAT BRITAIN
Mike SPENCER	GREAT BRITAIN
Munenori TAKEMURA	JAPAN
Kenje ITO	JAPAN
Yutaka MATSUOKA	JAPAN
Milan DINETS	RUSSIA
Franscios ENGELS	SOUTH AFRICA
Chris BLÜCKERT	SWEDEN
Mats GÅDIN	SWEDEN



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Clifton LANCASTER  
Cass KUHLE

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Hans MAHLA

Generali Global  
Infrasure

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Jean-Paul PERRIN  
Oliver STEIN  
Juerg BUFF  
Joji KAWAMOTO

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Darrell CORNER  
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