

LATENT CLAIMS (GISG CONVENTION, 10/90)

Latent Claims Working Party

L A T E N T C L A I M S

**Report of the Latent Claims Working Party
presented to the GISG Convention
at Newquay, October 1990**

LATENT CLAIMS WP REPORT

CONTENTS

	PAGE
1. Introduction	1
2. Survey of Development and Reserving Practises	3
3. The Nature of Latent Claims	4
3.1 Towards a Working Definition	4
3.2 Causes of Latent Claims	4
3.3 Examples of Latent Claims	5
a) Agent Orange	5
b) Dalkon Shield	6
c) DES	6
d) Lung Diseases (other than Asbestos Related)	7
e) Myodil	8
f) Occupational Deafness	9
g) Tenosynovitis	9
h) Vibration White Finger	10
3.4 From whence commeth the next generation of Latent Claims?	10
4. The Problems of Latent Claims	12
4.1 Processes rather than events	12
4.2 Age of Claims	12
4.3 Number of Claims	13
4.4 Trigger of Coverage	14
4.5 Reinsurance and Excess Layer Issues	14
5. Asbestos Bodily Injury	15
5.1 General Background	15
5.2 The US Situation	15
5.3 Asbestos BI Litigation	16
5.4 The Wellington Agreement and the Asbestos Claims Facility	16
5.5 The Centre for Claims Resolution	17
5.6 Reinsurance and the Aggregate Extension Clause	17
5.7 The Scale of the Problem	18

	PAGE
6. Asbestos Property Claims	19
6.1 General Background	19
6.2 Legislative Background	19
6.3 Third Party Claims	19
6.4 First Party Property Claims	20
6.5 Reinsurance and Excess Layer Issues	21
7. Reserving for Asbestos Claims	22
7.1 General Comments	22
7.2 Alternative Methods	22
8. Environmental Pollution	24
8.1 General Background	24
8.2 Types of claims arising	24
8.3 Examples of Environmental Pollution in USA	25
a) Love Canal	25
b) Times Beach	26
c) Stringfellow	26
d) Shell Rocky Mountain	27
8.4 US Government Organisations	28
8.5 USA Pollution Problems	29
8.6 Non-USA Pollution Problems	30
8.7 Coverage	31
8.8 Specific Reinsurance Problems	31
9. Reserving for Environmental Pollution	32
9.1 The Problem	32
9.2 Reserves for Known Involvement	32
9.3 Addressing the Problem	32
a) Monitoring Paid and Outstandings	33
b) Exposure Approach	33
c) Decision Theoretic Approach	33
d) Comparison with Asbestos BI Claims	34
e) Rules of Thumb	35
f) Other Possible Outcomes	35
9.4 Justifying the Solution	35
9.5 Conclusions	35
10. Future Work	36

APPENDICES

	PAGE
I	WP Members 37
II	Terms of Reference 38
III	Historical Development of Asbestos Use 39
IV	Reserving for Asbestos Related Claims 43
V	US Pollution Litigation Issues 46
VI	Environmental Pollution Reserving Example 51
VII	Asbestos Claims Development Graph 54
VIII	Pollution Scenario 55
IX	Sources and Organisations 58
X	Latent Claims Survey Results 59
XI	Note on Taxation 72
XII	Dalkon Shield Claims Development (Colour Graph) 76

LATENT CLAIMS

1. Introduction

This report is largely a survey of the background to the main types of latent claims currently being faced by UK insurers, reinsurers and syndicates, together with some suggested approaches to reserving for such claims. We also conducted a survey of reserving practices, which is included. Although the report is long, each section is largely self-contained, and it should be possible to read only those sections of interest without loss of understanding. We include a detailed contents section to aid reference.

The Working Party members are still learning about many of the issues covered by the paper, and inevitably there will be some factual errors. The report should therefore be seen as part of the process of getting at the truth, rather than as a definitive statement of the current position. We hope that the review of the paper by actuaries and others will identify and correct these errors.

The situation of some types of latent claim is very fluid, and even if the report were accurate now, it would soon be overtaken by events. We have tried, therefore, simply to identify and explain the issues which need to be considered. We have not attempted to establish the present position nor to comment on the merits of the arguments. All statements in this report represent the personal views or understandings of the members of the working party, and are in no way representative of any of the organisations for which these individuals work.

We believe this subject is of interest and potential concern to most insurers. At one extreme, UK direct writing insurers are likely to have some exposure to industrial disease claims for EL business, giving rise to difficulty in establishing a suitable reserve, and in justifying the figure to the Inland Revenue. These reserving problems will exacerbate the current problems of pricing and may delay the required recovery in EL rating. At the other extreme, London Market Reinsurers who write (or wrote) US Casualty business, are facing Asbestos and Pollution claims whose ultimate cost is most uncertain, but potentially very large.

Nor are UK direct insurers necessarily immune from the US problems:

- a) Some UK insurers have US subsidiaries who may have such exposures.
- b) Some write reinsurance or retrocession business and may be exposed by that route.
- c) Most buy reinsurance and would be adversely affected by large-scale reinsurance failure.

- d) The US was not unique in using asbestos or burying dangerous chemicals in holes in the ground. The Americans may have a somewhat gung-ho approach to financing the solutions but they are not the only ones with problems.

The report inevitably has a strong American accent as the most worrying and extensive latent claims emanate from across the Atlantic. Anyone coming fresh to a study of US insurance problems should be wary of relying on their UK experience. In particular:

Policy wordings and conditions are different.

The law is different (from that in the UK, and indeed from State to State),

Legal procedures are different,

The language is different (for example some US Courts have held that "sudden" does not necessarily mean "happening quickly".)

US law, in particular, has extensive discovery provisions, and any documents not protected by attorney-client privilege may have to be disclosed in the event of litigation. Attorney-client privilege applies only to documents or discussions between a lawyer and his client, expressly for the purpose of giving or receiving legal advice. That privilege may be deemed to have been waived if the document is disclosed to a third party. Consulting actuaries may, therefore, find they are denied access to documents which may contain important information. They should also be aware that if they are shown these documents, that may prejudice their privileged status. It may be necessary for the actuary to put himself in an attorney-client position with the attorney whose work he needs to read.

Liability claims are frequently subject to dispute and litigation, although these normally relate to the underlying claim and not the issue of coverage under the policy. Actuarial techniques, however, operate with collective data, and do not require the actuary to form opinions about the likely outcome of individual cases. In pollution and asbestos property claims, however, we have whole classes of claims which are subject to coverage disputes and litigation of substantially similar substance, and the required reserves depend on the outcome of this litigation. This takes the problem into an area where actuaries have no specific training or experience. It also inhibits open discussion, as it is hardly proper to discuss in public the likely outcome of current litigation.

2. SURVEY OF DEVELOPMENT AND RESERVING PRACTICES

A survey of developments and reserving practices in the non-life insurance industry, in respect of latent claims, was distributed to 276 insurers in the market, including composites, specialist general insurers and reinsurers, London Market companies and Lloyd's Managing Agents. By the middle of August 1990, 67 responses had been received, of which 50 indicated significant exposure to latent claims. The results, based on responses received as at that date, are summarised in Appendix X.

The main points to note from the results of this survey, as detailed in Appendix X, are as follows:-

As would be expected, Pollution and Asbestos latent claims are causing the most concern in the market. This is highlighted by the degree of sophistication of reserving for such claims in that separate development data tend to be held and specific IBNR reserves are established.

Latent claims have generally emerged over the last 15 years although the exposure to such claims goes back prior to 1950.

Initial notifications for product-related latent claims appear to be concentrated in a ten year period whereas initial industrial disease latent claim notifications appear to be spread over a wider period.

The input of Attorneys into the reserving process is significant.

The major methods of calculating IBNR reserves are:-

- (a) analysis of claim amounts and reporting patterns, and
- (b) analysis of exposures.

Respondents were also asked if they would be prepared to provide further information, including details of actual claim developments. Of the responses received to 20th August 1990, 38 have confirmed that they would be willing to do so.

3. THE NATURE OF LATENT CLAIMS

3.1 Towards a Working Definition

The topic we were originally given was "Latent Disease". However, the problems presented to insurers by latency are much the same, whether or not the cause of the claim is a disease. We therefore extended the scope and the title of the project to "Latent Claims", which allowed us to include pollution and asbestos property claims.

The well known examples of latent claims are all new types of claim which were not anticipated when the contracts were written, have taken a long time to emerge and were already pending in large numbers when the first reports started to come in. They are also associated with problems that take a long time to develop and are caused by gradual processes.

The question is, which of these characteristics are fundamental to the concept of latent claims, and which are simply consequences of those characteristics. We took the view that what matters to the insurer is the long delay and the fact that the claims were not anticipated. The fact that latent claims normally result from processes rather than from sudden events is thus regarded as coincidental. Also, this view means that in future, when the current backlog of old deafness claims has been cleared, we will refer to the then current deafness claims as simply long tail and not "latent". In the meantime we offer the following working definition:

"Any identifiable category of claims where the cost-weighted mean delay between inception of the policy and notification of the claim exceeds 5 years and which was not anticipated when the business was written. If more than one policy contributes to the cost of a claim, then all contributing policies are included in the calculation."

3.2 Causes of Latent Claims

In the context of insurance, latency does not follow precisely the meaning which would be attributed to the word in a clinical sense. The "latent period" between inception of the policy and notification of the claim can arise from a number of factors, or even a combination of factors. There is genuine clinical latency in the case of industrial diseases where there is a long interval between exposure to the hazard and the emergence of symptoms giving rise to the claim. Mesothelioma is one such example where the manifestation of disease can be a considerable period after the last exposure to asbestos dust. There is a parallel in claims arising from liability for pollution risks where, for example, there may be a long delay between the dumping of waste and the manifestation of consequences.

The development of the underlying cause of the claim may be continuous and progressive as a result of the cumulative effects of exposure over time. Many of the respiratory industrial diseases fall into this category. The delay in reporting the claim is not due to the strict clinical latency of the disease, in that its progress would have been capable of measurement and recognition at a much earlier stage. Here the latent effect arises because a claim is reported only when the symptoms of disease have surpassed a certain threshold.

There are some forms of industrial disease, notably deafness, where the extent of the damage remains undetected whilst the individual is young enough to be able to compensate for the deterioration in health or hearing. It is often only when the toll of industrial disease is combined with the natural effects of ageing that the employee becomes sufficiently aware of his condition to lodge a claim. This may be many years after the first exposure to the hazard.

The length of the reporting tail may be influenced by the level of awareness of the extent to which the working environment, or the effects of a specific product, have contributed to the underlying cause of the claim. In the description which follows, concerning the claims arising from Dalkon Shield, it will be seen that claim development patterns change with increasing public awareness of the link between the use of the product and the pathological problems which it induced.

Finally, claims on old policies may be precipitated by legislation which has a retro-active effect, as in the case of US pollution and UK deafness claims.

3.3 Examples of Latent Claims

This section contains brief background notes on the main types of currently outstanding latent claims.

a) Agent Orange

Agent Orange is a chemical defoliant which was widely used by the US Army in the Vietnam War to eliminate enemy hiding places. In 1979 an American war veteran sued several major chemical companies, alleging health problems arising from exposure to Agent Orange and other defoliants. In 1983 this suit was expanded into a class action and in 1984 the claimants and the chemical companies reached a settlement. The chemical companies agreed to pay \$180M into a settlement fund without admitting liability or even that there was any relationship between the defoliants and the alleged symptoms.

It is estimated that between 1961 and 1972 approximately 3.5 million servicemen served in or near to the combat area and during that period an estimated 20 million gallons of chemical defoliant were used.

Under the compensation structure established by the court, the fund was to be divided into three parts:

- 1) approximately 2% for non-US service personnel,
- 2) approximately 23% to establish and fund support organisations to help veterans and their dependants
- 3) the remainder for specific compensation to disabled US veterans and the surviving dependants of deceased veterans.

b) Dalkon Shield

The Dalkon Shield was an intra-uterine contraceptive device of a new style and design that was produced and marketed vigorously by A H Robins from the late 1960's into the 1970's, initially in the US and then worldwide.

The device caused almost immediate problems in some women, but in most the effects were delayed. From about 1975 it became apparent that the use of the device was leading to major problems in a very substantial numbers of cases. Within a few years, TV programmes were warning users about the risks involved, and once public awareness was raised, claims began to flood in. Sales of the device ceased in about 1980 but by that stage a very large number of women had been fitted with the device and were continuing to use it.

A H Robins was insured with Aetna, who bought reinsurance, both in the US and in the London Market, subject to a fairly substantial retention.

The number of claims has escalated to the point where all insurance cover (and reinsurance cover) has become a total loss and A H Robins has faced claims amounting to four or five times the total insurance cover which it bought. The resulting financial difficulties led to a bankruptcy petition in 1985. A claim cut-off date of 30th April 1986 was established by the Federal District Court Judge who is handling the bankruptcy proceedings. The cut-off date precluded the filing of new claims after that point so that, having reached a peak in 1985, the numbers of new filings fell dramatically thereafter.

The graph of reinsurance claim development patterns attached to the end of this report shows how public awareness can cause claims to flood in after an initial delay.

c) DES

DES (diethylstilboestrol) is a synthetic oestrogen, which was developed in the UK in 1938 as a cheaper and more convenient alternative to natural oestrogen. It was approved in 1941 by the US Food and Drug Administration (FDA) for use in the treatment of menopausal symptoms, postpartum breast engorgement and some forms of vaginitis. It was later used in the treatment of breast and prostate cancers and, in 1947, was approved for use in preventing miscarriages.

In 1971, a link was suggested between in utero exposure to DES and certain gynaecological abnormalities in female offspring, such as adenositis and vaginal inflammation. It has also been alleged that such exposure may cause adenocarcinoma in female offspring and various genito-urinary abnormalities in male offspring. Following these allegations, the FDA prohibited the use of DES in pregnant women, although it is still manufactured today for other uses.

It is estimated that over 4 million women have taken DES during pregnancy, and it is known that about 300 companies were involved in the manufacture or distribution of the drug. Claims are now being made against almost 150 defendants, including Abbott Laboratories, Eli Lilly and Company, E.R. Squibb & Sons Inc. and The Upjohn Company.

These claims now span 3 generations:

- a) The first generation (ie. those who took DES directly) usually allege breast or gynaecological cancers.
- b) The second generation (ie. those whose mothers took DES during pregnancy) usually allege gynaecological or genito-urinary abnormalities or cancers, as described above.
- c) The third generation (ie. the grandsons and granddaughters of women who took DES during pregnancy) usually allege that problems such as blindness, cerebral palsy and various forms of retardation may have been caused by allegedly DES-induced abnormalities in their mothers.

Clearly, if a third generation effect can be established, the duration of the liability and the size of the IBNR problem will be greatly increased. This issue is currently subject to considerable litigation, and the outcome remains uncertain. There may, however, ultimately be many thousands of claims.

- d) Lung Diseases (other than Asbestos Related)
 - i) Pneumoconiosis amongst mine workers is perhaps the earliest example of latent claims, with notifications going back to the 1950s.

The most common and severe of all pneumoconioses is silicosis which is a fibrosis of the lung caused by breathing dust containing silica. Silica is found in a variety of forms, the most common and most important being quartz. Exposure to silicosis can arise in a wide variety of occupations, from underground mining and tunnelling in quartz bearing rock, to the stripping and relining of furnaces and to the manufacture of pottery and porcelain.

The level of risk depends upon three factors:

- the concentration of dust in the atmosphere
- the concentration of free silica in the dust
- the duration of exposure.

The incidence of pneumoconiosis has diminished significantly in the past 20 years as a result of improved systems of dust suppressions and ventilation. In the UK, the number of newly compensated cases of all forms of pneumoconiosis in coalmines was as follows:

<u>Year</u>	<u>Number</u>
1960	3,300
1965	1,000
1970	800
1975	600

- ii) Byssinosis is a chronic respiratory disorder which affects cotton, flax and hemp workers. The condition gives rise to tightness of the chest and breathlessness which is often particularly marked on the first day back at work after a weekend break. After continued exposure to dust, the worker may be severely disabled with symptoms of chronic bronchitis and emphysema.

Epidemiological studies in flax, soft hemp and cotton factories show that at least 40% of workers exposed to dusty conditions are affected to some extent. Paradoxically, more modern processes have exacerbated the problem. Mechanical picking has increased the contamination of cotton with debris from the plant itself, whilst the speeding up of the processes have increased dust concentration. Among hemp workers, the problems arise in the processing of soft hemp which is a fibre from the stem of the plant. There does not appear to be a danger of byssinosis associated with processes involving leaf fibres.

The gradual changeover to the use of synthetic fibres should reduce the risk of occupational respiratory disease since synthetic fibres are not thought to give rise to byssinosis. Nevertheless the disease may still be increasing in developing countries.

- e) Myodil

Myodil is a dye which was used for producing X-ray scans in cases of back trouble, known as myelography. It was produced by Glaxo Laboratories and used from the early 1940s. Initially, it was hailed as a significant advance over previously-used substances, all of which had produced unacceptable, toxic side effects. Many thousands of investigations were carried out and the use of the drug undoubtedly improved the accuracy of diagnosis in such cases as sciatica, brachialgia, paraplegia and quadriplegia.

However, a relatively small proportion of patients in whom it was used proved to be peculiarly sensitive to Myodil and some present day symptoms are claimed to have resulted from its use more than a decade ago. The drug was withdrawn from use in 1987. The solicitors currently dealing with the claims have been quoted as saying that the totality of claims could exceed 150M. More modern methods of diagnosis (such as magnetic resonance scans) may well be useful in distinguishing between true or false claims.

f) Occupational Deafness

Occupational deafness, or noise induced hearing loss, is probably the most widespread occupational disease in the UK. Government estimates indicate that at least 2 million employees in the UK have been exposed to excessive noise for a significant period during their employment and that approximately 1 million employees in the UK manufacturing industry have noise induced hearing loss. Exposure to noise induced hearing loss can arise in a wide variety of occupations but is particularly prevalent in heavy industry such as metal manufacturing and shipbuilding.

The principal risk factors are the intensity (decibel level), frequency, duration of exposure and application of safety procedures.

The door was opened for employees to claim damages against their employers in 1963 by a change in the statute of limitations and publication of the Government booklet "Noise and the Worker". The first successful claim was made in 1971 and the trickle of claims that followed became a flood in the late 1970s and this has continued into the 1980s. The claim pattern has been influenced by the involvement of trade unions and the rate at which they can handle claims on behalf of their members.

The size of claim depends upon the level of hearing loss and the presence or absence of tinnitus (a ringing, buzzing or whistling sound in the ears). The majority of claims are for general damages and are typically between 1,000 and 4,000, although claims of 15,000 or more have been made.

A number of insurers and trade unions have entered into agreements to settle claims according to a sliding scale which usually depends on the claimant's age and level of hearing loss, and to apportion the claim between insurers who have been on risk during the exposed period, on a pro-rata basis, subject to a start date which is usually 1st January 1963.

g) Tenosynovitis (Repetitive Strain Injury or Upper Limb Disorder)

Tenosynovitis is the inflammation of the tendons arising from repetitive movements. There have been increasing reports linking tenosynovitis with certain occupational activities, with the earliest claims being reported in the late 1970s.

Studies have shown that jobs associated with repetitive strain injury include cleaners, hairdressers, VDU/keyboard operators, butchers, music teachers and machine operators.

Repetitive movements are defined as being at least one per minute. Those that are associated with injury include gripping in the palm with fingers and thumb, bending the thumb, twisting the wrist, rotating the shoulder with the arm raised and holding the thumb in a fixed position.

h) Vibration White Finger

Vibration white finger is a neuropathic and vascular disease affecting the hands and fingers. It can be caused by the use of vibratory equipment and is associated with occupations involving activities such as riveting and drilling which often also give rise to occupational deafness.

Very few claims were reported until 1984/5 since when the number of claims has increased significantly.

The majority of claims vary in size between £500 and £1,500. The trade unions have been heavily involved in representing their members and presenting their claims to insurers. As for occupational deafness claims, a number of agreements have been made between insurers and trade unions as to the scale of damages that are payable and claim apportionment operates in a similar way.

The number of claims notified to UK insurers has, according to ABI statistics, increased from approximately 150 in 1984 to 10,000 in 1988.

3.4 From whence cometh the next generation of Latent Claims?

The potential for long-tail claims from the above sources, and indeed from many others, is well documented and understood. However, there will always be others which are as yet unforeseen.

AIDS is sometimes spoken about as having all the characteristics which might make it the subject of tomorrow's latent claims. However, a more reasoned examination of the nature of the epidemic makes this possibility seem less likely. Those who may have the strongest case for establishing a claim are the haemophiliacs or others who have been infected by contaminated blood products. However, such people are generally monitored very closely as a result of which the delay between infection and discovery will normally be quite short. Furthermore, in most countries - certainly those in the "first world" - blood products are closely screened to avoid the risk of further infection from this source.

In general there is little risk of infection being spread in the normal workplace and thus there should be little chance of large volumes of legal actions against employers.

But, even if the risk seems remote, one should not be too complacent - especially where one is exposed to the vagaries of the American legal system. Is it too far-fetched to imagine that an enterprising lawyer might come up with a class action against the pharmaceutical industry for failing to come up with a cure?

If, in latent claim terms, AIDS is not to be the villain of the future, then what else? Perhaps in the years to come one can envisage a new disease afflicting Lloyd's underwriters which we shall call RAS (Risk Aversion Syndrome) or ORS (Outhwaite Reaction Syndrome). This is where long exposure to mounting losses on the back years induces a temporary paralysis, preventing the underwriter from putting pen to slip. It seems plausible - and potentially expensive!

4. THE PROBLEMS OF LATENT CLAIMS

4.1 Processes rather than events

Traditionally, policy wordings were written in terms of sudden events where it is usually easy to determine how many there have been and when each one happened. However, latent claims may not stem from sudden events, and it is often far from easy to determine how many there have been and when they happened. These issues are of great importance, as they determine which policy or policies must pay for the claim, how many excesses (or self insured retentions) the insured must bear, and how many policy limits the insurer may have to pay.

We have seen earlier how latent diseases may be either progressive or truly latent. In the case of a progressive disease, developing over many years, it may be argued that the damage done in each policy year constitutes a separate claim. This will be of benefit to the insurer if the claims are relatively small, since the insured will have to bear the excess in each policy period, and this may represent a large part of the claim. On the other hand, if the claims are relatively large, the insurer may have to pay his full policy limit in each period of insurance, rather than only one policy limit per injured person. In the case of truly latent diseases, however, it may be argued that there must at some time have been a trigger mechanism which launched the progress of the disease. That would tend to suggest there has been only one claim, although one still may not know when it happened. In this case the insured would bear only one excess, and the insurer would be exposed to at most one policy limit. In practice, it is not always clear whether a particular disease is progressive or latent.

Modern policy wordings in the UK domestic market usually make it clear that when a claim is attributable to continued exposure to conditions over a period of years, then each period of exposure to each individual party constitutes a separate claim. However, older policy wordings were much less explicit and it is clear that those who have to deal with the claims will have great difficulty in determining the correct treatment.

4.2 Age of Claims

Another feature of latent claims which gives rise to additional difficulties in handling and reserving is that many date back a considerable number of years. This, coupled with the fact that they frequently span a number of policy periods, gives rise to problems in the following areas:

- a. Claims Handling - It is obviously more difficult for claims staff and for the courts to establish the facts after a long passage of time. Memory will have faded, witnesses will be hard to trace, and work and medical records may be missing or incomplete. It may be difficult to establish the state of knowledge of both plaintiff and defendant at the time the injury took place, and it may be difficult to get both parties to bear in mind the state of the law at that time.

- b. Policy Records - Both the insured and the insurer may have difficulty in tracing policies which date back many years, and the insurer may not have retained his underwriting files. Inevitably, details of the older policies will not have been loaded onto the computer system, which presents additional problems.
- c. Policy Wordings - The wordings of the applicable policies may well be old fashioned and unfamiliar, and may have changed over the period of the claim.
- d. Policy Conditions - Likewise, policy conditions may be out of date and may have changed over the period of the claim. For example, a policy limit that seemed quite conservative in 1950 may appear totally inadequate today.
- e. Change of Insurers - The insurance may well have been placed with a number of insurers, perhaps scores, over the period of the claim.

4.3 Number of Claims

As mentioned above, the fact that most latent claims stem from processes rather than events makes it difficult to establish how many claims there have been and when they happened. There is also the argument that, because each injury is due to substantially the same cause, all injured parties constitute just one claim. By analogy, several individuals may be regarded as one claim if they are all injured in one explosion. There may also be additional clauses specifically designed to aggregate claims together for the purpose of applying the policy limits and deductibles.

There are, therefore, many competing theories about what constitutes one claim, for example:

- a. Each year of insurance for each injured party
- b. Each individual injured party
- c. Each year of insurance for all injured parties together
- d. All injured parties at any one location
- e. All parties injured by one type of product

These issues must be resolved in the light of the circumstances of each case and the definitions in the relevant policy wordings. If this were not enough, the circumstances, the policy wordings and the policy conditions may well have changed over the period when the injuries are thought to have been caused.

4.4 Trigger of Coverage

If damage or injury is thought to have been caused over a number of years, it is necessary to decide which policy or policies must contribute to the cost of the claim. Again there are a number of competing theories, of which the three most important are:

- a. Manifestation. Here the loss is deemed to occur when the disease is first capable of diagnosis, or the damage first capable of observation. This theory clearly triggers only one policy for a given claim.
- b. Exposure. Here all policies in force during the period of exposure to the conditions deemed to give rise to the claim are required to contribute to the loss. In this case, one may spread the loss uniformly over all policies, although some courts have allowed the insured to select the policy under which he wishes to claim.
- c. Injury in fact. This is the most logical theory. It says that policies in force when injury actually took place must contribute to the loss.

In one well known decision, the "Keene" decision, the court held that all policies in force from first exposure to manifestation are triggered, and the insured can recover from any one or more of these policies. This trigger theory is sometimes referred to as "continuous trigger" or "triple trigger". See 5.3

4.5 Reinsurance and Excess Layer Issues

The above issues will also affect reinsurers and excess layer (umbrella) insurers. However, in the case of reinsurance, there may be a different definition of what constitutes one claim, or there may be separate explicit aggregation conditions. Again, these conditions in the reinsurance policy or treaty can be very difficult to interpret in the context of continuing processes rather than sudden events.

5. ASBESTOS BODILY INJURY

5.1 General Background

Asbestos is a naturally occurring, fibrous mineral with high tensile strength and flexibility, and good resistance to heat, abrasion and many chemicals. There are two basic types:

1. Long fibre (white) asbestos which is used in woven products.
2. Short fibre (blue) asbestos which is used in building products.

Asbestos has been used since biblical times, but increasingly since 1950 in steam engines and boilers, and more recently in building products. The heaviest exposures were in the 40s and 50s, and it is estimated that in the US up to 13M workers and their families have been exposed to asbestos dust between 1940 and 1980. The dangers of dusty conditions have been known for a long time, but the special dangers of asbestos were not generally recognised until early in the 20th century. Regulations to limit the amount of asbestos in the air were introduced in 1938 at the level of 185 fibres per cc. This persisted until 1971 when a new threshold of 12 fibres per cc was introduced. The limits were further reduced during the next 10 years to a level of 0.2 fibres per cc.

There are 4 main types of disease associated with asbestos dust:

- a. Asbestosis - similar to other dust induced lung diseases
- b. Mesothelioma - cancer of the lining of the lung cavity, which is particularly associated with asbestos
- c. Bronchial cancer
- d. Other cancers

The claimant has to show that he has suffered injury, that it was caused by breathing asbestos dust, and that liability for the situation falls on the policyholder. In principle, this situation is no different from any other industrial injury or disease, but asbestos claims tend to be more expensive both to settle and defend than many others.

5.2 The US Situation

The situation in the US is unusual in that most claims are being made not against the employer but against the producer of the asbestos product. The main reason for this is that US Workers' Compensation Acts provide no-fault compensation to injured workers, but at strictly limited levels. Claims against the producers have to show liability, but are not subject to any limit. Some groups of workers, however, such as railroad workers, are covered by the Federal Employers Liability Act (FELA) which is not subject to these limits, and asbestos claims from such workers are being lodged against the employers.

The fact that most asbestos injury claims are being made against the asbestos producers has two important consequences:

- a. Instead of being spread across all employers who used asbestos products, the claims are concentrated into the relatively small number of companies who produced asbestos or asbestos containing products. Something like 80% of current claims are coming from only 30 major asbestos producers.
- b. The claims constitute product liability claims, and most Comprehensive General Liability (CGL) policies have a separate, aggregate limit for product liability claims.

This results in relatively few, very large claims, so that, other things being equal, a high proportion of the total cost falls upon excess layer insurers and excess of loss reinsurers. In fact, a number of the original policies have already become total losses, and we understand that some major producers have already used all of their available insurance coverage.

5.3 Asbestos Bodily Injury Litigation

As mentioned above, asbestos injury claims are complex and expensive to defend. It has been suggested that in the early days, two thirds of the insurance money being spent was ending up in the pockets of the attorneys.

There was fairly extensive coverage litigation (Declaratory Judgement Actions or DJAs) in the 1970s and early 1980s, although this has been substantially reduced as a result of the Wellington Agreement. Most of this contention focused on trigger of coverage and number of claims, and this did not go well for insurers. In 1981, in Keene Corporation VS. Insurance Corporation of North America, the court held that the policy language was ambiguous and the insured could claim against any policy in force from first exposure to manifestation. This became known as "triple trigger", and was a major factor in the development of the Wellington Agreement.

5.4 The Wellington Agreement and the Asbestos Claims Facility

The Wellington agreement was an agreement signed by many of the major asbestos producers and their primary and umbrella (excess layer) insurers. The main provisions of the agreement are:

- a. The cost of claims would be spread uniformly over all policies in force during the exposure of the injured party to asbestos.
- b. A commitment to use the techniques of alternative dispute resolution (ADR) so as to reduce the defence costs.
- c. An undertaking by insurers to continue to provide defence costs even after indemnity limits were breached.
- d. An agreement to share the costs of claims in agreed proportions between the producers and their insurers.

- e. Agreement to establish a claims handling facility on behalf of all producers and their insurers, to achieve economy and consistency in claims handling.

The sharing agreement was important because many of the injured parties would have been exposed to the products of more than one producer, and it was complex and expensive to resolve the shares of each producer on a case by case basis.

This agreement applied to injury claims only. The Asbestos Claims Facility (ACF) started operations in June 1985, and was said to have a dramatic effect in reducing defence costs. It has been suggested that it also had the effect of accelerating claims payments. In addition, claims started to emerge from new industries, such as tyre manufacturers who used asbestos in the powder used in the moulding process. The two features of acceleration and changing mix led to strains within the ACF, and eventually it was disbanded in October 1988. The remainder of the Wellington agreement, however, is still in effect.

5.5 The Centre for Claims Resolution (CCR)

Following the break up of the ACF, a number of former members and their insurers formed the CCR as a successor organisation. We understand that the CCR has achieved even lower expense costs than the ACF, and that those who withdrew from the ACF have seen their defence costs increase to pre-ACF levels or even higher.

5.6 Reinsurance and the Aggregate Extension Clause

Because most asbestos injury claims are product liability claims, the original covers were mainly written on an aggregate basis. Many excess of loss reinsurance treaties include an aggregate extension clause, which applies to claims made on original policies written on an aggregate basis. The effect is to allow the cedant to aggregate all claims from one original insured in any one year under policies written on an aggregate basis, and to treat these as one claim for the purpose of applying the limit and deductible under the treaty. We understand that a corresponding clause in the reinsurer's outward treaties will allow the reinsurer to aggregate all claims from one original insured for the purpose of applying limits and deductibles on the retrocession policies.

Fortunately, the aggregate extension clause was fairly widely used, as the reinsurance treatment of asbestos injury claims can be quite contentious in the absence of that clause. Some treaties may include different clauses, permitting other forms of aggregation, which may be deemed to have a similar effect. In other cases, the cedant may try to argue that all injuries stemming from exposure to a given product constitute one claim under the original policy and that this too gives a similar effect. Many of these issues are not yet finally resolved. However, since most reinsurance treaties include arbitration clauses, it is likely that most of these issues will be resolved in arbitration rather than in the American Courts.

Further details of the aggregate extension clause issue can be found in the London Market position papers on this subject, which we understand are currently being revised.

A number of reinsurers, particularly European reinsurers, argued that the Wellington Agreement modified the terms of the original policies, and invalidated the reinsurance claims. This issue too remains unresolved, but we understand some of those who at first rejected asbestos claims have now begun to pay those claims.

5.7 The Scale of the problem

It is difficult to get authoritative information about the number and cost of US asbestos injury claims. However, we believe that around 150,000 individuals have so far filed claims, and we believe the average compensation paid is in excess of \$80,000. Defence costs would be in addition, and may be of similar size. We understand that there are currently around 2,000 new notifications per month, with no sign of any reduction. It may well be that the major producers will run out of cover before they run out of claims, and this may be the feature which limits the insurance industry's liability. On the other hand new insureds may emerge against whom liabilities can be proven. At the current rate of progress, it seems that the ultimate insured liability could be some tens of billions of dollars.

6. ASBESTOS PROPERTY CLAIMS

6.1 General Background

Asbestos fibres have been incorporated into a large number of building products, in particular in the insulation surrounding boilers and central heating pipes. These components can become damaged in several ways, leading to the release of asbestos fibres into the air within the building. It is alleged that this constitutes a hazard to the occupants of the building, and that the damage should be repaired or the asbestos removed. In addition, when a building reaches the end of its useful life, it may be more difficult and expensive to demolish if it incorporates asbestos in its structure. The costs of removing asbestos from buildings can be very high, in some cases exceeding the market value of the building. This situation is giving rise to insurance claims in the US not only against the insurers of the asbestos producers, but also against the first party property insurers and against the insurers of the architects who specified the material in the first place.

6.2 Legislative Background

In 1973, National Emission Standards for Hazardous Air Pollutants (NESHAP) were introduced under the Clean Air Act. The main provisions were to limit the emission of asbestos fibres into the air, to regulate the removal of asbestos from buildings during demolition, and to apply a partial ban of spray-applied asbestos-containing material in new buildings.

In 1980, the Asbestos School Hazard Detection and Control Act called for a survey of all schools in the US to determine the level of asbestos fibres in the air.

In 1986, the Asbestos Hazard Emergency Response Act (AHERA) required the Environmental Protection Agency (EPA) to establish a programme to remove friable asbestos from schools, and to survey all public and commercial buildings. It is estimated that asbestos will have to be removed from 35,000 school buildings at a cost of over \$3Bn. It is also estimated that over 300,000 public and commercial buildings contain friable asbestos which will have to be removed at a cost of over \$50Bn. In addition, there are numerous private buildings and domestic houses which contain asbestos, and where claims for removal may be expected.

6.3 Third Party Claims

The liability claims against the asbestos producers make a number of allegations, including negligence, express warranty, implied warranty, nuisance, trespass, fraud, conspiracy, strict liability, market share liability and liability under the Comprehensive Environmental Response, Conservation and Liability Act (CERCLA). The asbestos producers generally deny liability on several grounds including:

- a. Statutes of repose - many states have statutes providing an absolute bar on claims for building defects after a specified period, often 20 years.

- b. Statutes of Limitation.
- c. Economic Loss Defence - it is argued that the mere presence of asbestos in a building does not constitute physical damage, and hence any loss is an economic loss only and not recoverable.
- d. Product Identification - basically the claimant has to prove that the defective product was manufactured by the defendant.
- e. No Risk - the argument here is that properly maintained asbestos-containing components do not constitute a risk.

In addition, insurers may deny policy coverage on a number of grounds, including:

- a. No "property damage" - in other words the loss claimed against the policyholder does not constitute property damage as defined in the policy.
- b. Policy Exclusions - there may be specific exclusions, such as the pollution exclusion.
- c. Trigger of Coverage - the defence is that actual damage did not occur during the policy period.
- d. Expected or Intended - the argument here is that the consequences were foreseeable and there is thus no fortuity as required by the policy.
- e. Non-disclosure - insurers may be able to claim that insureds concealed information about the dangers of the product, or that there were suits pending which were not disclosed at inception.
- f. Late Notice.

6.4 First Party Property Claims

There have already been a number of claims submitted to first party property insurers, and a few against the architects who specified the asbestos containing product in the first place. The first party claims are against policies with all risks wordings, where, in effect, the onus of proof may be on the insurer to show that a claim is not covered.

It is not yet clear how numerous these types of claim will become. However, we understand that W R Grace, in an out of court settlement with various school districts, obtained an assignment of rights under the school districts' first party policies. We are not aware that any attempt has been made to exercise any of these rights.

6.5 Reinsurance and Excess Layer Issues

It is fairly common for primary liability (CGL) policies to provide separate limits for injury claims and property claims. However, excess layer policies and excess of loss reinsurance policies often provide a combined limit for both injury and property claims. In many cases, therefore, even if property claims are upheld, they will run into the same policy limits as the injury claims. On the other hand, there is the possibility that other producers will emerge whose products have not given rise to large numbers of injury claims, but which have been widely incorporated into buildings.

The Wellington Agreement does not apply to property claims, and the arguments that the agreement modified the terms of the original policies would not therefore be available to reinsurers when dealing with property claims. However, there may well be parallel disputes concerning the issues of number of claims and trigger of coverage.

7. RESERVING FOR ASBESTOS CLAIMS

7.1 General Comments

A number of fundamental issues are relevant to the projection of asbestos losses. We should consider separately: Bodily Injury Vs Property Claims Vs FELA; Direct business Vs Reinsurance (which can be split down into pro rata, XL, with or without an aggregate extension clause and Retrocessional); Facility Vs CCR Vs Other.

If we are considering figures net of outwards reinsurance, allowance for failure of reinsurance security and gaps in or exhaustion of reinsurance coverage need to be considered.

The traditional triangulation approach fails, as the development of losses shows very little dependence on duration from the underwriting year to which losses attach. Rather, the loss development has shown an increasing profile from the mid-70s with surges following milestones in the litigation processes alternating with periods of relatively gentle increase; over the years the insureds involved in bodily injury claims have broadened from the major producers to users of asbestos and more recently US railroads under FELA.

7.2 Alternative Methods

- a) Measure exposure to asbestos losses and take a view on the likely degree of impairment, either in total or by segment.
- b) Reserve the policy limits on any policy where a loss has been notified.
- c) Develop a demographic model which gives the likely quantum and date of maturity of loss development and the rate of emergence of insurance losses. There is much published research which takes account of the population of various workers exposed to asbestos since the 1930s, the onset of asbestos-related diseases, the level mortality and other factors.

This gives an overall industry view of development, which may help to assess the effect on the particular insurer.

- d) Use information on the flow of claims to the ACF to make projections for the ACF and its successor the CCR. Experience to date may suggest that the insurer's share of overall ACF payments is fairly stable. This then enables projected losses for the insurer to be derived from ACF projections. A grossing-up factor would then be applied to allow for losses from producers outside the ACF or the CCR.
- e) Various empirical approaches:

Apply a percentage loading to outstanding claims or incurred claims.

Take a multiple of the development of incurred claims in a recent period (e.g. the latest year or the average of a few years).

- f) Model the number of claims to the insurer and the average incurred cost per claim separately. For example, treat each underwriting year's involvement on each assured as a separate claim; for bodily injury the overall average cost per claim seems to have been fairly stable over the past few years although when current average costs are broken down to underwriting year there is considerable variation. An ultimate overall average cost is selected judgmentally. The projection of numbers of new claims is more problematic as past experience in some categories shows only slight slackening off in recent years. However, the year when the ultimate number of claims is expected to be reached is selected judgmentally and the graph of past numbers is extended either by eye or by experimenting with various Craighead curves. The results appear to stand up fairly well to monitoring for bodily injury.
- g) The unique features of the US situation present additional problems in reserving, but may also provide an alternative approach. As the majority of the claims are being concentrated on a small number of producers, and on a section of the policy which is subject to an aggregate limit, there may be some merit in reserving on the basis that all coverage purchased by the major producers will ultimately become a total loss. A case study describing one company's experience of applying these ideas is included as Appendix IV.

The more detailed of the above methods may be reasonably applied to estimate bodily injury but property claims involve greater uncertainty as significant decisions in litigation are still awaited with no clear trend established.

8. ENVIRONMENTAL POLLUTION

8.1 General Background

For the most part of the 20th century, unwanted items of waste have been stored at numerous dump sites, and various other items have otherwise been stored for future use. Some of these items are harmless, others have been stored competently and efficiently. Unfortunately, some items have caused problems. Leakage or spillage has occurred, combinations of materials have chemically reacted and some sites have shown latent environmental problems. This section describes the salient features of environmental pollution, although pollution such as that resulting from oil spillage is not addressed.

In view of the prominence of US latent claims, and the actions of the US courts and government in relation to environmental pollution, this section concentrates on the situation in the USA.

8.2 Type of claims arising

Even if the insured is not ultimately held liable for pollution losses, the insurer may still incur costs, as he may have a duty to defend suits which allege liability which would be covered by the policy. Such defence expenses may well be substantial, and there are frequent disputes about whether an Environmental Protection Agency (EPA) clean up order constitutes a "suit", or whether the alleged wrongs would be covered.

There are three types of indemnity claims:-

- a) bodily injury - some environmental pollution has an adverse effect on health. For example, a leaking underground storage vessel may contaminate drinking water supplies and cause injury.
- b) third party property damage - if spilled or leaked contaminants pollute adjacent land owned by others.
- c) clean-up - the original site may need to be repaired and cleaned up, and these costs may be recoverable from the insured..

In addition, there may be claims for the cost of:-

- a) Ongoing monitoring of the site
- b) Medical monitoring of local residents
- c) Investigation and development of a plan for remediation.

So far, most claims have been made under Comprehensive General Liability (CGL) policies, but increasingly claims for the cost of cleaning up the site itself are being made against the first party property policy, often under the debris removal section. This paper concentrates on third party claims.

8.3 Examples of Environmental Pollution in USA

a) Love Canal

In 1894, William T. Love started the construction of a canal that would link the Niagara River with Lake Ontario. The intention was to provide hydro-electricity and water. The invention of the alternating current motor made the operation economically impractical. Construction was halted and what was left was a 15 acre trench - ideal for dumping.

In 1947 Hooker Chemical purchased the trench and from 1947 to 1952 proceeded to dump some 21,800 tons of toxic chemicals into the trench. When this was done, the site was sold (in 1953) to Niagara School Board for a nominal \$1.00, subject to a disclaimer of responsibility for injuries arising from the buried chemicals.

Hooker had sealed the dump with a clay seal. After building the school, which was on the dump, the land which was not on the dump was sold for private residences. However, in construction, two streets plus a state expressway were built across the dump, which seemed to break the seal.

In the period 1971-1977, following heavy rains, a mixture of no less than 82 industrial chemicals seeped into the playground of the school and the basements of the new houses. Eleven of these chemicals were suspected carcinogens.

The history of subsequent events is as follows :-

August 2nd, 1978 - New York State Health Commissioner declared a health emergency recommending closure of the school and the evacuation of pregnant women and children from the nearby houses.

August 7th, 1978 - President Carter approved emergency financial aid. 298 houses were purchased by the State of New York at a cost of \$10 million.

August 10th, 1979 - A House of Representatives subcommittee released documents indicating that Hooker knew in June 1958 that chemicals were seeping into the residential area.

Claims have been made by 1,000 parties, but the most important was the \$635 million lawsuit filed by the Attorney General for the State of New York on April 28th 1980. This was against Occidental Petroleum Company and its two subsidiaries: Hooker Chemical and Hooker Chemical & Plastics.

Little development has occurred on the legal side but Love Canal has recently been found to be habitable again. Two thirds of the area is deemed suitable for residential use.

b) Times Beach

International Petroleum Corporation was a chemical company which was wholly owned by Charter Oil. This company produced dioxins as a by-product and arranged for their disposal at a recognised dump site. The contractor, Russell Bliss, was aware of the toxins and said they would be disposed of at an official E.P.A. site.

It is alleged that Russell Bliss did not dispose of the toxins in the prescribed manner. It seems that various chemicals were mixed with oil and then sold to contractors to spray on dusty roads. Russell Bliss had no insurance coverage, no assets, and is bankrupt. Charter Oil (and their insurers) are the only people who can be sued.

Times Beach is a test case. It is a few miles out of St. Louis on the banks of the Meranac River. It is a shanty town which should never have been built - it floods after heavy rain. After one such flooding, when the town was evacuated for several days, they were proposing to return only to be told that all their roads had been sprayed with dioxin-laced oil, they had been breathing the dust for years, the flooding meant their homes were probably contaminated, and the evacuation should be permanent.

The level of toxin is 130 times the currently assessed highest safe level of one part per billion. In 1974, 60 horses mysteriously died in one stable - it was discovered that oil had been sprayed on the stable riding paths.

In 1988, the EPA promulgated its Record of Decision selecting the use of a mobile incinerator as the method of remediation. The cost of incineration is estimated at \$120M. The governments's choice of remedy is being disputed by Charter Oil.

c) Stringfellow

The Stringfellow site covers 22 acres of land near Glen Avon, California. Stringfellow Quarry Company operated the site until 1972, and, in 1974, owing to financial difficulties, ceased to maintain the site. The site was taken over by County officials in 1975.

In 1956, a liquid waste disposal facility was located at the site. From then on, 200 generators disposed of some 34 million gallons of chemical and hazardous waste.

By 1968, soil discolouration was noted, and, in 1969, a dam overflowed with a substantial release of waste into Pyrite Creek. The California Public Health Officials did not declare a public health hazard. In March 1969, the site was closed for chemical waste disposal, and in 1972, Mr. Stringfellow voluntarily closed the site.

From 1972 to 1974, Mr. Stringfellow tried to maintain the site, but leakage from cracks in the base of the dam meant that this was not possible. In January 1975, the site was declared a public nuisance.

Studies made at the site indicated leakage through porous sandy subsoil, and by 1978 a remedial action plan was recommended. However, in March 1978 the main dam overflowed and 1.5 million gallons of water flooded from the site (including 800,000 gallons released to prevent the collapse of the dam). Waste had been removed from the site in response to further emergencies. The cost of the clean-up was estimated at between \$96 million and \$334 million (May 1986). On 21st April 1983, California and E.P.A. sued Mr. Stringfellow and 22 generators (or PRP's - Potentially Responsible Parties) for \$42 million.

The draft Feasibility Study report released in June 1988 contained the proposed plan for groundwater clean-up in the Glen Avon community and various alternatives for remediation of the on-site area. The estimate for total clean-up costs is at least \$600m.

d) Shell Rocky Mountain

This is the prime case that has been "won" by insurers in the denial of coverage. The case may be summarised by the quote of Barry Bunshoft to the jury.

"The Shell Oil Company for 30 years gave profit for production of pesticides a higher priority than the protection of the environment. Shell Oil Co. continued the practices that were polluting the Rocky Mountain Arsenal from the first day it leased the arsenal until the day it folded and left in 1982, leaving behind it the most polluted place on earth."

The history of the 17,000 acre site is horrific. The clean up cost is estimated at between \$3 Bn and \$4 Bn.

The key to the success of the Court Case was possibly an internal Shell memorandum of July 1965 which warned that the disposal method could cause injury to humans and animals. Following this memorandum, the dumping in open pools ceased and a 12,000 foot well was used. The injection of wastes down this well unfortunately caused an earthquake! Shell subsequently reverted to its old practices of disposal.

In 1955, U.S. scientists linked the deaths of ducks to the contamination of the sites. This followed the death of 1,200 ducks alone in 1952. Stories of "dead duck removal" prior to inspection were reported in the case.

In 1960, a U.S. Army study indicated the 11 per cent of wastes deposited into the sewer system was leaking and contaminating underground water.

In 1965, a Shell executive said he saw drums of unprotected waste leaking into the soil. By 1968 Shell had piled 6,775 drums into the dump site. The U.S. Army allowed Shell to dump these leaky drums free.

In 1974, dairy calves at a farm near the site started dying and people who worked on the farm became ill with vomiting, sores and loss of hair.

The jury consultants report indicated that the key theme was the pattern of evidence, and the main theme was "expected or intended" dumping. One witness, Mr. Knaus of Shell, was so thoroughly discredited in cross examination that they were unwilling to accept the credibility of any part of his testimony in support of Shell.

The jurors also failed to agree that Shell had permission to use the site for waste disposal. Indeed, there was a clause in the lease saying Shell should not pollute. The dead ducks were also an important point which indicated, to the jury, that Shell wished to "bury its head in the sand".

The Shell profit motive was also an important consideration for the jury.

This case is subject to appeal, and further developments are awaited. This process may take several years.

8.4 U.S. Government Organisation

Prior to 1971, the only powers on the statute were the 1965 Clean Air Act and provision for general nuisance and trespass.

The Environmental Protection Agency (EPA) was created in 1971 in response to the concerns voiced in relation to pollution.

In 1980, the Comprehensive Environmental Response, Conservation and Liability Act (CERCLA) was passed. This act imposed potential liability on anyone who deposited, transported or created any of the toxic materials found at abandoned toxic waste sites. Such people were known as Potentially Responsible Parties (PRPs). The act also required the EPA to remedy hazardous sites by:-

- a) forcing PRPs to clean up sites (by injunction)
- or b) cleaning up directly and recovering the costs from PRPs
- or c) Suing PRPs for damage to the environment.

The Act also provided a fund (Superfund) to enable the EPA to investigate and remedy the sites, and to meet the shares of PRPs who could not be found or were insolvent (the "orphans' shares").

In 1986, these powers were extended under SARA (Superfund Amendment and Reauthorization Act) which tightened up CERCLA, provided more financial assistance for pollution control, and entitled communities to have a "right to know" what hazardous materials were being produced/stored/ emitted by local businesses.

CERCLA comes up for re-authorization in 1991, and negotiations are in progress to extend its powers and those under SARA, the RCRA (Resource Conservation and Recovery Act for existing and currently used sites) and the Clean Air Act, beyond 1991.

It is proposed to up-grade the EPA to a US Cabinet Department in the near future in order to strengthen US environmental protection efforts.

In 1980, 50 people were employed by EPA to police pollution in USA. This number is now over 2,000. Active waste sites are more carefully controlled.

In addition to these Federal statutes and the EPA, many states have their own statutes and enforcement agencies, often called the Department of Natural Resources (DNR).

8.5 USA Pollution Problem

Pollution claims cover a wide range of situations, are subject to a wide range of legal and factual disputes and involve a large number of American companies, jurisdictions, policy wordings and coverage profiles. Already, different courts are giving different decisions on essentially the same legal questions, so we are unlikely in the near future to end up with a consistent legal framework for pollution litigation throughout the US. Many decisions depend very heavily on the specific facts of the case, so it is likely to be quite some time before clear guiding principles emerge, even in any one of the 50 US States. A brief description of the main legal issues is included in the Appendices.

Many of the coverage issues are inter-dependent, so that the consequences of a decision on one issue may depend on the outcome of another. For example, one or more variants of the pollution exclusion is currently challenged by insureds as being ambiguous. If the courts uphold the exclusion, then those policies which contain it will usually make no payment. However, unless all potentially triggered policies contain the exclusion, the insured is likely to argue that he can recover his whole loss from the earlier, unprotected policies. If the courts agree, the earlier policies will pay more than they would have done had the pollution exclusion failed. Moreover, the loss may penetrate excess layers of coverage which, prior to the decision, were deemed to have no liability.

The only general statement you can make about pollution is that you cannot make general statements about pollution.

Quite apart from the legal uncertainty, there are often several quite different estimates of the cost of cleaning up any given site. The doctrine of joint and several liability makes it difficult to predict accurately the share that any given insured may have to bear. There are estimated to be up to 400,000 abandoned toxic waste sites in the US, and so far just over 1,000 are on the National Priority List (NPL), of which only about 30 have been cleaned up. There is thus considerable uncertainty about the unreported liability. Even if all sites and PRPs were known, there would still be uncertainty about what coverage had been issued. Many of these claims date back several decades, and even direct insurers may not have complete records of all policies written over the entire period. For reinsurers, even if they have full records of their reinsurance issued, they are still dependent on their cedants for details of original policies. The LMX market, of course, has its own problems.

The Office of Technology Assessment estimates the overall cost of cleaning up toxic waste sites at around \$500BN. This does not include defence expenses, Declaratory Judgement Action (DJA) costs, third party claims, ongoing monitoring or the possibility of punitive damage awards. It does, however, exceed the combined capital and surplus of the US insurance industry.

Under the proposed Department of Environmental Protection Act, a Centre for Environmental Statistics will be created to oversee the collection of such data.

8.6 Non-USA Pollution Problem

- a) Outside the USA, pollution costs go largely unreported in the media. However, there is growing awareness of the problem in Europe, and the situation is likely to deteriorate substantially in Third World Countries.
- b) There has been recent European Community activity regarding environmental pollution, and a "Green Bill" is being passed through the UK Parliament at the time of writing. The Government published its Environmental Protection Bill (to tackle pollution) on 20th December 1989. It introduced new pollution control systems and stiffer penalties for pollution, and completed the overhaul of pollution control systems that began with the Water Act 1989.
- c) There are large industrial areas in Europe that have been active for most of the 20th Century. There are certainly considerable numbers of pollution sites:-

Midlands & North of England, Ruhr and Rhine valleys, some areas of Belgium and Holland,...
- d) Serious incidents have been limited to date:- The village of Lekkerkerk in Holland (US\$70M), Unna in West Germany, Roissy and Garonne Basin in France.

8.7 Coverage

Insurers generally maintain that clean-up costs for gradual environmental pollution losses were not intended to be covered by comprehensive general liability policies. Some explicit attempts were made in the policy wordings in later years to clarify the exclusion of such losses.

When some policies were found by certain U.S. Courts to be liable to pay such losses, against the intent of both parties at the inception of the policy, problems of claim definition arose. Whereas for a sudden event the date of loss is not normally an issue, for these latent claims the pollution may have occurred over a number of years. Hence different trigger of coverage theories have emerged:

- a) Exposure - policies in force during the period that the plaintiff was exposed.
- b) Manifestation - policies in force when the problem was first discovered.
- c) Injury in Fact - where proof of injury is established on a case by case basis, all policies in force when damage in fact results.
- d) Continuous Trigger - all policies from exposure to manifestation.

A recent development has been the suggestion that the Personal Injury extension of the CGL policy may provide indemnity. This is a complex issue in its own right, and has yet to be tested in the US Courts.

8.8 Specific Reinsurance Problems

Whereas the insurer is concerned about the coverage of the insured, the reinsurer has concerns about the aggregation of claims. The method of aggregation used has a dramatic effect on the claims payable by the reinsurer. If one site constitutes one claim, then he is far more likely to be called upon to pay than if a claim is determined to be per site, per underwriting year, or even per dumping.

9. RESERVING FOR ENVIRONMENTAL POLLUTION

9.1 The Problem

In most projections of losses, we have some prior history of loss development. We assume that this can give some guidance to the future, albeit with allowance for other factors. However, for environmental losses there is no past development, but there may be future losses. At best, there will be legal expenses of various types; at worst, substantial indemnity payments and expenses.

The concerns of insurer and reinsurer will differ in some respects, but the underlying problem of lack of data and uncertainties as to the outcome of court legal actions are common to both.

9.2 Reserves for Known Involvement

The results of the survey (Appendix X) suggest that the most common approach to reserving for known involvements is to adopt the "reserve potential" provided by the US Attorney. As coverage for claims that do not fall within stated coverages is being denied, it is clear that this is not an attempt to estimate the likely cost of known claims, but a convenient device to build a "fighting fund" to meet the cost of the Declaratory Judgement Actions (DJAs).

The basic approach to calculating the "reserve potential" is to estimate;

- a) the cost of cleaning the site
- b) the costs of third party claims and defence thereof
- c) the insured's share of those costs
- d) the number of years from first dumping or operation to first discovery of escape of toxic substances
- e) the costs of defence of the insured
- f) the costs of representation at, and preparation for, the DJA.

The total is spread over all years which are properly engaged, regardless of defences or pollution exclusion clauses, and the shares of primary and excess carriers worked out on the basis of the insurance profile.

It is tempting to imagine that this process gives a maximum possible liability in the event of losing all the arguments. Unfortunately the "reserve potential" does not represent an upper limit from which savings will be made if certain issues are won. For example, if the pollution exclusion is upheld, but the insured is allowed to recover his whole loss from the other policies, then the loss to those policies may be greater than the "reserve potential", and higher layer policies may be affected which have not yet been identified as being involved.

9.3 Addressing the Problem

The actuary cannot merely present these problems as an excuse for not producing a reserve. He may have access to some information that can be of help.

a) Monitoring Paid and Outstandings.

Subject to the problem described above, figures will probably be available by underwriting year and perhaps by type of pollution claim (as mentioned in section 8.2). It is helpful to provide details by insured and also by ceding company. In the case of a London Market company or Lloyd's syndicate, information should be split between direct business, LMX and other reinsurance.

As well as the indemnity costs, the legal expenses of pollution may be considerable. The monitoring should enable a split between the two to be available.

Just as important is the monitoring of outwards reinsurance recoveries. For reserving on a net basis, the ability of the reinsurers to pay is crucial. If substantial asbestos and pollution payments are to be met, some reinsurers will not be able to pay!

However, until data have been gathered and more losses incurred, normal statistical approaches cannot be employed.

b) Exposure Approach.

An attempt can be made to estimate the exposures for known PRPs under direct and facultative business, but records of very old policies may be missing or incomplete. Moreover, we may have yet to be notified of all the PRPs we insure, and there may be a significant IBNR problem.

For excess loss business, the problem is even more difficult. The required data are at least one step removed. Once known polluters have been advised to the reinsurers on a precautionary basis, some judgement can be used to produce a specific individual reserve.

On proportional business, the reinsurers may be given very little information. A good cedant may be helpful, but it is likely that only on loss notification will a reserve be available.

Exposure measurement may be full of uncertainty, but before data have developed it may be the only assistance to projection of pollution losses.

c) Decision Theoretic Approach

One suggestion for estimating the possible cost of reported claims is to model the uncertainty in the various legal issues, and make explicit assumptions about the probabilities of the possible outcomes. A worked example is included in the Appendices, based on a purely hypothetical example.

This approach can react quickly to emerging court decisions, and, using simulation techniques, can give a full probability distribution of possible reserves. The IBNR problem, however, is not addressed by this approach.

d) Comparison with Asbestos BI Claims

It is tempting to compare pollution claims to asbestos bodily injury claims, and in the short term this may be an acceptable option. However, the two types of claim have very different characteristics and are not really directly comparable. There are two main facets to this:-

(i) Different Development Patterns

Asbestos injury claims are comparatively simple and homogeneous:

there are only a few identifiable diseases.

many are traceable to breathing asbestos fibres.

there were only a few major suppliers of asbestos.

there was limited coverage litigation, and that was concerned mainly with number of claims and trigger issues, not with denial of coverage.

the legal position became clear, and is thought to be relatively uniform across all States.

a claims handling "Facility" was established to try to reduce the legal costs.

Pollution claims on the other hand are complex and heterogeneous, and coverage may be in dispute. There are also practical limits to how fast the sites can be cleaned. Thus pollution claims may not develop at the same rate as asbestos injury claims.

(ii) Different Shares

Most of the cost of asbestos injury claims is coming from a small number of major asbestos producers. The general view is that most or all of the available cover will ultimately be used. Thus the asbestos BI problem is characterised by total loss claims on most affected policies. This gives the maximum possible share to the excess carriers and reinsurers.

Pollution claims, on the other hand, are likely to involve a large number of separate sites and insureds, and exhaustion of insurance coverage is not regarded as the most likely outcome. Thus a larger proportion of the insured cost of pollution is likely to fall on the primary insurance market, and less on excess carriers and reinsurers.

In the short term, however, there may be no better alternative, and a development graph is included in the Appendices to assist with this approach. In the absence of better information, we suggest asbestos be regarded as starting in 1980 and pollution in 1985.

e) Rules of Thumb

Other more basic methods are being used in practice, (eg. IBNR equal to incurred or outstanding, or equal to the increase experienced in the last x years). A worked example appears in the Appendices.

f) Other Possible Outcomes

Some US insurers have made suggestions, including a levy that could be introduced on future comprehensive general liability, or even on commercial property, policies. This fund, and not past years' policies, would pay for the cost of clean-up. Hence, no reserves may be required!

9.4 Justifying the Solution

Clearly, with the lack of data and with many court decisions pending, the application of standard projection methodologies is rendered inappropriate.

However, for reasons of equity, taxation, reporting, etc., some method must be used. If the method has reasoned argument and some logic, then it would seem sensible to use that method rather than to give no assistance at all.

9.5 Conclusion

The uncertainties surrounding environmental pollution mean that no definitive answer to the question of how to reserve is available. However, the magnitude of the problem is clearly immense.

10. FUTURE WORK

The reader who has reached this far and who has also read Appendix II, Terms of Reference, will realise that there is much work still to do. Some of our objectives have been achieved in part, whilst an important objective relating to taxation is not yet within sight. However, we attach a copy of a Lloyd's Market Bulletin on taxation as Appendix XI, which may be of interest.

There is clearly more to do on techniques of reserving, but a necessary condition to significant advance in certain areas (such as environmental pollution and asbestos property claims) is a clearer picture on the legal issues. It also became apparent that many practitioners would benefit from regular briefing at an appropriate level on the development of these issues.

Over 50% of the respondents to our Survey of Development and Reserving Practices have confirmed that they would be willing to provide further information, including details of actual claim developments.

When this paper is discussed at GIRO, the Working Party will welcome any suggestions for the appropriate next steps. Possibilities that have occurred to us include:-

Do nothing

Institute to organise occasional briefings by qualified lawyers

Reconvene a similar Working Party to do more of the same, the terms of reference to depend on feedback to this report.

Organise some industry-wide collaboration on data and methodology, perhaps along the lines of the CMIR (Continuous Mortality Investigation Report).

APPENDIX I

Latent Claims W.P. Members

	John Beck	W.P. Leader	
<u>General Group</u>	John Lockyer David Craighead Colin Crouch Haidee Pickton Richard Wilkinson		Leader
<u>Asbestos Group</u>	Graham Lyons Dewi James Hugh Rice Martin White		Leader W.P. Secretary
<u>Pollution Group</u>	Colin Czapiewski Harold Clarke Peter Copeman David Sanders		Leader

APPENDIX II
LATENT CLAIMS WORKING PARTY
TERMS OF REFERENCE

In order to focus our attention, we set ourselves the following objectives:-

1. Identify and describe the main types of latent claims.
2. Research the most important types of latent claims, and prepare position papers.
3. Identify and list sources of information and other interested organisations.
4. Describe the main approaches to reserving for latent claims.
5. Provide information and argument to support tax relief for reserves for future latent claims and for those which have been identified but remain very uncertain.
6. Propose a working definition of "Latent Claims".

APPENDIX III

Historical Development of Asbestos Usage

The contemporary growth of asbestos usage follows the industrial development of the western world. It was first used in a serious commercial way from about 1850 as a sealant in steam engine pistons because of its resistance to water, heat and friction and its insulating and sealing properties.

As early as 1898 specific mention was made of the damaging effects to the health of asbestos weavers caused by the dusty working conditions, but generally asbestos was not differentiated from other minerals in its harmful effects.

By 1918 an actuary, F. Hoffman, working for the Prudential of America, produced a work entitled "mortality from respiratory diseases in dusty trades", concluding that asbestos workers should be declined life insurance cover.

Deaths attributed to asbestos dust were becoming well documented by around 1927, which was when the term "asbestosis" seems to have been coined. By 1931 there were prescribed working practices established for asbestos producers in the UK, although none emerged until much later in the US.

In 1928 a Dr Lanza of Metropolitan Life made a more detailed study of the health impairment of asbestos workers, according to duration of exposure.

His conclusion was, roughly:

Years exposed	Proportion showing some Respiratory damage
< 5 years exposure	43%
5-10	50%
10-15	58%
> 15 years	87%

These results were published in 1935.

With the widespread recognition of the harmful effects of asbestos, why was so little done and why did claims for damages only really emerge in a serious way from the mid/late 70's? (Note that in 1970 the world production of asbestos was about 4 million tonnes).

Workers' compensation schemes were geared to provide cover against incidents with specific loss dates. It was not intended to cover claims with the degree of latency of asbestos related claims. The only mechanism for compensation was through common law, claiming that the employers were being negligent. There were some suits along these lines, but few succeeded in the early days. As time went on there were increasing numbers of claims under workers' compensation schemes, as there still are today.

From the public health perspective, doctors were concerned less with unhealthy environments than with the health of individuals. Particular concern existed over the spread of infectious diseases such as TB and pneumonia, and although asbestosis sufferers may be prone to these diseases, asbestosis itself is not an infectious disease. In any case, it was regarded as less damaging than other prevalent industrial diseases such as silicosis.

Greater awareness of the problem began in the US at the end of the 1930s. This was driven by the upward drift in employment costs following the lean depression years. Increased labour costs reflected higher salaries and the introduction of group insurance schemes. Skilled workers in particular saw much higher living standards during this period. The insurance companies offering group life and health cover would have been careful to monitor the schemes' experience and ensure that the premiums charged were adequate. This produces a trend towards more sanitary working conditions.

Throughout the 40's and 50's, production of asbestos based products continued, with the greatest exposure to workers probably during these years. A rough estimate suggests that upwards of 5 million workers and members of their immediate family might have been exposed over this period. A significant number of merchant seamen and dock workers were exposed in naval shipyards during the war years.

The Dreesen study in 1938 recommended that exposure should be limited to 5 millions of particles of dust per cubic foot (or 185 particles per cubic centimetre) in any one year, but emphasised that more research was needed. This level remained the benchmark until the late 60's, although it was not strongly enforced.

The first recognised definitive study of the harmful effects of asbestos was the Selikoff study in 1964, which established that the then widely accepted level of exposure to asbestos fibres was injurious. After the publication of this report, it became normal for asbestos producers to issue protective clothing and health advice to asbestos workers, although it is debatable how widely this wisdom was applied. This somewhat lax approach was the result of the more or less self regulating nature of US companies until the passage of the Federal Occupational Safety and Health Act in 1970. In 1971, the first mandatory exposure limits were imposed at 12 fibres per cubic centimetre, falling to 0.2 fibres per cc over the next 10 years.

The increased awareness of asbestos related diseases is partly attributable to the background of generally improving public health and in particular the almost complete eradication of tuberculosis after the introduction of streptomycin and BCG inoculations in the late 40s and early 50s.

As more became known about the harmful effects of asbestos, its apparent carcinogenic properties, and of course the sheer scale and economic cost potential of the problem, so the legal process developed. Claims for damages under workmen's compensation schemes increased and there was a growing realisation that substantial claims might be made under the products liability sections of producers' CGL insurance policies, with the potential for very substantial punitive damages.

It was also during this period that the first major wave of the asbestos workers exposed during the 40s and 50s were showing signs of pulmonary injury, so heightening awareness in the public eye. Claims for bodily injury damages from these workers really hit the US around 1980, and by 1982 there were at least two major asbestos products producers filing for bankruptcy, namely Johns Manville and UNR Industries of Chicago.

The first major wave of bodily injury claims hit the London market around 1982. The delay in recognition of claims in the London Market and in Europe is due to the fact that the London Market is mainly an excess and reinsurance carrier and to legal process and establishment of guiding philosophies and legal theories of trigger of coverage and number of claims. The different definitions and interpretations possible affect the primary insurers, excess insurers and reinsurers differently.

The latest major legal development has been the AHERA (Asbestos Hazard Emergency Response Act) legislation affecting asbestos in property. Essentially it mandates the removal of friable asbestos from schools. There is at present no statutory requirement to remove asbestos from other types of buildings, although the EPA were required to survey all public and municipal buildings. However, some buildings owners have voluntarily removed asbestos and are claiming compensation from the producers, or, in some cases, the architects. The legal position of this issue is not generally crystallised, but the potential could exceed that experienced for injury claims.

There is no sign of any reduction in the filing of new bodily injury claims which currently run at about 2000 a month. The principal occupations currently involved in litigation are:-

1. Shipyard workers
2. Insulation workers
3. Construction workers
4. Tyre workers
5. Railway workers (claiming against their employers under the FELA legislation)
6. Steel workers

Items 4-6 are relatively new groups.

It has been estimated that there were over 13 million workers and families exposed to asbestos between 1940 and 1980 (Dr I G Selikoff), and that about 9 million of these were still alive in 1981.

APPENDIX IV

Reserving for Asbestos Related Claims

Introduction

This note describes an approach being used by one London Market Company to estimate the ultimate cost of US product liability asbestos related claims. The US situation is unique in 2 respects:

1. The ease with which injured parties can obtain compensation
2. The fact that employees are claiming against the producers of asbestos or asbestos containing materials, rather than their employers.

Those employees subject to the Federal Employers Liability Act (FELA) are in fact claiming from their employers, as these claims are not subject to the same limits that apply to other workers' compensation claims.

The Approach

Because the bulk of the claims are being made as product liability claims against the asbestos producers, they are being made under a section of the policy which is normally subject to an aggregate limit for all product related claims in a given year of insurance. We can use this feature of the insurance coverage to estimate the maximum loss to the insurance company. There are, however, a number of other features which complicate the picture:

1. Most primary policies and some excess layer and reinsurance policies specify their limits in terms of the amounts paid in compensation to third parties. Amounts paid to defend the insured against those underlying claims are often in addition to those policy limits, and are not subject to any independent limit.
2. Normally these defence expenses will cease on exhaustion of the indemnity limit, but before 1966 the primary policy may have an unlimited duty to defend.
3. Many of these claims date back very many years, and the insurer may not have complete records of all of the policies issued in the early years. In some cases the current generation of management discovers the existence of an old policy only on receipt of a claim notification against it.
4. At the reinsurance level, even if the reinsurer has complete records of the treaties and facultative policies that he issued, he is still dependent on his cedant's advising him which direct policies the cedant has issued.
5. In the LMX market, it is often impossible to trace the full chain of retrocession, reinsurance and insurance down to the original producer.

6. Many old reinsurance and LMX policies provided free and unlimited reinstatements, so there is no theoretical upper limit to the potential liability, although there is a limit for any one loss (or any one original insured if the Treaty has an aggregate extension clause).
7. At the reinsurance level, there can be uncertainty about whether bodily injury and property damage claims should be aggregated and set against one policy limit, or whether they constitute two separate types of claim for which the reinsurer must provide 2 separate limits.

Implementation

1. A new computer system was written to record details of policies and treaties exposed to asbestos claims. This provides for information beyond that required for the normal computer system, and caters for policies issued prior to the introduction of the existing computer systems.
2. Details of identified policies and treaties were entered on this new database.
3. In the case of reinsurance treaties, details were requested from the cedant of the limits, deductibles and certain conditions of their original policy. This information was entered on the new computer system so that information about both direct insurance and reinsurance could be assembled for any given original insured (asbestos producer).
4. When a claim was notified which identified the existence of a policy not previously recorded, enquiries were made about whether that policy had been renewed from previous years, or continued into subsequent years. In addition, enquiries were made about whether higher layer excess policies were written for the same insured or for the same cedant. In this way information about the exposures written was extended ahead of the notification of claims.
5. The maximum limit of liability for any given contract was assessed by reference to the policy limit, or, in the case of reinsurance, by reference to the limits of the policies written by the cedants.
6. In the case of LMX, the assumption was made that most major producers would eventually give rise to a total loss to the LMX contract, but that in general the LMX contract would sit high enough in the reinsurance programme that minor producers would not produce claims large enough to penetrate that level. An estimate was made of the number of major producers expected to penetrate to the level of reinsurance concerned.
7. The producers against whom claims were notified were classified into 3 bands, depending on their perceived potential for further claims. The top band was clearly the major producers who feature in so much asbestos litigation.
8. This information was summarised by type of producer, type of claim (BI or PD), type of policy and year, and the resulting exposures compared with the paid and reported claims cost to date.

9. Both exposure and claims information were passed through the reinsurance programme to generate equivalent net exposures and claims figures.
10. Judgement was then exercised, in the light of this information, about whether all of the exposures in the category concerned would ultimately become fully burned, or whether the claims would stop developing at some stage intermediate between the present reported loss and the ultimate maximum loss.
11. The rate of development of reported losses within each category is then monitored to see whether the rate of progression is consistent with the assumed level of the asymptote.
12. In the case of LMX, the number of producers generating claims under the LMX treaty is also monitored to see whether the rate of development is consistent with the number of total loss claims being assumed in the ultimate estimate.
13. In addition, the rate at which new exposures are revealed by the notification of new claims is also monitored to see whether the company's information about exposures is reasonably complete, and, if not, an estimate is made of how much additional exposure may come to light.

Conclusion

It is felt that this information base and form of analysis provides a framework within which estimates can be made of the ultimate cost of claims in this portfolio, and those estimates compared with the emerging development of claims costs to assess the reasonableness of the assumptions being made. It is felt that this approach could be adapted for use in other areas of claim reserving which are not susceptible to traditional triangulation methods.

APPENDIX VU.S. Pollution Litigation Issues - DescriptionIntroduction

This appendix describes our understanding of the key issues affecting pollution claims. We specifically refrain from comment on the merits of the arguments described.

The Key IssuesA. Coverage Defences

Insurers maintain that most types of pollution claims are not covered, and do not give rise to a duty to defend. The main arguments are these:-

1. "Damages" (Property Damage)

Insurers maintain that CERCLA response costs are not "damages" within the meaning of the CGL policy, and hence neither indemnity nor the duty to defend is triggered. A variant of this coverage defence is that the liabilities insured are not because of "property damage" as defined in the policy. This defence is based largely on the particular provisions of CERCLA, which gives three remedies:

- a) Injunction (the EPA instructs the PRP to clean up);
- b) The EPA can commission clean-up directly, using Superfund, and seeks recovery from the PRP;
- c) Bodies other than the EPA can claim against the PRP for damage to the environment.

2. "No Suit"

Without prejudice to the above argument, insurers also maintain that a PRP letter or similar request to clean up a hazardous waste site does not constitute a "suit" and hence does not trigger the duty to defend.

3. "Occurrence" ("Expected or Intended")

In most pollution cases we are dealing with intended acts, although it is claimed that unexpected and unintended consequences of deliberate acts are covered. However, in some situations insurers believe that the consequences were not unexpected or unintended. This coverage defence can apply to any kind of claim, not only clean up costs.

4. Own Property Exclusion

In many cases insurers maintain that the property alleged to be damaged is owned by, or in the control of, the insured, and hence is not covered by a CGL policy. However, some courts have expressed the view that groundwater is communal property, not owned by the landowner, and some maintain that clean-up required to prevent further migration of toxic materials or contamination of water supplies is covered by a CGL policy.

NOTE

The following coverage defences are specific to the wording or circumstances of a particular policy. They deny coverage for a specific policy, but not necessarily for all policies.

5. Pollution Exclusion

These clauses were an attempt to clarify and make specific the insurers' general contention that improper storage or disposal are uninsurable business risks, whereas genuine accidental spills or bursts are legitimate claims. There are several variants of the pollution exclusion clause. The two main standards are the I.S.O. (U.S market) and N.M.A. (London market). They were introduced in the early '70s.

6. New (or Absolute) Pollution Exclusion

Some courts held that the pollution exclusion was ambiguous or ineffective, and this led insurers to exclude all pollution claims in the absolute pollution exclusion. This was introduced in the early '80s.

8. Known Loss (Loss in Progress)

Insurers contend that policies which begin after the loss has been discovered do not insure that loss, on the grounds that you cannot insure a burning building.

8. "Personal Injury"

"Personal Injury" is an optional extension to a standard CGL policy, and one in fairly frequent use. Insureds whose policies include that extension maintain that it can provide coverage for "environmental" or "toxic tort" claims.

The main planks of their argument run as follows:

- a) The pollution exclusion does not apply to the personal injury extension.

- b) The coverage is based on an "offence" rather than an "occurrence" and hence the "expected or intended" defence is irrelevant.
- c) Many of the complaints against the insured allege offences such as trespass or nuisance, which the insureds argue are covered by the extension.
- d) The insurer has a duty to defend, even if the allegations are false or fraudulent.

C. Allocation Issues

In the event that coverage does apply to a particular claim, there are a number of issues which affect how the loss is allocated between the various parties involved: insured, primary insurer, umbrella (excess layer) insurer; and reinsurers.

1. Number of Claims

The question of what constitutes one claim depends entirely on the facts of each case, and can be very hard to determine. However the number of claims determines the number of self-insured retentions (SIRs) the insured has to bear, the number of policy limits the insurer may have to pay, and the stage at which excess carriers and reinsurers are called into play. This issue interacts with the others below.

2. Trigger of Coverage

Most situations giving rise to pollution claims are not sudden events, limited in time and space, but ongoing processes covering many years. In such situations we need to decide which, if any, periods of coverage are triggered. There are three common theories:-

- a) Manifestation - only the policy in force at the time the occurrence is first discovered is triggered.
- b) Injury-in-Fact - an attempt is made to determine when actual physical injury or damage is done, and all policies in force at those times are triggered.
- c) Exposure - all policies in force during the operations giving rise to the claim are triggered.

3. Stacking (Spreading)

If a continuously operating occurrence is deemed to trigger more than one policy period, can the insured claim up to the full policy limit from each policy, or is he restricted to one limit for one occurrence? The "Keene" decision treated asbestos bodily injury as a continuing occurrence triggering all policies from first exposure to manifestation, and the insured could elect which policies should respond.

D. Additional Excess Layer Issues

1. Exhaustion by Layers or Years

Where there are multiple claims on multiple years of cover, the choices open to the insured can exhaust one year's primary cover before the others. In this case, can the insured recover subsequent claims from the excess layer policy (exhaustion by year) or must he select unexhausted primary cover years first (exhaustion by layer)? Decisions on this issue are split.

2. Duty to Defend

Unless explicitly excluded, excess carriers are usually not required to pay defence costs until the underlying layer has been exhausted. After 1966, policy wordings usually made it clear that duty to defend expires on exhaustion of indemnity limits.

3. "Drop Down"

Depending on the exact policy wording (and the jurisdiction) an excess layer direct insurer may be required to "drop down" and take the place of an insolvent primary or lower layer insurer.

4. Good Faith

Many courts hold that the insured and the primary insurer both owe a duty of good faith to the excess carrier.

5. Settlements below Primary Limits

In normal circumstances, an excess layer (umbrella) insurer could not be called upon to pay until the primary insurer had paid his policy limit. However, where there are coverage disputes affecting large claims, the insured may agree to accept less than the full policy limit in settlement rather than litigate the dispute. In these circumstances, excess layer insurers may argue that the insured has no claim against them, since he has not exhausted his primary coverage. The insured will clearly argue the converse.

E. Additional Reinsurance Issues

1. Site Clause

Some cedants are trying to aggregate all their losses at one toxic waste site, from several different insureds, on the basis of the Site Clause in the reinsurance wording. This basis of aggregation is currently being contested, and as most reinsurance policies have an arbitration clause, it should be decided in arbitration.

2. Late Notice/Adequate Notice/Update

Normally, late notice relieves the reinsurer's obligation to indemnify. In some States prejudice need not be shown.

3. "Follow the Fortunes"

Reinsurers are normally bound by a good faith settlement pursuant to the underlying contract. However the reinsurer need not pay if there is no coverage or where the settlement exceeds the reinsurance limit. The key features are:
REASONABLE, COMPETENT, GOOD FAITH.

Reinsurers may be required to follow intent rather than language.

Self-insurance can be included as "underlying insurance".

4. DJA Costs

There is disagreement about whether DJA costs can properly be regarded as claims expenses by cedants. (DJAs, Declaratory Judgement Actions, are lawsuits between insured and insurer to resolve disputes about policy coverage).

APPENDIX VI

Environmental Pollution Reserving Example

Data

The data were available gross of excess of loss reinsurance but net of proportional reinsurance. Allowance for excess of loss recoveries is made separately. Summaries of paid and outstanding claims data by insured and year when any site was first notified by the insured were also available.

Methodology and Results

Projections of claims from insureds, who have already notified sites, were made using a link ratio approach. Claims arising from ABC Corporation are considered exceptional and not representative of expected future notifications. As a result, claims from this source are projected separately. The results of the projections are summarised in Table 1 below.

TABLE 1

	Outstandings as at 31st December 1989	Projected ultimate future claims for insureds with claims notified as at 31st December 1989
	\$000s	\$000s
ABC Corporation	7,311	10,553
Other insureds	<u>5,631</u>	<u>7,741</u>
Total	12,942	18,294

In order to make allowance for new insureds notifying claims, the following pattern of recent years' notifications (including ABC Corporation) was considered:

<u>Year</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Total</u>
Number of New insureds notifying claims	3	2	5	6	12	11	39

It is not obvious how to project this pattern into future years. However, a reasonable projection is considered to be based on a further 10 years notifications at the level of the average of the four most recent years. The average number of insureds notifying over 1986 to 1989 is 8.5 per year. Ten years at this level gives a total of 85 new insureds.

Excluding ABC Corporation the total projected ultimate claims cost for insureds with claims notified is \$380,000 (paid) + \$7,741,000 (future payments) = \$8,121,000. Thus the average ultimate cost is $\$8,121,000/38 = \$214,000$ per insured. The reserve for claims from new notifications is therefore $85 \times \$214,000 = \$18,190,000$. This gives results as summarised in Table 2 below.

TABLE 2

Estimated Reserve Gross of Excess of Loss Recoveries

	\$000s
ABC Corporation	10,553
Other known insureds	7,741
IBNR	<u>18,190</u>
Total	36,484

Excess of Loss Reinsurance Reserves

The reinsurers who provided excess of loss cover are currently not accepting any liability for pollution claims. If UK courts adopt the opposite position from that currently being adopted in the USA then the insurer will be liable for the gross claims. Table 3 below shows the potential excess of loss recoveries ("PXLR") based on outstanding claims as at 31st December 1989.

TABLE 3

	Gross of PXLR	Net of PXLR	Potential Percentage Recoverable
	\$000s	\$000s	%
ABC Corporation	7,311	2,299	69
Other insureds	<u>5,631</u>	<u>3,439</u>	<u>39</u>
Total	12,942	5,738	56

Table 4 below shows the reserves net of excess of loss recoveries assuming the potential percentages recoverable apply to all reserves. There are a number of reasons why it is unlikely that all potential recoveries will be made. As a result figures assuming only 50% of potential excess of loss recoveries are realised are also shown.

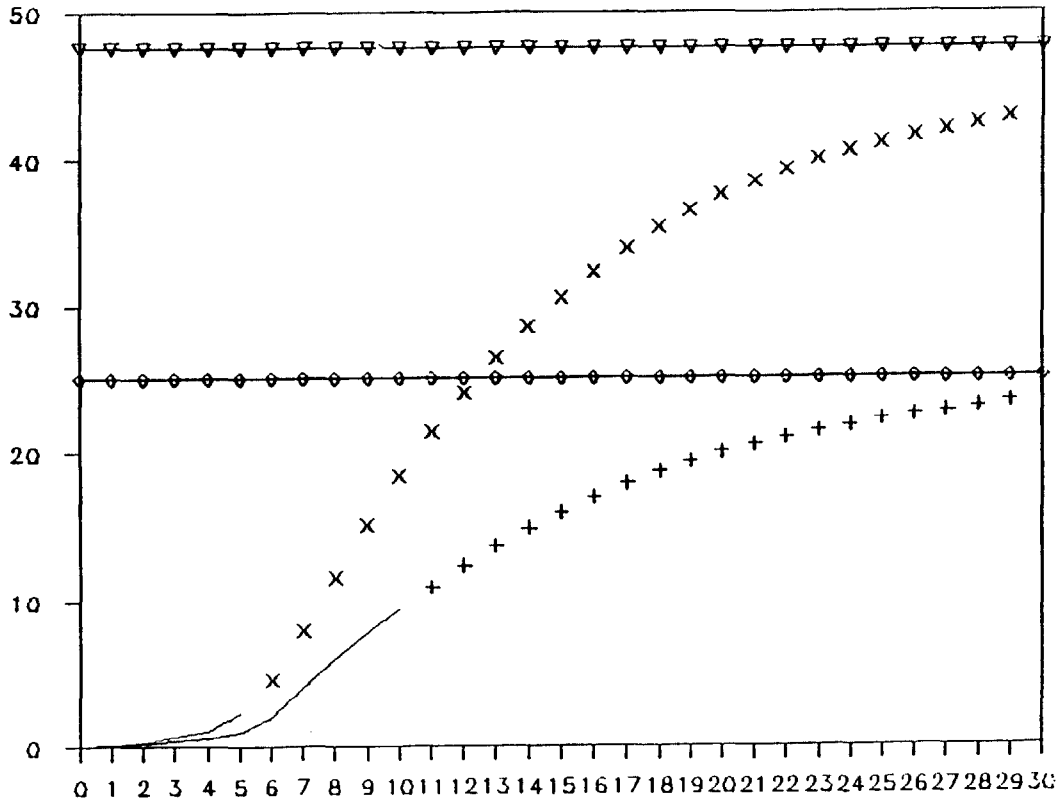
TABLE 4

Reserves as at 31st December 1989

	Gross of PXLR \$000s	Percentage PXLR %	Net of all PXLR \$000s	Net of 50% of PXLR \$000s
ABC Corporation	10,553	69	3,271	6,912
Other known insureds	7,741	39	4,722	6,232
IBNR	<u>18,190</u>	<u>39</u>	<u>11,096</u>	<u>14,643</u>
Total	36,484	48	19,089	27,787

Latent Claim Comparison

\$m's Net of Prop'l R/i



398

APPENDIX VII

-54-

— Asbestos Booked Inc

+ Asbestos Future Inc

◇ Asbestos Ullimate

APPENDIX VIIIPollution Scenario

This note has been prepared for private study only, to help develop and test our understanding of the issues and their implications. The style is deliberately flippant to discourage any other use.

Dumper Manufacturing Inc. deposited toxic waste at Isore Toxic Waste Site between 1966 and 1980. They have been served with an EPA notice, which says they have a 15% share of the cost of clean-up, estimated at \$100M.

Obviously this is not covered. We know it is not covered, the insurers know it is not covered and Dumper knows it is not covered. However, a \$15M bill will sink Dumper, so they have to try anyway, in the hope they can find a smart lawyer. Fortunately for Dumper, they are based in New Jersey, which has more than its share.

Dumper's coverage profile from 1966 to 80 is as follows:

Years of Cover	Primary Limit	First X/S		Second X/S		Third X/S		Poll Excl Clause
		LIM	DED	LIM	DED	LIM	DED	
1966-1970	750	1250	750	3000	2000	5000	5000	NONE
1971-1975	1000	1500	1000	5000	2500	7500	7500	ISO
1976-1980	1500	2500	1500	6000	4000	10,000	10,000	ABSOLUTE

One approach to reserving might be to spread the total cost uniformly over all potentially exposed policies. This gives:

\$750,000 for the 1966-70 primary policies
 \$250,000 for the 1966-70 first excess policies
 \$1M for the 1971- 80 primary policies

However, insurers will seek to convince the court that clean-up is not covered, using any or all of the following defences:

Damages
 No Suit
 Property Damage
 Expected or Intended

The consensus is that even in New Jersey, there is only a 1 in 4 chance of the court overturning the clear intention of the policy and finding cover. The insurers therefore expect to make no payment 3 times out of 4. However, on the 4th occasion, we need to consider what the costs might be.

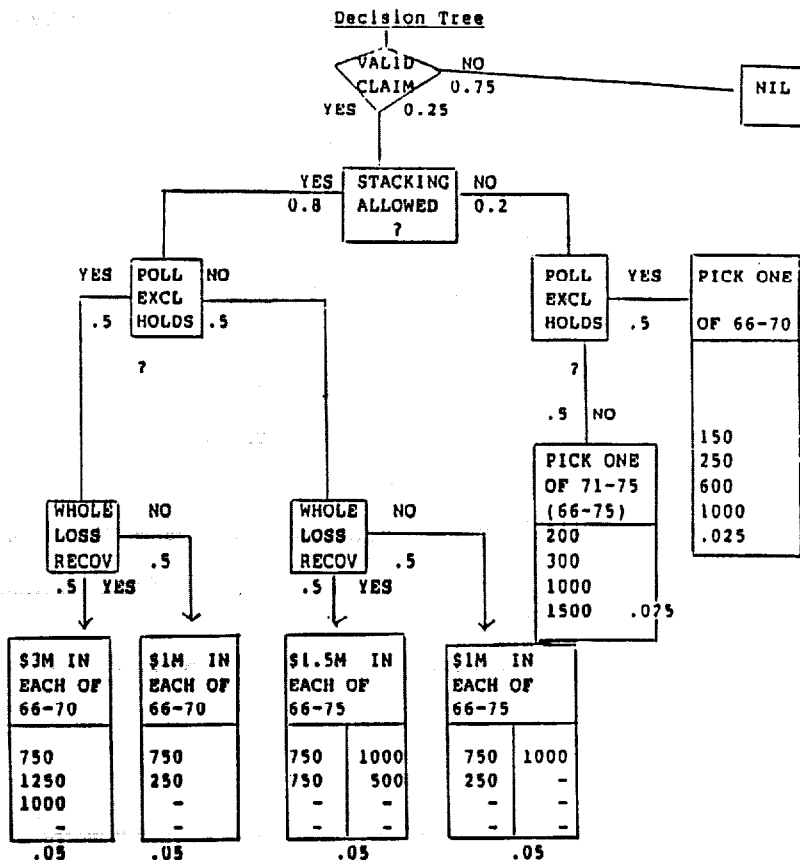
Let us assume the absolute pollution exclusion will always hold, but that the chances of the ISO exclusion being upheld in New Jersey are only 50:50. Thus the 1976-80 insurers will reduce their reserves to nil, whereas the 1971-75 insurers assess their chances of paying at 1 in 8.

The next most important question is stacking. If stacking is not permitted then Dumper can only have the benefit of one year of cover. If the ISO exclusion is upheld, this means they will not have enough cover. In any event, under this scenario, any policy selected will suffer a total loss. We assess the chances of stacking being allowed at 0.8.

If stacking is permitted, we next need to ask whether Dumper can recover the whole loss, or whether the courts will require them to meet the costs which would have been borne by the later policies in the absence of the exclusion clauses. We have no idea about this, so we guess a 50:50 chance. For this purpose, too, we assume the court will adopt a continuous trigger theory.

If Dumper has to stand in place of excluded insurers, we have the uniform spreading approach suggested above. If not, then the whole loss will be spread over the 5 or 10 triggered policies.

We can now work out the consequences on each policy:



EXPECTED PAYMENTS \$000s

<u>LAYER</u>	66-70 (ATT)	71-75 (ATT)
PRIMARY	153.75 (750)	105 (1000)
FIRST X/S	131.25 (250)	32.5 (-)
2ND X/S	65.0 (-)	25 (-)
3RD X/S	25.0 (-)	37.5 (-)
	-----	-----
	375.0 (1000)	200.0 (1000)
	-----	-----

TOTAL EXPECTED CLAIM = 375 x 5 = \$1.875M FROM 1966-70 POLICIES
 PLUS 200 x 5 = \$1M FROM 1971-75 POLICIES
 = \$2.875M

The numbers beneath each box are the probabilities, which do indeed add up to 1!

APPENDIX IX
Some Potential Sources of Information

Environmental Claims Group

Environmental Claims Reinsurance Group

Asbestos Working Party

Ad Hoc Railroad Committee

Loss Prevention Council

Institute of Occupational Medicine

Health and Safety Executive of the Department of Employment

Topliss and Harding (Market Services) Ltd

National Council on Compensation Insurance (New York)

Encyclopedia of Occupational Health and Safety (International Labour Office, Geneva)

The Pocket Guide to Chemical Hazards (US Department of Labour)

Brokers

Note that these references are given as sources where information is known to exist. However no guarantee is given of the ease with which the organisations concerned can be persuaded to part with their data!

LATENT CLAIMS

SURVEY OF DEVELOPMENTS AND RESERVING PRACTICES IN THE NON-LIFE INSURANCE INDUSTRY

A survey of developments and reserving practices in the non-life insurance industry, in respect of latent claims, was distributed to 276 insurers in the UK, including composites, specialist general insurers and reinsurers, London Market companies, and Lloyd's Managing Agents. By the middle of August 1990, 67 responses had been received, of which 50 indicated a significant exposure to latent claims. The results of these responses are summarised in the following pages.

It should be noted that, in some instances, the interpretations given to particular questions appear to have varied between respondents and, therefore, the results, as summarised, may be distorted.

QUESTION 1

Do you believe that you have, or have had, any significant exposure to the following latent claims?

RESULTS

	%
Agent Orange	37
Asbestos (Bodily Injury)	64
Other Lung Diseases	27
Asbestos (Building Claims)	48
Dalkon Shield (IUD)	22
Deafness	45
DES	40
Pollution	61
Spondylosis	3
Tenosynovitis (ULD, RSI)	10
Vibration White Finger	15
Other - <i>please specify</i>	12

These results have been derived as percentages of respondents replying.

Other latent claim types specified included:-

- Bone Necrosis
- Brucellosis
- DDT
- Dermatitis
- Tunnel Syndrome
- Lead exposure

OBSERVATIONS

- 25% of respondents have, or have had, no significant exposure to latent claims of any type. In most instances the reason for this was that the respondent only started underwriting in the 1980's.
- Of those respondents with significant exposure to latent claims, 82% have exposure to Pollution claims and 86% have exposure to Asbestos (Bodily Injury) claims.

QUESTION 2

What impact have these latent claims had to date on each area of your business?

- A *Significant*
- B *Moderate*
- C *Modest*

RESULTS

	A	B	C
	%	%	%
Direct Business			
Liability	57	10	33
Property	12	29	59
Marine	25	42	33
Aviation	38	31	31
Reinsurance Business			
Liability	59	6	35
Property	5	26	69
Marine	12	24	64
Aviation	23	8	69

For each business area the figures have been derived as percentages of respondents indicating an impact in that business area.

OBSERVATIONS

- The business area where the impact of latent claims has been most significant is for Liability on both Direct and Reinsurance business.
- All areas of business have been impacted to some degree by latent claims. Apart from Liability and Direct Marine business, respondents have generally assessed the impact of latent claims to be modest.
- The impact of latent claims on Liability and Property accounts has been very similar for both Direct and Reinsurance business.

QUESTION 3

Do you produce separate statistical information for these claim sources?

RESULTS

	%
Agent Orange	64
Asbestos (Bodily Injury)	77
Other Lung Diseases	33
Asbestos (Building Claims)	78
Dalkon Shield (IUD)	53
Deafness	50
DES	67
Pollution	80
Spondylosis	50
Tenosynovitis (ULD, RSI)	71
Vibration White Finger	50
Other	63

For each latent claim type the results have been derived as percentages of respondents with significant exposure to that claim source.

OBSERVATIONS

- The use of statistical information for Asbestos and Pollution claims is widespread. The figure for Tenosynovitis (ULD, RSI) is based on a sample which is not statistically credible.
- Only a few respondents hold separate statistical information for claim sources for which they have not identified a significant exposure.

QUESTION 4

How are claims allocated by underwriting/accident year within your database?

- A *To the year of reporting.*
- B *On a time apportionment basis, spread over a number of underwriting/accident years.*
- C *Where a period of exposure is involved: to the earliest underwriting/accident year in this period.*
- D *Where a period of exposure is involved: to the latest underwriting/accident year in this period.*
- E *As specified in the claim notification.*
- F *Other - please specify.*

RESULTS

	A	B	C	D	E	F
	%	%	%	%	%	%
Agent Orange	4	26	4	0	70	4
Asbestos (Bodily Injury)	10	36	12	2	55	2
Other Lung Diseases	16	21	16	11	47	0
Asbestos (Building Claims)	6	39	6	3	55	3
Dalkon Shield (IUD)	6	22	6	0	67	11
Deafness	10	32	10	6	52	0
DES	7	32	4	0	68	4
Pollution	7	41	9	2	59	5
Spondylosis	17	17	17	0	67	0
Tenosynovitis (ULD, RSI)	33	11	11	11	56	0
Vibration White Finger	25	25	17	8	42	0
Other - please specify	30	10	20	20	30	0

For each latent claim type the results have been derived as percentages of respondents replying to that part of the question. A number of respondents use more than one basis to allocate claims.

Other methods of allocating claims specified included:-

- by Attorney advices.

OBSERVATIONS

- The most common method of allocating claims within respondents' databases is "as specified in claim notifications". This may, however, suggest that the majority of respondents are London Market organisations (as opposed to Direct writers).

QUESTION 5

Which underwriting/accident years have been impacted by these claims?

RESULTS

	Prior Years	1950- 1954	1955- 1959	1960- 1964	1965- 1969	1970- 1974	1975- 1979	1980- 1984	1985- 1989
	%	%	%	%	%	%	%	%	%
Agent Orange	0	4	4	61	74	61	26	9	0
Asbestos (Bodily Injury)	38	50	53	65	75	65	73	70	23
Other Lung Diseases	25	50	42	58	75	83	67	42	33
Asbestos (Building Claims)	24	38	38	55	66	62	66	66	17
Dalkon Shield (IUD)	0	0	0	9	9	91	100	0	0
Deafness	23	31	46	62	73	69	62	58	38
DES	19	50	62	77	85	62	35	15	0
Pollution	25	45	55	63	68	68	78	80	53
Spondylosis	100	100	100	100	100	100	100	100	100
Tenosynovitis (ULD, RSI)	17	17	17	17	33	33	33	83	100
Vibration White Finger	11	11	11	22	22	56	67	33	67
Other	33	50	50	50	33	33	33	83	67

For each period and each latent claim type the results have been derived as percentages of respondents indicating an impact from that claim source. Many respondents have claims impacting more than one group of underwriting/accident years.

OBSERVATIONS

- The development on the most recent underwriting/accident years is likely to be relatively immature and therefore percentage impacts may be understated.
- It should be noted that the distribution of claims indicated above does not allow for the quantum of claim notifications, it only allows for the existence of claim notifications.
- The 1960-1974 underwriting/accident year period involves the heaviest impact to latent claims. This may, however, be a function of the underwriting history of the various respondents.
- All latent claims have impacted across all underwriting/accident years except for the following:-
 - Agent Orange: impacts underwriting/accident years 1950-1984 only and only one respondent indicated exposure in the period 1950-1959;
 - Dalkon Shield (IUD): impacts underwriting/accident years 1960-1979 only;
 - DES: does not impact underwriting/accident years 1985-1989.
- The experience of respondents impacted by Asbestos and Other Lung Diseases claims shows some indication of the impact of tighter underwriting controls and safety awareness in more recent years
- For those respondents impacted by Pollution claims, the periods of exposure to such claims appear to be significant from the 1950's.
- Of the respondents affected by Tenosynovitis (ULD, RSI) and Vibration White Finger claims, the impact of such claims has been concentrated on underwriting/accident years 1980-89 and 1970-89, respectively.

QUESTION 6

When were claim notifications first received?

RESULTS

	Prior Years	1950- 1954	1955- 1959	1960- 1964	1965- 1969	1970- 1974	1975- 1979	1980- 1984	1985- 1989
	%	%	%	%	%	%	%	%	%
Agent Orange	0	0	0	0	0	0	30	70	0
Asbestos (Bodily Injury)	3	0	3	0	0	3	23	65	3
Other Lung Diseases	8	0	15	0	0	8	15	31	23
Asbestos (Building Claims)	0	0	0	0	0	0	4	42	54
Dalkon Shield (IUD)	0	0	0	0	0	0	80	20	0
Deafness	5	0	5	0	0	0	9	29	52
DES	0	0	0	0	0	11	47	31	11
Pollution	3	0	0	0	0	0	8	50	39
Spondylosis	0	0	0	0	0	0	0	0	100
Tenosynovitis (ULD, RSI)	0	0	0	0	0	0	17	17	66
Vibration White Finger	0	0	0	0	0	0	14	14	72
Other	0	0	0	0	0	0	25	50	25

For each latent claim type the figures have been derived as percentages of respondents impacted by that claim source. Some respondents were unable to provide information for this question and their responses have been excluded.

OBSERVATIONS

- Claim notifications, for most latent claim sources, were first received in the period 1975-1979.
- Respondents generally received initial claim notifications for Asbestos (Bodily Injury) claims in the period 1980-1984 and for Asbestos (Building Claims) in the period 1985-1989.
- The majority of initial notifications for industrial disease type claims have been received in the period 1985-1989.
- Initial notifications for product-related claims appear to be concentrated in a ten year period (this classification would include Asbestos (Bodily Injury)) whereas initial industrial disease claim notifications appear to be spread over a wider period.

QUESTION 7

Is the incremental incurred (paid plus outstanding excluding IBNR) development of such claims:-

- A *Accelerating?*
- B *Decelerating?*
- C *Stable?*

RESULTS

	A	B	C
	%	%	%
Agent Orange	8	33	59
Asbestos (Bodily Injury)	51	13	36
Other Lung Diseases	47	15	38
Asbestos (Building Claims)	64	3	33
Dalkon Shield (IUD)	7	29	64
Deafness	74	4	22
DES	27	19	54
Pollution	94	3	3
Spondylosis	0	0	100
Tenosynivitis (ULD, RSI)	50	17	33
Vibration White Finger	63	12	25
Other	80	0	20

For each latent claim type the results have been derived as percentages of respondents indicating a response to that part of the question.

OBSERVATIONS

- Almost all respondents impacted by Pollution claims are experiencing accelerating incremental incurred development of such claims.
- Asbestos (Building Claims) and Deafness claims are the other main latent claim sources where the majority of respondents are experiencing accelerating incremental incurred development.
- The results in many instances, eg largely stable development for Agent Orange, Dalkon Shield and DES, are surprising. This may suggest a misinterpretation of the meaning of stable incremental development.

QUESTION 8

Do you analyze the development of latent claims by:-

- A Underwriting/accident year?*
- B Calendar year of reporting?*
- C Underwriting/accident year and calendar year of reporting?*

RESULTS

	A	B	C
	%	%	%
Agent Orange	62	5	33
Asbestos (Bodily Injury)	57	5	41
Other Lung Diseases	38	15	47
Asbestos (Building Claims)	52	4	44
Dalkon Shield (IUD)	69	0	31
Deafness	57	8	35
DES	55	4	41
Pollution	62	3	41
Spondylosis	0	0	100
Tenosynovitis (ULD, RSI)	17	33	50
Vibration White Finger	43	14	43
Other	20	20	60

For each latent claim type the results have been derived as percentages of respondents indicating a response to that part of the question.

OBSERVATIONS

- The majority of respondents use underwriting/accident year analyses and, of these, a high proportion analyse development by calendar year of reporting. Very few respondents use solely calendar year of reporting in order to analyse the development of latent claims.

QUESTION 9

How do you reserve for known outstanding claims?

- A *Legal fees only.*
- B *Attorney's advised reserves.*
- C *Cedant's advised reserves.*
- D *Percentage of exposure.*
- E *Other - please specify.*

RESULTS

	A	B	C	D	E
	%	%	%	%	%
Agent Orange	8	75	42	4	17
Asbestos (Bodily Injury)	5	64	44	8	23
Other Lung Diseases	6	56	13	19	38
Asbestos (Building Claims)	10	71	35	10	19
Dalkon Shield (IUD)	14	79	50	7	21
Deafness	3	55	23	13	29
DES	4	80	40	4	20
Pollution	8	70	40	15	13
Spondylosis	100	100	100	0	0
Tenosynovitis (ULD, RSI)	20	20	20	20	60
Vibration White Finger	13	25	25	38	50
Other	0	17	17	17	67
All Latent Claims combined	0	40	20	20	20

For each latent claim type the results have been derived as percentages of respondents indicating a response to that part of the question. Some respondents use more than one method in reserving for known outstanding claims.

Other methods of reserving for known outstanding claims specified included:-

- Individual case estimates
- Underwriters reserves
- Loss adjusters advised reserves
- Statistical methods

OBSERVATIONS

- The most common method of reserving for known outstanding latent claims indicated is to make use of attorney's and/or cedant's advised reserves. This again might indicate a London Market bias within responses.
- The use of a percentage of exposure or legal fees only for reserving purposes is relatively uncommon.

QUESTION 10

Do you hold a specific IBNR reserve for these liabilities?

RESULTS

	%
Agent Orange	32
Asbestos (Bodily Injury)	56
Other Lung Diseases	28
Asbestos (Building Claims)	53
Dalkon Shield (IUD)	7
Deafness	20
DES	37
Pollution	63
Spondylosis	0
Tenosynivitis (ULD, RSI)	14
Vibration White Finger	20
Other	13
All Latent Claims combined	12

For each latent claim type the results have been derived as percentages of respondents with significant exposure to that claim source.

OBSERVATIONS

- **Pollution and Asbestos claims are the only claim sources for which the majority of respondents hold specific IBNR reserves.**
- **12% of respondents with significant exposure to latent claims hold an IBNR reserve for all latent claims combined.**

QUESTION 11

If a specific IBNR reserve is held, what methods of calculation are used?

- A Analysis of claims amounts and reporting patterns.*
- B Percentage of known outstanding claims.*
- C Percentage of incurred claims.*
- D Percentage of written/earned premium.*
- E Hindsight on known IBNR subsequent to accounting period.*
- F Analysis of exposures.*
- G Other - please specify.*

RESULTS

	A	B	C	D	E	F	G
	%	%	%	%	%	%	%
Agent Orange	50	10	10	0	20	30	10
Asbestos (Bodily Injury)	46	17	21	0	13	33	13
Other Lung Diseases	50	0	0	0	0	50	13
Asbestos (Building Claims)	44	19	13	0	6	31	0
Dalkon Shield (IUD)	67	0	0	0	33	0	0
Deafness	50	10	0	0	0	50	20
DES	45	9	9	0	18	27	9
Pollution	36	20	24	0	16	36	12
Spondylosis	100	0	0	0	0	0	0
Tenosynovitis (ULD, RSI)	75	0	0	0	0	25	0
Vibration White Finger	67	0	0	0	0	50	33
Other	100	0	0	0	0	0	0
All Latent Claims combined	25	0	0	0	50	25	0

For each latent claim type the results have been derived as percentages of respondents indicating a response to that part of the question. Some respondents use more than one method of calculation.

Other methods of calculation specified included:-

- Analysis of specific risks
- Actuarial studies
- Statistical methods

OBSERVATIONS

- Respondents generally use an analysis of claim amounts and reporting patterns or an analysis of exposures in order to calculate IBNR reserves.
- No respondent calculates IBNR reserves based on a percentage of written/earned premium.
- For Asbestos and Pollution claims the variety of methods of calculation used is much greater than for other latent claims.

QUESTION 12

What proportion of overall outstanding liabilities does each latent claim source form?

Direct Business

- A Liability*
- B Property*
- C Marine*
- D Aviation*

Reinsurance Business

- E Liability*
- F Property*
- G Marine*
- H Aviation*

RESULTS

The interpretation placed on this question varies considerably among responses received and therefore the information available is not in a form suitable for analysis.

-72-

APPENDIX XI

From: Manager, Taxation Department.

Extension: 5228

Date: 21 June 1990

Reference: TD/DRC/hrc/5490S

Subject: City 35 Review of Reinsurance to Close.

The purpose of this bulletin is to inform the Market of developments that are taking place in the way the tax legislation is implemented. I apologise that it comes in the middle of the period for computation and submission of syndicate accounts and comments to the Revenue, but it was felt the Market should be informed of any significant development immediately rather than waiting until Account 1988.

1. Latent Claims

Concern has been voiced in the Market that the approach taken by City to the problems of certain latent claims, especially relating to asbestos and pollution, is not satisfactory. Pollution in particular is agreed to be a most difficult problem. This is not to imply that City 35 are acting unreasonably in any way; rather that existing mechanisms do not cater very well with these latent claims.

The background to the examination of syndicate accounts by the Inland Revenue is contained in what is now Section 450(5A) of ICTA 1988 and the Guidelines agreed between the Inland Revenue and Lloyd's. Both of these documents were attached to my Market bulletin dated 6th August 1987.

The crux of the problem is the emphasis within the Guidelines upon the need for statistical evidence that the elements of a syndicate's reinsurance to close fall within the legislation. The aforementioned Guidelines were not written with the problems of asbestos and pollution specifically in mind and it is becoming clear that, strictly interpreted by City 35, they could have resulted in disallowances substantially in excess of those which have been agreed. In practice City 35 have been flexible in the operation of the Guidelines and there are arguments for amending the guidelines so that syndicates have a better understanding how latent claims will be dealt with.

2. Extending the Guidelines

Discussions are currently taking place between Lloyd's and the Inland Revenue to revise the Guidelines to reflect the current, clearer, appreciation of the problems of latent claims. This is a process which will take some time but, in the meantime, City 35 have agreed to issue a statement concerning environmental pollution. This statement is attached as Appendix A and is of immediate effect.

As a result of the attached statement, Agents who have yet to submit their syndicate accounts to City 35 may wish to take its contents into account in their submissions. City 35 are anxious to continue to encourage early submissions of accounts and do not wish those who have already submitted accounts to be disadvantaged in any way. Therefore, Agents who have submitted accounts are invited to supplement their earlier submissions in the light of this statement if necessary.

3. Implications of the attached Statement

Neither the attached statement nor the Guidelines have any legal status, but they do show the approach City 35 will be taking to reviewing reinsurance to close. It is clear that City 35, when looking at the level of IBNR for environmental pollution claims, will take into account their knowledge of the issues involved and the nature of the syndicate's business. If this IBNR "looks high" at first sight, it is clear that they would expect there to be further supporting evidence.

The approach set out in the City 35 statement extends the scope of the evidence that the Revenue will consider beyond the narrower "statistical" approach implied in the Guidelines and is an approach which the Special or General Commissioners might take in the event that City 35 the Managing Agent failed to come to an agreement.

4. Input from the Market

We would welcome any suggestions or comments that you may have in respect of the guidelines, on any matters raised in this bulletin, or the Inland Revenue letter.

5. This bulletin is being sent out to all Managing Agencies and Recognised Auditors. Please telephone me on the above extension or Martin White or extension 6377 if you have any questions.

Yours sincerely,



D R Culliford
Manager
Taxation Department

Introduction

1. I accept that as matters stand at present, Environmental Pollution is a particularly difficult subject which does not readily lend itself to statistical projection. There is, however, a growing body of evidence available to Underwriters and City 35 will wish to carefully weigh all the available information. The onus rests with the Underwriter to make his case and City 35 will consider whatever methodology is adopted and will carefully weigh all the evidence submitted by Underwriters in support of their Pollution reserves. The City 35 approach and the factors which we will typically take into consideration are set out in paragraphs 2-7 below but there may be other pertinent factors of which we are as yet unaware. I am not suggesting that there are not other approaches which are capable of satisfying the legislative test set out in Section 450 (3A) ICTA 1988.

Claims with Reserve Potentials

2. As in the past, City 35 will accept that the reserve potentials recommended by lawyers who have been instructed by Underwriters are a valid starting point in reviewing Pollution reserves for tax purposes. It is my understanding that the lawyers have attempted to adopt a consistent basis in setting reserve potentials. Reserve potentials differ from a conventional assessment of outstandings as there is no clear event or occurrence from which liability arises. Nor is account generally taken of the prospect of insurers being able to deny coverage to the assureds.
3. I believe that there are a number of coverage issues which may be contested in the Courts in establishing whether coverage exists under Comprehensive General Liability policies. For example the Court may consider whether the pollution was in some sense fortuitous; it may also consider whether the Superfund response costs should be widely construed as damages rather than as equitable relief; and it may also consider the effectiveness of any Pollution exclusion clause contained in the policy. The coverage cases currently progressing through the US Courts do not appear to reveal any clear and coherent pattern. On all the major coverage issues, some cases have been resolved in favour of insurers and some in favour of assureds. These coverage issues are therefore relevant factors to be weighed possibly on individual cases but more likely in the round in considering the extent to which reserve potentials are allowable for tax.
4. Despite coverage issues, other elements also need to be taken into account in considering cases on which reserve potentials have already been recommended, including the following:-
 - i. Are clean up cost estimates likely to increase or decrease over time?
 - ii. Is the US Government likely to indemnify defence contractors in respect of potential Superfund response costs?
 - iii. Is the US Environmental Protection Agency (EPA) likely to accept offers in negotiated settlement with potentially responsible parties as an alternative to pursuing actions through the Courts?

- iv. If coverage is established by an assured, then the question of the number of events or occurrences from which a loss arises may have a significant effect on the allocation of the loss between Primary and Excess Underwriters and reinsurers. The possibility that there may be no/multiple occurrences in each policy year per site rather than the occurrence scenario reflected in the reserve potentials will need to be considered and related to the nature of the business written by each individual syndicate.

Claims Without Reserve Potentials/Claims Not Reported

5. I recognise that there are notifications of claims where a lawyer has not been instructed following a preliminary consideration by the lead Underwriter. And in claims in which a lawyer has been instructed there is a time lag between the instruction and production of the report. I also recognise that the number of assureds who have made Pollution claims on their General Liability policies is likely to increase. In assessing the likely extent of increase on back years, regard must be had to matters such as possible increases in the number of sites on the US National Priority List (NPL), possible increases in the number of potentially responsible parties and the likely percentage of NPL sites at which no potentially responsible parties will be identified.
6. I think it is important to distinguish between the reinsurance of American domestic insurers and direct insurance. For a variety of reasons, notification to the London Market of Pollution claims by reassureds is lagging behind that by assureds. It therefore seems likely that there will be more comparative growth in the ECRG reports than in the ECG reports and this is a factor to which City 35 will attach weight. It would accordingly assist if Underwriters commentaries on Pollution were to be accompanied by schedules of reserve potentials for each year distinguishing (where the existing records have been maintained in such a form) between assureds and reassureds, indemnity and defence costs and show the affected layers in each case. If the existing records do not readily enable such detailed schedules to be produced for the 1987 Underwriting Account an alternative breakdown of reserve potentials in as much detail as possible without reconstructing claims records will generally suffice but it would be helpful if for 1988 and beyond detailed schedules could be produced as a matter of routine.

Reinsurance Credit

7. City 35 will address the question of whether any Excess of Loss reinsurance protections may be available to mitigate potential losses to each syndicate. It would therefore be helpful if Underwriters commentaries on Pollution were to clearly set out the basis, albeit under a reservation of rights, (e.g. a single occurrence or event per year, per site, per assured) upon which credit, if any, has been taken.

K. HAMER
HM Inspector of Taxes

[19 June 1990]

