# PROPERTY AND BUSINESS INTERRUPTION SURVEYING

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## Introduction

This updated paper attempts to review some present and potential aspects regarding property and business interruption surveying carried out by insurance surveyors, considering tradtitional practice and developments that have taken place over two decades.

## Reporting

Dominating the fire insurance scene in the early 1970s, when training as an insurance fire surveyor, were the highly regulated principles of the tariff structure. Underlying these were the "General Rules", together with a range of rules and recommendations issued by the Fire Offices Committe; all used for the purposes of identifying and seeking to control hazards relating to aspects such as trades, processes and construction. Tariffs were issued for a wide range of industrial trades and identified features that were peculiar to a particular trade or more general features such as construction and heating.

Strictly interpreted, fire surveys had become rating exercises with compliance otherwise with these tariffs/rules necessarily reported. A typical fire survey would therefore not only report on the physical and other conditions present at a risk, but would additionally seek to identify and report on aspects relating to a particular tariff governing that trade. Surveyors by experience became interpreters of tariffs and rating experts. Considerable detailed knowledge was accumulated and referred to. This was

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important where exemptions were sought or discretion applied.

The primary purpose of fire surveys at that time was therefore directed towards rating and trade classification, with only limited regard to risk improvement, exposure or underwriting capacity, Of necessity, reports were quite detailed, recording all information concerning construction, heating, etc. as well as extensive detail on processes and storage. Little attempt was made to concentrate on other major issues; the resultant amount of report coverage was comprehensive.

The 1980s proved to be transitional as the differing needs of underwriter and client were recognised. This aspect continues to change. The nature of surveying also became re-orientated with the demise of the tariff structure. Principles and rating exercises that had been applied across the market were replaced by individual company rating structures, varying considerably, as they reflected both market and company experience.

The approach to property damage and business interruption surveying changed with it. The vast amount of detailed reporting was found to be unnecessary and more attention could be directed within a report to important criteria. The scope of a survey remained wide although the direction of the survey was more controlled. This enabled the development of risk improvement skills as a major part of the survey. Benefits to underwriters and clients were improved loss experience and the identification of measures that might reduce losses for both client and insureer and creating better risks for the future.

## Current Position

That transition has developed recently, underwriters becoming more specific in their requirements. Concerns over increasing losses and exposure from accumulating values at risk other property and Business Interruption (BI) dependencies - mean that retention and reinsurance capacities are fully stretched. The identification and evaluation of large loss estimations has become a major role for the surveyor of larger risks. The development of risk improvement programmes has allowed the formulation of a closer workiing relatinship between insurer and client.

Underwriters require very detailed information on exposures. This is of importance where inter- company BI dependencies are involved. Underwriters may require such information on a national or even global scale. A recent trend of multi-national companies to establish a single European distribution facility close to national borders iss an excellent example of economic change affecting exposures. Another example is the present emphasis on quality standards, where each aspect of supply, production or service is minutely controlled by manufacturing or quality standards.

The Association of British Insurers report[1] that whilst the number of large fire losses (over *L* 250,000) is reducing against a

[1]ABI large fire losses: 1993

continued rise in total fire losses, the number of BI claims is fairly static year on year. Some insurers view BI loss potentials seriously. It remains common however for only a superficial overview to be made for larger risks and little if any practical risk improvedment advice directed specifically for improving BI risks. Considerable scope for focusing on BI risk surveys is therefore presented.

The development and wider application of risk management principles has had a major impact on risk surveying. Hazards and loss scenarios have traditionally been regarded - and reported - in absolute terms. Surveying has traditionally approached loss control/risk improvement from this standpoint: that if a hazard exists it will cause a loss, without considering probability within a given time frame. That is to say a hazard is identifed and considered likely to occur at any time, with consequent near or total destruction of property. Advice is given on that same basis and prioritisation in such circumstances is largely subjective.

Risk management principles however introduce the probability factor as well as the severity for the assessment of risks. Using such criteria allows risks to be prioritised for remedial action, eliminating the historic tendency to "blanket" all hazards. Such identification also assists the client to concentrate or focus on areas of concern, and where budgeting and capital expenditure is involved, advice becomes justifiable.

A multi-disciplined surveying approach has also developed over the years. Some insurers employed surveyors specifically dedicated to fire, others to theft, yet others to business interruption. Other companies used surveyors in all roles, most companies now utilise surveyors on a comprehensive basis. An additional discipline in recent years has been the involvement of health and safety issues, where "competence" can be a determining factor. However, expertise is often required in particular areas and will be used as risks, legislation and insurance experience progresses.

**Health & Safety**

Along with these continuing developments has been a dramatic change in safety legislaation relating to the workplace. The Health & Safety at Work etc. Act, 1974 has facilitated a more applied approach by insurers and has had a major impact on property damage surveys by virtue of fire as a main hazard to life safety.

A rangeof UK safety legislation commonly referred to as the "six-pack" was introduced in January 1993 emanating from European Union (EU) directives which apply to all EU countries. Whilst primarily orientated to issues of health and safety at work, some regulations or aspects of them have an additional relevance for fire hazards and risk control. Statutory provisions are specifically safety orientated although there is a cross-over effect on property risks. Good examples of this are the Electricity at Work Regulations, 1989 and COSHH (Control of Substances Hazardous to Health Regulations, 1998)

Perhaps the most important aspect involved is that of risk assessment. Indeed, the

primary requirement for the consideration of liability insurers and the identificaation/ control of hazards in the workplace is now provided by the Management of Heaalth and Safety at Work Regulations, 1992. This involves compliance with existing statutory provisions and extends the concept of assessment procedures currently operating under COSHH.

Risk assessments enable companies, insurers, consultants, etc. to extablish precise criteria in identifying and evaluating hazards. These resulty in recognisable scenarios for which risk management principles can be applied such as eliminating, reduction or control measures, as appropriate.

The insurer benefits additionally from precise data concerning loss scenarios which may lead to a more flexible approach to underwriting with regard to deductibles, premium discounting, capacity and other techniques (applicable to other insurance coverages).

Also of particular interest from the 1980s and involving marked energy and enthusiasm by property surveyors, were insurers' attitudes towards polychlorinated biphenyls (PCBs) used in certain electrical equipment that may result in potential contamination in the event of fire; and more recently the use of halon extinguishing systems identified as ozone depleting substances and now regulated under the provisions of the Montreal Protocol 1987 on Substances that Deplete the Ozone Layer.

Assessments and risk improvement measures were therefore deliberately directed towards features that are recognised as primarily life safety or environmental issues although it is acknowledged that long term plant of site contamination has a BI concern. Note that regulatory controls regarding both PCBs and halons vary throughout Europpe and Scandinavia.

Many insurers and brokers reinforce surveying departments with specialised technical personnel, e.g. qualified engineers (chemical, civil, mechanical, etc.), environmental specialists, ergonomistse, hygienists, who can be used in a role where specific technical problems require more developed or very specialised assessment and design. The involvement of clients own personnel in such work raises the profile of such exercises and with it the qualitative value to a client. As legislative and other regulatory controls impinge directly on businesses, as the EU pattern seems to be, such direction of assessment, would seem to be the way forward, increasingly on a fee basis.

## Technical Information-Questions On Experience & Application

The Loss Prevention Council, and previously the Fire Offices Commitee, and the Fire Protection Association have for many years produced a wide range of technical documents detailing guidelines for particular hazards, varying from individual features, such as heating systems, to full facilities such as electronic data processing areas, or laboratories, as well as procedural and training guidelines. Many have been

in existence in some form for a number of years.

The Health & Safety Executive also produce a range of technical documents for hazardous materials and processes, primarily concerning health issues but which also may directly apply to fire hazards, e'g' paint spraying. Add to this the legislative requirements, e'g' Building Regulations 1991, Electricity at Work Regulations 1989, andHighly Flammable Liquids/LPG Regulations 1972, Codes of Practice, trade association guidelines, insurers' own guidelines and attitudes; and it can be seen that there is a wealth of technical information available to assist in risk assessment and control.

The effective use and application of this information must be beneficial, yet the same problems are identified on risk surveys and loss statistics today as 20 years ago and fire losses continue to mount. Some questions therefore need to be asked:

- Is real progress in risk improvement and industry standards being made?
- Has the general standard of risks improved over the last 20 years?
- Are risk assessments and improvements applied today in an effective way?
- Would insurers loss results be even poorer without survey programmes over this period?
- Would losses be more frequent or larger?
- Have surveys effectively adapted to rising losses and changing insurer's/ clients' needs?

The number of fires reported in 1970 totalled 333,300 involving an estimated direct cost of *L*106 million. This rose to 474,400 fires in 1994 with a direct cost of *L* 615 million[2, 3]. This represents a 42% increase and a fourfold cost increase after inflationary adjustment. This clearly signifies increased values at risk, which would seem to demand appropriate risk management.

The repetitive appearance of fire causes and losses in trade groups in statistical returns therefore raises questions concerning the use and objectives of such statistics,

- Are such statistics actually identifying symptoms and results of causes/hazards or the problems themselves?
- Are they considered valuable as a tool for the identification and control of individual hazards and types of occupation?
- Can such analysis provide pro-active impact on risk assessment and control?

It is acknowledged that hman error factors are less easily managed than hardware, Automatic systems are after all, more reliable. Nonetheless we should be emphasising that it is the management of these problems that produces the results. If so, the objectives of risk surveys need to be more clearly defined: that assessments need to focus more on supervisory controls, procedures, training and back-up at all levels, including management as well as

[2,3] Fire Protection Association : Large fire loss analysis 1938-94 and Home office Statistical Bulletin : Summary Fire Statistics, U.K., 1994

underscoring the effectiveness of long established, well proven protection systems such as automatic sprinklers, fire detection, fire division and building construction/design.

The introduction of inspection programmes, preventative maintenance schemes and particularly self-inspection schemes encourage management in the participation and control of their own risks, becoming partners in the well being of their business. It is this philosophy that forms the basis of current health and safety legislation, that the recognition of the ownership and management of risks is pre-eminent. In other words, prevention is better than cure!

In the real world, whilst major companies may operate some form of risk managemetn organisation, businesses rely heavily upon insurers, brokers and consultants to effectively handle their risk management aspects. However, despite today's world of applied business management organisation, methodology and established systems, management can remain largely ignorant to many of the real risks or threats to their business.

**Value of Surveys**

Surveys are used for various purposes by underwriters and brokers that may involve the placing, quantifying new or existing business, and improving risks. The role of the surveyor as outlined in this paper suggests that the role will continue to change.

At present importance is placed on assessing the qualityy of risks and the improvement of individual risks. Quality may be achieved in various ways - by providing a base line standard for new assessments, by re-asssessing a range of existing risks of a particular size or trade group, or by following up significant losses or loss patterns.

The application of rigorous assessments and positive risk improvement would provide a significant contribution to the quality of risks of an insurer as well as enhancing a client's own business. However this cannot be achieved in terms of a range of assessments of very brief duration, even to a small business.

This may even be reflected in reduced premiums either directly from protection systems or in recognition of improved risks. In any event such a business would certainly be in a better position for current business operations and potential business recovery in the event of loss. By implication, where the cooperation of clients is reluctant or even nonexistent, the question of management standards and the desirability of insurers continuing to hold such business should be raised.

There are, perhaps, many different views as to the value of a survey. At one extreme is the desire of underwriters to have all sites which are covered to be assessed in order to fully appreciate the entire range of insurances. This could be a complete portfolio, a category of trades or those relating to a particular client. At the other extreme is a willingness to consider only the most important sites which may be defined perhaps as a target location in terms of value or hazardous occupancy.

Surveying is an expensive exercise the cost

of which is normally a part of the premium. Clients may request a risk survey programme from an insurer as a special service. A survey must therefore be cost effective to the insurer or purchaser as well as beneficial. The question is therefore, what is cost effective and beneficial, particularly from the insurer's viewpoint?

If the loss experience of an insurer does not improve, does this mean that the assessments are incorrect or that risk improvements have not had any real impact? Underwriting standards and policy cannot be divorced from such considerations, yet whatever such standards or policies may be in place, risk assessment or risk improvement advice should not differ in its conclusions. So how is the qualitative value of a survey to be regarded, if it can be? Quality of surveys versus quantity is an issue unlikely to be reconciled easily. The first usually suffers as a result of the second. The real question is to review the very purpose and objectives of a survey. Certainly the needs, management style and economic factors of a small business are different from those of a large muti-national concern. From a risk asessment and improvement viewpoint the expectations also need to be reflected.

The value of a survey has traditionally been considered difficult to quantify. Has a survey prevented a fire or other event from occurring and if so, by what measure or yardstick? Again the issue is historically seen to be regarded on an absolute scale-that a fire may or may not happen. A site may be assessed and even significantly improved by say instituting effective control procedures, additional safguards or protection systems. The risk improves in qualitative terms and the relative incidence of loss thereby reduces accordingly. However, a loss may still take place the very next day! What can be determined is that the incidence/frequency and/or the extent of a loss would have been greater (and by a deefinitive degree) had improvements not been implemented.

## Risk Assessment Focus

The continuing rise of property and business interruption lossees should also be set against decades of risk surveying. There is an enormous amount of detailed knowledge concerning fire behaviour and loss hstory from a veriety of sources - controlled testing, insurance losses, brigades reports etc.

Organisations such as the Building Research Establishment and LPC Technical Centre provide detailed research on materials and fire situations. The Fire Protection Association and Home Office routinely publish statistical information on causes of fire, trade groups, etc. Brigades and insurers also provide information on individual losses.

Broad groups of the main fire causes and vulnerable trades can be identified. Viewed over a number of years, trends can also be noted. Most prominent in recent years, for example has been the steady rise of arson fires involving industrial and commercial

properties. Serious arson fire losses rose from 13% in 1970 to 45% in 1993[4].

Thus the traditional, comprehensive risk control exercise by insurance surveyors-of attempting to "hit" everything, is an unfocused, general approach. Experience suggests that little real improvement on standards of risks has been accomplished over the last 20 years, although this can be the result of a number of factors such as changes in traditional building materials, including the use of plastic materials (particularly in the food industry); changes in production and storage techniques; the increased use of combustible packaging materials and plastics; as well as continuing inadequate management awareness of the relative risks of their business.

Thisis partly a management responsibility, partly an economic issue. But it is interesting to observe that Health & Safety controls concern assessment and procedures to which actual risk control measures are subordinated. Yet, as previously mentioned, that kind of focused approach is not mormally present in property damage and business interruption surveying.

Two reports that would seem to provide some indications illustrating the importance of protection systems, in all forms, including procedural controls, have been published by the Building Research Establishment in recent years. The first, "Growth and development of fire in industrial buildings[5]" makes several interesting observations as a result of experimentation. These concern the fire loading of a building relative to fire protection facities. The observation is made that the fuel load within a building alone may be an inaccurate approach to considering fire growth and that more consideration of the distribution of combustible contents relative to the building, fuel load and potential fire area needs to be made. One feature for example indicates that all non-sprinkered buildings containing a high fire load produced a fully developed fire, generally involving 70% of the compartment. These factors have been repeatedly highlighted in subsequent years.

The second report "Fire safety in buildings[6]" was a consultative document used as a springboard for the revision of the current Building Regulations. Life safety aspects feature prominently, but again, conclusions indicate basic concepts of restricting fire development which could have significant benefits. These included features relating to fire growth in an enclosure, e.g. the distribution, and ignitability of contents,lining, compartment size, etc. Brigade access and facilities also receive attention. Again, these are well proven concepts but current experience of modern building losses seems to indicate that these lessons are not being carried through.

Such conclusions were embodied in the resultant Building Regulations and specific

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[4]Arson Prevention Bureau, Fire Protection Association.

[5]Growth and Development of Fire in industrial buildings: C.R. Theobold, BRE 1978.

[6]Fire Safety in Buildings: M.L. Malhotra, BRE 1986.

reference is found concerning compartment size and contents versus protection systems, life safety and facilities for brigade operation, particularly in large or high rise buildings.

Again, considerable emphasis has been made over the last 20 years for the protection of Electronic Data Processing (EDP) facilities without accurate regard to the likely impact on production or services. Historically, computer hardware and software presented significant capital values, but that is no longer the case. However, the real effect upon the business resulting from loss or damage to computer facilities was not assessed, so that physical protection of the computer system, using automatic fire detection and halon extinguishing systems, can be seen simply as a knee-jerk reaction.

Much more emphasis needs to be directed to the disruption factor rather than the loss of assets now that hardware can be replaced virtually "off the shelf". Does the computer directly control manufacturing or storage systems or only financial and administration functions? If the latter, then the provision of off site data storage, routhine and short term backing-up of data as wess as computer contingency plans and facilities, present a viable and positive position where additional fire detection and protection may not be warranted. Whereas with direct control systems essential to business continuation, e.g. storage handling or plant operation systems, it may be vital to have high-sensitivity or very early detection systems perhaps coupled with power shut down and in-cabinet/area extinguishing systems in sequence. As modern systems are increasingly networked, with file servers in general office areas together with the trend towards smaller and more portable equipment the entire conceppt of protection requires concentration on the software elements rather than the hardware, given adequate replacement capability.

Another example of sometimes conflicting approach was the widespread appearance of atrium features in building design and construction. This resulted in conflicting arguments for several years from a number of technical and professional bodies as to the effect of fire development within a building containing such features. There is now a common insurance approach withing the Loss Prevention Council Code of practice for the construction of buildings, incorporating recommendations for the protection of atrium buildings. It is to such rapid changes of building design, styles and materials, etc. as much as production processes and materials that risk surveyors must be able to respond, and do so positively.

As regards BI assessments, focused advice and assessments on business recovery identifying internal or external dependencies, contingency planning, asset protection, etc., certainly should have produced more worhwhile results than current experience would suggest.

Property/BI risk surveying would therefore seem to demand a more focused and disciplined approach than traditionally performed. Assessments need to be systematic, effective and comprehensive even if the information ultimately delivered is brief.

The increasing changes and complexity of industrial processes and materials, regulatory controls, etc. require more detailed consideration of procedures and protection.

## The Future

There has always been the need for surveyors to be informed on up to date technical information and changes in regulatory controls. Today more than ever, the surveyor needs to keep abreast of changes and trends, knowledge of legislation, industrial practices, control procedures, technical guidelines and business markets in order to function effectively in that capacity.

Experimentation by various organisations with risk management principles and other developments show a trend of more direct customer orientation-of providing for underwriters and clients, each having quite separate needs. Each requires information that is pertinent to their operation, information that is beneficial and provides opportunities for improvement. So too does the prospect of increasing client partiipation in risk improvement programmes rather than merely the subject of one. A mutual working relationship develops that can only be beneficial to all paries.

The consideration of wider pure and speculative business risks rather than confining oneself to considering insurance coverages should be a fundamental approach of a company's risk management.

A further development-one that should grow dramatically-is that of providing additional or specialised servieds where supplementary assessment of control exercises are undertaken. These may cover areas such as the training of employees or management in specific areas of concern together with additional assessments covering defined scopes to suit clients' needs as risk or legislation changes. Included within this area would be disaster/ recovery contingency planning, where considerable business and company research may be needed to establish priorities and practicalities on a formal basis.

## Conclusions

The role of the risk surveyor continues to change in accordance with demands from underwriters and businesses. Multi-disciplined surveying skills have been developed for coverage assessments and risk control.

The development of technical and procedural knowledge and professional qualifications of risk surveyors will increasingly play an important central role to risk surveyiing, particularly in dealing with t echnical and professional staff of clients. Higher qualifications, particularly engineering and risk management degree level, may become the norm. Specialist, qualified skills will be in demand. The days of the traditional surveyor appear to be coming to an end, certainly in the larger business market.

Emphasis on providing a genuine service to the underwriter and client is paramount in terms of quality of assessments, estimation of realistic loss potentials and risk improvement advice offered with cost

benefits and reasoned arguments, tailored to a specific business.

At the centre of an operation that demands consisently high standards of technical knowledge and competernce, the focus of a risk survey needs closer identification.

The trend towards the management of risks provides considerable scope for positvie achievement in raising the quality of risk, especially with client participation in assessments and risk improvement programmes.

Increased attention to specific Business Interruption surveys, including supplier dependency surversy, appears warranted and the application of appropriate risk control measures.

Specialized engineering and technical services will increasingly assist surveyors, underwriters and clients in effective risk control by the application of specialized risk assessment techniques such as HCCP (Hazard anlysis critical control points) and HAZOPS (Hazard and operability study),

The concept of business risk management to cover wider risks than pure risks alone should develop significantly as traditional insurance arrangements adjust to developing risk financing markets.

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