Measurement of Asbestos Bodily Injury Liabilities

by Susan Cross and John Doucette

MEASUREMENT OF ASBESTOS BODILY INJURY LIABILITIES

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Executive Summary

The model presented herein provides a formalized approach to projecting an insurer's or reinsurer's potential asbestos bodily injury (BI) liabilities through an analysis of exposed policy limits. The model projects the ground-up aggregate liabilities of individual insureds, allocates those liabilities to policy years and carves out the portion of the liabilities falling in the layers of coverage written by the insurer or reinsurer. That is, the underlying process of claim filings against the insureds is modeled and then compared to the insurer's or reinsurer's policy exposures.

Asbestos BI claims are currently being filed against asbestos producers at the rate of 2,000 to 2,500 per month. Claim filings are expected to continue at this rate for at least the next several years and at lower levels over the following 30 to 50 years. With claims aggregating under products liability policies over this length of time even high layer excess policies can be exposed, although perhaps not for 10, 20, or 30 years. Given the long latency periods for asbestos diseases, it is important to model the underlying claim process in order to determine the magnitude and timing of claims that will be allocated to specific insurance policies.

Well over 1,000 companies have been named as defendants in asbestos BI litigation. However, over 80% of the liabilities are expected to relate to fewer than 50 defendants and not all such defendants would have been insured by a given insurance company. Thus, the number of insureds presenting significant exposure to an insurer is relatively small, making it feasible to compile policy details (e.g., attachment point, limit, exclusions) on all policies providing products liability coverage to such insureds or to a representative sample group of insureds. In the paper, we describe a five tier system for categorizing defendants according to the nature (and thus magnitude) of their exposure to asbestos BI

claim activity. The tier system is useful in selecting a sample group for the model analysis and in extrapolating the results of the model analysis to include all insureds.

Through claim department records and public sources, it is possible to compile information on claim filings and payments for each insured in the sample group. Current claim information by insured as well as assumptions regarding future claim filing patterns, claim severity trends, and expense ratios are used in the model to project ground-up aggregate losses for each insured. The model allocates the projected costs to policy years using either specific information on the insured's coverage block or assumptions regarding the number of years over which an insured's claims will be allocated and the expected distribution by year.

Once projected costs are allocated to policy years, the ground-up costs per year are compared to the exposed policy limits in that year to determine the insurer's or reinsurer's share of the costs. In making this comparison, it may be necessary to restate the attachment point, limit, and participation percentages of exposed excess and reinsurance policies to be relative to the first dollar of loss. This adjustment to policy terms is discussed in detail in the paper.

The underlying process of claim filing is modeled at the insured level for each future calendar year. Comparing these projections to the insurer's or reinsurer's policy exposures produces a pattern for loss emergence under these policies. The loss emergence pattern can be useful in deriving cash flow projections. The pattern can also be used, along with other model results, to produce ultimate loss estimates for insureds not included in the model analysis, thus arriving at a measurement of an insurer's or reinsurer's total asbestos BI liabilities associated with identified exposures.

Once the policy exposures have been identified and coded in the model, assumptions regarding future claim emergence, claim severities, expense ratios, and procedures for allocating claims to years can be varied to produce a range of indications. Also, the model can be easily updated in future periods and the emergence and cash flow patterns derived from the model can be used to monitor future activity.

1. Introduction

This paper presents a methodology for estimating an insurer's or reinsurer's potential liabilities from asbestos-related bodily injury (BI) claims. Property damage (PD) claims resulting from asbestos are not considered in this model. The approach is a policy limits analysis on a sample group of insureds. The first step in developing the methodology is obtaining an understanding of the nature of the potential liabilities. Thus, our paper begins with a brief discussion of the significant historical developments relating to the emergence of asbestos-related BI claims. Section 2 presents historical uses of asbestos, problems arising from asbestos use, legal issues related to the asbestos problem, and insurance issues emerging from asbestos litigation. This information is important in order to understand how these claims differ from traditional products and general liability BI claims and, therefore, why traditional actuarial projection techniques are not directly applicable. Section 3 describes the asbestos diseases: mesothelioma, lung and other cancers, asbestosis, and pleural plaques. Knowledge of the unique characteristics of these diseases is necessary to understand the legal issues surrounding asbestos BI insurance coverage litigation.

Section 4 explains the motivation for the model presented in this paper as well as the requirements of any methodology that projects asbestos BI liabilities. Section 5 presents details on the steps in the asbestos BI model. The steps may be grouped into the following categories: 1) determine the sample group and collect data, 2) adjust the sample group data, 3) use the model to estimate the insurance or reinsurance company's liabilities for the sample group, 4) conduct sensitivity testing of model assumptions, and 5) extrapolate the model results to all insureds. To facilitate the discussion of the model, we run a fictitious reinsurer,

ABC Re, through each of the steps of the asbestos BI model. Finally, Section 6 discusses strengths and weaknesses of the model and identifies areas related to asbestos liability projections requiring further research.

2. Background

Asbestos And Its Uses

What is asbestos? It is a generic term referring to a variety of naturally occurring minerals which share similar properties. There are six major recognized species of asbestos: chrysotile (white asbestos), amosite (brown asbestos), crocidolite (blue asbestos), anthophyllite, tremolite, and actinolite. These six species of asbestos come in two general forms: chrysotile comes in the serpentine form, the other five come in the amphibole form [1]. Chrysotile represents over 95% of all asbestos used in buildings [2]. Though each variety of asbestos has unique characteristics, in general, the asbestos minerals form fibers which are incombustible, flexible, durable, strong, and resistant to heat, corrosion and wear. Because of these properties, asbestos was targeted for use in an estimated 3,000 commercial, public, and industrial applications [3]. Examples include building insulation, pipe coverings, wire coatings, brake linings, roofing products, and flooring products. By the year 1900, asbestos was in use in the building construction industry. Asbestos was also used extensively in World War II ship building. Following the war, there was significant expansion of the use of asbestos products in construction and manufacturing. Figure 1 provides details on the uses and composition of asbestos-containing building products as of the mid-1980s. Friable means that the material can be reduced to powder by hand pressure.

Figure 1. Location, composition, and dates of use of asbestos-containing building products

Product	Location	Percent Asbestos	Dates of Use	Binder	Friable/ Nonfriable	How Fibers can be Released
Roofing and Siding						
Roofing felts	Flat, built-up roofs	10-15	1910-present	Asphalt	Nonfriable	Replacing, repairing, demolishing
Roof felt shingles	Roofs	1	1971-1974	Asphalt	Friable	Replacing, demolishing
Roofing Shingles	Roofs	20-32	1930-present	Portland cement	Nonfriable	Replacing, repairing, demolishing
Siding Shingles	Siding	12-14	?-present	Portland cement	Nonfriable	Replacing, repairing, demolishing
Clapboards	Siding	12-15	1944-1945	Portland cement	Nonfriable	Replacing, repairing, demolishing
Walls and ceilings						
Sprayed coating	Ceilings, walls, and steelwork	1-95	1935-1978	Portland cement, sodium silicate, organic binders	Friable	Water damage, deterioration, impact
Troweled coating	Ceilings, walls	1-95	1935-1978	Portland cement, sodium silicates	Friable	Water damage, deterioration, impact
Asbestos-cement sheet	Near heat sources such as fireplaces, boilers	20-50	1930-present	Portland cement	Nonfriable	Cutting, sanding, scraping
Spackle	Walls, ceilings	3-5	1930-1978	Starch, casein, syn. resins	Friable	Cutting, sanding, scraping
Joint compound	Walls, ceilings	3-5	1945-1977	Asphalt	Friable	Cutting, sanding, scraping
Textured paints	Walls, ceilings	4-15	?-1978		Friable	Cutting, sanding, scraping
Millboard, rollboard	Walls, commercial buildings	80-85	1925-?	Starch, lime, clay	Friable	Cutting, demolition
Vinyl wallpaper	Walls	6-8	?		Nonfriable	Removal, sanding, dryscraping, cutting
Insulation board	Walls	30	?	Silicates	Friable	Removal, sanding, dryscraping

Figure 1 - Continued

Product	Location	Percent Asbestos	Dates of Use	Binder	Friable/ Nonfriable	How fibers can be Released
Floors						
Vinyl-asbestos tile	Floors	21	1950-1980?	Poly(vinyl) chloride	Nonfriable	Removal, sanding, dryscaping, cutting
Asphalt-asbestos tiles	Floors	26-33	1920-1980?	Asphalt	Nonfriable	Removal, sanding dryscraping, cutting
Resilient sheet flooring	Floors	30	1950-1980?	Dry oils	Nonfriable	Removal, sanding, dryscraping, cutting
Mastic adhesives	Sheet and tile backing	5-25	1945-1980?	Asphalt	Friable	Removal, sanding, dryscraping, cutting
Pipes and boilers						
Cement pipe and fittings	Water and sewer	20-?	1935-present	Portland cement	Nonfriable	Demolition, cutting, removing
Block insulation	Boilers	6-15	1890-1978	Magnesium carbonate, calcium silicate	Friable	Damage, cutting, deterioration
Preformed pipe wrap	Pipes	50	1926-1975	Magnesium carbonate, calcium silicate	Friable	Damage, cutting, deterioration
Corrugated asbestos paper	Pipes	high temp. 90 mod. temp. 35-70	1935-1980? 1910 - 1980?	Sodium silicate, starch	Friable	Damage, cutting, deterioration
Paper tape	Furnaces, steam valves, flanges, electrical wiring	80	1901-1980?	Polymers, starches, silicates	Friable	Tearing, deterioration
Putty (Mudding)	Plumbing joints	20-100	1900-1973	Clay	Friable	Water damage, deterioration

Source: U.S. Environmental Protection Agency

Problems Arising From Asbestos Use

The virtually indestructible nature of asbestos fibers, which makes it so attractive in commercial applications, causes asbestos to be a health risk to humans. When airborne asbestos fibers are inhaled into the lungs, they tend to persist indefinitely. Thus, exposure to asbestos dust has been the cause of such diseases as mesothelioma, lung cancer, asbestosis, and pleural plaques. Historically, the population with the greatest exposure to asbestos dust was workers involved in the production or installation of asbestos [4].

The United States government did not take action to limit workers' exposure to asbestos until the early 1970's. Today, the permissible exposure limit for workers exposed to asbestos set forth in the Occupational Safety and Health Administration's (OSHA) Asbestos Regulations is approximately one-one hundredth of the average exposure level of an insulation worker prior to 1970 [5], [6]. Figure 2 shows the exposure standards over the past 20 years. In 1989, the Environmental Protection Agency (EPA) issued a ban on the manufacture, importation, processing, and distribution in commerce of asbestos in almost all products [7]. The legality of the ban is currently being addressed in court.

Figure 2

Year Enacted	Permissible Fibers/ Cubic Centimeter Exposure Standard 8 hour Average
1972	5 f/cc
1976	2 f/cc
1983	.5 f/cc
1988	.2 f/cc

Source: OSHA

Legal Issues Related to the Asbestos Problem

Prior to the asbestos litigation onslaught during the 1970s and 1980s, asbestos-related occupational diseases were traditionally compensated through workers' compensation insurance. Claims have been filed under workers' compensation since the 1950s for asbestos-related disease; the first significant liability lawsuit against asbestos manufacturers was not filed until 1970.

The first significant asbestos-related lawsuit, Borel v. Fibreboard, filed in 1970 and decided in 1973, was a landmark case in asbestos litigation. The decision held that a defendant manufacturer of insulation materials containing asbestos could be found liable when: 1) an individual's disease was caused by exposure to the defendant's product, and 2) despite the defendant's knowledge of the risk, the defendant failed to provide adequate warning to the individual. This decision opened the door for further actions against manufacturers [8].

As additional claims were filed in the late 1970s, defendants pursued coverage for these claims under their products liability insurance policies. The long latency period of asbestos-related diseases (i.e., an asbestos-related disease may not manifest itself for 40 or more years after first exposure [9]) required legal decisions regarding the date of occurrence of asbestos-related BI in order to determine which insurance policies were triggered. Consequently, beginning in 1980, insurance coverage decisions were handed down by the courts. The decisions have generally followed either 1) a continuous trigger (or injury-in-fact trigger interpreted similarly to a continuous trigger) or, in some cases, 2) an exposure trigger. There has been one case decided on a manifestation trigger basis [10]. Under the continuous trigger theory, injury

is deemed to occur continuously from the first inhalation of the asbestos fibers through the manifestation of the disease. Thus, any and all policies in effect during this time period can be triggered and called upon to pay the claim. Under the exposure trigger theory, injury is assumed to occur only during the period of exposure to asbestos. Thus, the exposure theory triggers a subset of the policies triggered by the continuous theory. Under the manifestation trigger theory, no bodily injury occurs, and thus no insurance coverage is triggered, until the asbestos-related disease became reasonably capable of medical diagnosis. Thus, manifestation theory triggers policies in a single year. [11].

Since the early 1980s, the litigation for asbestos cases (lawsuits) has grown at a staggering rate. As of June 1991, there had been over 71,000 cases filed nationwide in federal courts. As of June 1992, there were at least 120,000 additional lawsuits pending in state courts. Despite defendants' attempts to settle lawsuits, many still face tens of thousands of pending suits. Note that these are number of lawsuits, not number of plaintiffs. The number of plaintiffs would be even higher, because some lawsuits are consolidations of hundreds or thousands of plaintiffs.

A plaintiff typically names several defendants in a suit, even dozens, therefore adding each defendant's reported number of claims together would overstate the total number of claims. Many defendants are being named in thousands of new cases each month. The asbestos litigation problem is not going away and cannot be ignored by potential defendants or their insurers [12], [13].

Insurance Coverage Issues

In practice, the method of handling claims and allocating loss and expense dollars to policies or self-insured periods is negotiated between the insured and its group of insurers. These negotiations are consistent with the applicable trigger theory. With the total filed claim count approaching 200,000 for some defendants, such agreements are necessary for the efficient processing of claims. For purposes of this paper, we define the defendant's insurance coverage block as the years of agreed-upon coverage. Given the predominant trigger theories, the coverage block generally begins with commencement of asbestos product manufacture or distribution and ends with either: 1) the end of the product's commercial use (often early to mid-1970s), or 2) the last year of products liability coverage without an asbestos exclusion (generally late 1970s or early to mid-1980s). In either case, the coverage block will likely span 15 or more years.

It is interesting to note that unlike the absolute pollution exclusion introduced into the Insurance Services Office's (ISO) Comprehensive General Liability (CGL) policy in 1986, an asbestos exclusion was not consistently incorporated into policies during a certain year. Rather, various forms of asbestos exclusions were phased in during the 1970s (generally late 1970s) and early 1980s, first for primary manufacturers and later for secondary manufacturers and distributors. This complicates determining the end of the coverage block for each insured.

Today there continues to be considerable unresolved insurance coverage litigation. This litigation tends to revolve around three issues: 1) existence and terms of lost policies, 2) interpretation of asbestos exclusion wordings, and 3) applicability of the known loss

exclusion [14]. Although unresolved issues may hinder analysis of an insurer's potential liabilities for a particular insured related to specific years of coverage, case law is sufficiently established to permit the estimation of a range of total potential liabilities for the known asbestos defendant group.

The trend in asbestos litigation of an increasing universe of defendants must be understood before quantifying liabilities for a particular group of insureds. Early in the asbestos litigation process, only major manufacturers and distributors of asbestos were named as defendants in the suits. However, the asbestos defendant group has expanded considerably over time. This is due in large part to the bankruptcy of major asbestos defendants such as Johns-Manville and UNR Industries as well as the search by plaintiff attorneys for other sources of compensation. In addition, significant expansion occurred around 1989 when defendant Owens Corning Fiberglas drew a large number of companies into the asbestos litigation via third-party actions [15]. Companies identified as defendants only during the past five years are generally companies with more limited asbestos exposures due to the encapsulation of asbestos in their products or their involvement only as a local distributor (e.g., local hardware stores). However, these companies and their insurers are still facing potentially substantial indemnification and defense costs. A further expansion of the defendant group may yet occur. However, due to uncertainty regarding the nature and extent of such expansion, we do not try to quantify an IBNR provision associated with future identified defendants. It is not clear that such a provision is necessary because expansion of the defendant group would likely result in a reduction in the costs borne by the current defendant group.

Another insurance issue needing discussion is the type of coverage under which asbestos BI defendants are filing and the implications of limits under that coverage. Since the asbestos litigation explosion, insurers' asbestos-related costs under workers' compensation have been limited because employees have sued the manufacturers and distributors of asbestos products rather than file workers' compensation claims against employers. Asbestos BI claims have historically been filed by defendants as products and completed operations claims under general liability policies. The majority of such policies include an aggregate limit applicable to products claims. As thousands of claims are allocated across an insured's coverage block, the portion of the claims allocated to each policy accumulates to exhaust that policy's aggregate limit. Typically, courts have disallowed the theory that all manufacturing of asbestos products was a single occurrence. Thus, in situations where no aggregate limit was included in the policy, the insurer's liability is essentially unlimited.

In the mid-1980s, several defendants and insurers formed the Asbestos Claims Facility (ACF) to deal with the enormous number of asbestos claims. Participants in the ACF addressed the treatment of policies without aggregate limits, as well as other coverage issues, in the Wellington Agreement signed by insureds and insurers. The Wellington Agreement specified an aggregate limit as a multiple of the per occurrence limit, with the multiple varying with the magnitude of the per occurrence limit. Although the ACF was dissolved in 1988, the provisions of the Wellington Agreement remain [16]. Thus, most products liability coverage is subject to aggregate limits for indemnity.

A number of asbestos defendants owned subsidiaries that installed asbestos products as well as manufactured and/or distributed the products. As these defendants are exhausting their

products liability coverage, they are seeking premises and operations coverage for claims related to the installation subsidiary. Since general liability policies did not generally contain aggregate limits for premises and operations claims, significant additional coverage could be available to defendants if they are successful in obtaining coverage on this basis. Also, the expansion of the defendant group to include property owners as discussed in a later section, has resulted in additional premises and operations claim filings.

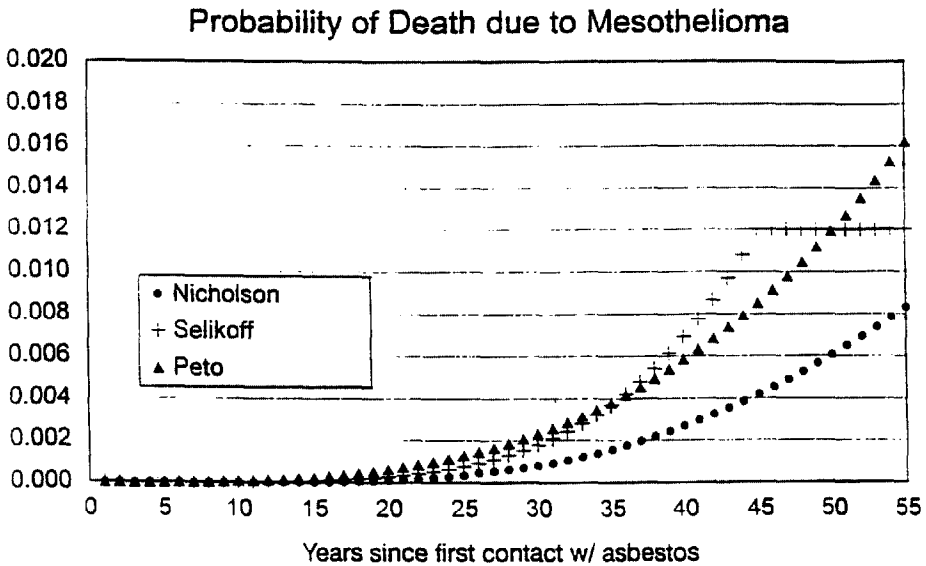
3. Asbestos Diseases

Life-threatening or disabling diseases can be caused by exposure to airborne asbestos, particularly at the high exposure levels in occupational settings during the first 70 years of this century. Diseases associated with asbestos exposure include mesothelioma, lung and other cancers such as gastrointestinal, asbestosis, and pleural plaques. Mesothelioma has been strongly associated with asbestos exposure. Lung cancer and other cancers have been associated with asbestos exposure at occupational levels. Asbestosis has been observed mainly after high occupational exposure to asbestos [17].

According to the Journal of the National Cancer Institute, "asbestos is the only known risk factor for mesothelioma, a tumor of the membranes lining the chest or abdominal cavities"[18]. It should be noted that cases of mesothelioma have been diagnosed in individuals without known asbestos exposure. However, if individuals can demonstrate exposure to asbestos, the courts appear to universally accept that mesothelioma was caused by such exposure.

Mesothelioma generally manifests itself 15 to 50 years from first exposure to asbestos and is almost always fatal within one to two years of diagnosis. Figure 3 shows three functions derived from epidemiological studies and used to project future mesothelioma incidence rates for an insulation worker with cumulative asbestos exposure of 250 fiber-years/ml [19].

Figure 3



Sources: Nicholson [20]. Adopted by Dunbar [21].
Selikoff [22]. Adopted by Tillinghast [23] and Peterson [24].
Peto [25]. Adopted by Walker [26].

The graph demonstrates the relationship between mesothelioma incidence rates and time since first exposure (i.e., the latency period). This helps explain why workers exposed in the 1950s and 1960s are just now filing claims and why, when incorporating exposures from the 1970s, claim reportings are expected to continue well into the next century.

Epidemiological studies have demonstrated an increased risk of lung and other cancers among workers exposed to asbestos. For insulation workers with cumulative exposure of 250 fiber-years/ml, the risk of lung cancer is two to seven times the normal risk. Following a minimum latency period of 8 to 10 years, the relative risk (i.e., the risk for an asbestos-exposed population versus an unexposed population) of developing lung cancer increases linearly until 35 to 40 years past first exposure and then begins to decrease [27].

Another asbestos-related disease is asbestosis. Asbestosis is a fibrotic or scarring process within the lung tissue, potentially causing an inflammatory response and fluid collection resulting in various levels of disability from respiratory problems. Severe cases of asbestosis are generally associated with heavy occupational exposure such as that of insulators or shipyard workers. The relative incidence of asbestosis has declined in recent years although we are not aware of any evidence showing a similar decrease in asbestosis claim filings.

The mildest of the asbestos related diseases is pleural plaques. Pleural plaques is a benign condition of the lungs which is generally not debilitating. However, pleural plaques is associated with asbestos exposure and claims are being filed by individuals with this condition.

Plaintiffs with mesothelioma generally receive the highest indemnity payments, averaging several hundred thousand dollars (though some individual awards total several million dollars). While certain lung cancer plaintiffs without contributing factors such as smoking receive average indemnity payments comparable to mesothelioma, the overall average indemnity for lung cancer plaintiffs is approximately 50% of the average mesothelioma payment. Non-fatal

asbestosis plaintiffs receive payments averaging approximately 10% to 15% of mesothelioma payments[28].

4. Projection Considerations

One thing is clear with regard to projecting ultimate asbestos liabilities: traditional loss development techniques which rely on historical accident year loss development to derive development factors cannot be used. Traditional methodology is inappropriate for asbestos loss development because: 1) historical asbestos loss development is not representative of expected future development, 2) asbestos loss development is not a function of the age of the accident or policy year, 3) diseases caused by asbestos are latent for long periods of time, and 4) asbestos claims are allocated over many years based on the courts' decisions on occurrence of injury.

Any loss development patterns used in projecting asbestos liabilities should reflect what is happening at the underlying insured level as well as the insurance or reinsurance company's exposure. It will be shown in Section 5 that asbestos loss development for insurers and reinsurers does not relate to the age of the policy, but to factors such as the underlying claim allocation procedure and the attachment points and limits of the exposed policies.

Any methodology for projecting an insurer's or reinsurer's potential liabilities for asbestos BI claims must reflect the following elements of company's exposure:

- years and volume of general liability business underwritten,
- use and wording of asbestos exclusions,
- type of insureds underwritten,
- layers of liability underwritten and retained,
- use of aggregate limits, and
- expense treatment in policies.

Figure 4 is useful in doing a preliminary assessment of the level of an insurance or reinsurance company's potential asbestos BI liabilities. It gives several characteristics relating to the general liability (GL) insurance book of business. For each characteristic there is a typical answer for low risk, medium risk, and high risk. Low risk means the insurer or reinsurer is not likely to have significant potential asbestos liability. High risk means the insurer or reinsurer is likely to have significant potential asbestos liability. This is not a comprehensive list of factors to consider. Obviously, the number of asbestos claims for insureds, average indemnity for insureds, and similar information are required before the potential liability for an insurer or reinsurer can be quantified.

Figure 4

GL Book of Business Characteristic	Low Risk	Medium Risk	High Risk
Policy Years	1986 and subsequent	1976 - 1985	1975 and prior
Premium Volume (GL Market Share)	<0.5%	0.5%-1.5%	1.5% +
Asbestos Exclusion	Consistent use of comprehensive exclusion by early-1970s	Consistent use of comprehensive exclusion by late 1970s	Asbestosis exclusion and inconsistent applic. until mid 1980s
Type of Insureds	Small/Local Businesses	Regional Companies	Fortune 1000 Manufacturing/ Construction
Layers Written	Very High Excess (>$20 million)	High Excess (>$5 million)	Primary/Umbrella/ Low Excess
Aggregate Limits	No Exceptions	Few exceptions	Many Exceptions
Expense Treatment	Indemnity Only	Expense included in limit	Expense in addition to limit

Of course, these factors need to be considered in total, but insurers or reinsurers falling in the low risk category for all factors (unlikely, as small businesses purchasing coverage above $20 million is rare) and limited claim activity to date are most likely not facing significant liabilities. Likewise, insurance or reinsurance companies consistently rated high risk should carefully review their potentially significant liabilities.

To do a more detailed and rigorous analysis of an insurance or reinsurance company's liability, a projection methodology must be selected based on its appropriateness for the line of business being reviewed. Given the unique characteristics of asbestos losses, such as development being unrelated to age of policy or accident year, a policy limits analysis is a strong candidate for a

methodology that can incorporate all of the necessary factors in an ultimate loss estimate. A policy limits analysis will be presented in the next section.

5. Policy Limits Analysis

Our model differs from most traditional actuarial loss development methods by explicitly quantifying the impact of each policy's limits when estimating the insurance or reinsurance company's liability. Patrik mentions the need for special consideration for certain long-tailed exposures such as asbestos [29].

In our model, ground-up losses for each insured are calculated using a frequency and severity approach. For each policy for each insured, the losses in the insurance layer are calculated based on the policy's limits and the ground-up losses. Other actuarial projection methods, such as the incurred loss development method, are assumed to implicitly take into account the insured's policy limits in the selection of loss development factors.

Our approach is more appropriate for asbestos losses because of the extremely long latency of asbestos diseases and the allocation of an asbestos claim across several policy years. If a court ruled that an asbestos-related injury had been caused by exposure spanning 30 years, all 30 years of insurance policies could be triggered. Typically over such a long period the defendant's policy limits have grown. A primary policy written in 1948 may have been $50,000 while a primary policy written in 1977 may have been $1 million. This change in limits needs to be reflected.

A policy limits analysis of a sample group of defendant companies can be supplemented with individual case estimates for defendants with unusual exposures to provide an assessment for all known asbestos defendants. Unusual exposures could be policies without aggregate limits or those with significant outstanding coverage issues.

In the remainder of this section, we discuss our asbestos BI model, from the initial stages involving the sample group determination to extrapolation of the model results. The steps of the policy limit analysis and their general categories are as follows:

I. Determine the sample group and collect data

1) determine the desired group of insured defendants to be included in the detailed analysis,
2) collect information on each defendant's claim experience and the company's exposure to the defendant's asbestos claims, and
3) re-evaluate which insureds to include in the sample group based on the compiled information.

II. Adjust the sample group data

4) adjust the sample group's policy information to restate it on a ground-up basis.

III. Use the model to estimate insurance or reinsurance company's liabilities for sample group

5) project future aggregate ground-up costs for each sample group defendant,
6) allocate the aggregate ground-up costs to years within the defendant's coverage block,
7) determine the amount of the ground-up loss and expense in each year falling in the layers of coverage provided by the insurer or reinsurer, and
8) sum the losses in the insurance layer across all sample group defendants.

IV. Conduct sensitivity testing of the model's parameters and make adjustments

9) test alternative scenarios regarding future claim activity and alternate claim allocation procedures,
10) develop a range of outcomes for the sample group based on the sensitivity analysis, and
11) consider the limitations of the model and make adjustments if necessary.

V. Extrapolate model results from sample group to all insureds

12) use the model results to develop assumptions applicable to the remaining group of insured defendants, and
13) incorporate individual case estimates for unusual exposures.

In the following sections, we discuss each of these steps.

Determine the Sample Group and Collect Data

The use of a sample group in estimating liabilities for a large group of insureds is sometimes desirable. For large insurers or reinsurers, it may not be feasible to model the future claim activity for all insured asbestos defendants. For these companies, the number of insureds who may have filed precautionary notices related to potential asbestos claim activity could easily total five hundred or one thousand insureds. Information may be limited on certain defendants, including a large number of defendants whose exposure to asbestos claims is small, due to a small market share or the use of encapsulated asbestos only. The sample group must be representative of the total exposures of the company so that an extrapolation of the model results to the remaining exposures can be done.

To facilitate selection of a sample group and extrapolation of model results for insurance and reinsurance companies, we categorized all potential defendants in the asbestos universe into five tiers. Each tier rating is based upon the nature and extent of potential asbestos liabilities of the defendant. Thus, the first step in determining the appropriate sample group for an insurer or reinsurer is to apply the tier rating to each of the insureds.

The first tier includes defendants who have been involved in asbestos litigation since its inception and who were the primary manufacturers or suppliers of asbestos products throughout North America. Each defendant in this category is estimated to face ultimate aggregate liabilities of $1 billion or more. Considering that fewer than 20 companies fall into this category and the required information on these defendants is generally available through

the claim department and/or public sources, all of these defendants should be reviewed for inclusion in the sample group for detailed model analysis.

Our second tier includes defendants who have also been involved in asbestos litigation almost since inception, but due to lower market shares or more limited-use products, their estimated ultimate liabilities are in the $100 million to $1 billion range. The distinction between Tiers 1 and 2 is subject to some judgment depending on the projection assumptions. Based on our current estimates, there are approximately 50 Tier 2 defendants. A majority of a company's exposure to Tier 2 defendants should also be included in the sample group.

The third and fourth tiers are comprised of the remaining hundreds of non-railroad defendants that have been enjoined as third party defendants brought into the asbestos litigation as Tier 1 and Tier 2 defendants have filed for bankruptcy protection. Tier 3 includes those defendants whose exposure relates to encapsulated and similar low exposure asbestos products and local or regional distributors of asbestos products. As such, many Tier 3 defendants face substantial numbers of claims, high defense costs, and relatively low indemnity payments. In total, their potential liabilities are significant though well below the Tier 2 level. There are also a large number of Tier 3 defendants facing very small liabilities, e.g., in situations where exposure to a company's products will be difficult to establish by plaintiffs.

Tier 4 defendants are those who never manufactured or distributed asbestos products, but rather owned or operated property where asbestos products were used. A Tier 4 defendant's liability is thus related to contractors or third parties, other than employees, who were

exposed to asbestos on the defendant's premises. An example of a Tier 4 defendant would be a utility or oil company.

The sample group should contain Tier 3 and 4 defendants for which the necessary claim statistics are available. In selecting the defendants from these tiers, policies providing coverage in various layers representing the type of coverage provided to insureds in Tiers 3 and 4 should be included.

Tier 5 has been reserved for railroads facing liabilities from exposed workers under FELA. Many railroads have reached settlement agreements with their insurers related to asbestos claims. Also, the involvement of attorneys and unions in identifying exposed workers and facilitating claim filings implies a much faster reporting of claims for railroads than for other types of defendants. To the extent that an insurance company has exposure to railroads not subject to a settlement agreement, a sampling of the railroad insureds should be included in the model analysis.

The goal of the sample group is to be representative of the insurer's or reinsurer's total exposure to asbestos liability from its insureds known to have asbestos exposure. If a defendant has an unusual exposure, such a coverage dispute, which is not representative of the other insureds in the tier, a separate analysis or adjustments to the defendant's policies may be necessary.

Once the sample group has been selected, data for each defendant in the sample group must be collected for input into the asbestos BI model. The following data elements should be compiled for each defendant:

1) number of claims filed, disposed and pending,
2) cumulative paid and reported indemnity,
3) expense-to-indemnity ratio,
4) dates of coverage block,
5) details of all products liability coverage provided by the insurer or reinsurer within the coverage block including -
    a) policy term,
    b) attachment point relative to the first dollar of loss,
    c) aggregate limit of liability,
    d) participation percentage or percentage share in the layer of liability,
    e) expense treatment under the policy,
    f) asbestos exclusions,
    g) erosion of limits by non-asbestos products claims, and
    h) (for reinsurers only) ceding company's policy information, i.e., (5a)-(5g) for the ceding company's policy.
6) details of negotiated settlement agreements, and
7) details of pending coverage disputes.

Note that these data do not completely describe every aspect of all insurance policies in the sample group. This is particularly true for reinsurance policies. However, the data collected

does allow for a good estimate of the insurance or reinsurance company's asbestos exposure from each policy in the sample group.

The claim counts, indemnity payments, and expense ratio information are required at the defendant level in order to project the defendant's ground-up aggregate liabilities. Details regarding negotiated settlement agreements and pending coverage disputes are useful in determining whether an insured defendant should be included in the sample group (with or without adjustments to reflect uncertainty presented by pending coverage disputes) or if case reserves established by the claim department reflecting agreements/disputes should be relied upon instead.

Several potential sources for the required data exist, including: the claims department of the insurance company, annual reports of the various defendants, insurance company attorneys, and court documents. While some of the required data is relatively easy to obtain, certain information is difficult to get directly. Data for some potential candidates may not be available at all. It may be necessary to estimate missing information and test the sensitivity of the model results to alternative assumptions, or leave some insureds out of the sample group entirely. Ultimately, the decision to include each insured needs to be based on whether inclusion of that insured will help make the sample group representative and whether there is enough data on that insured for use in the model.

The policy information (attachment point, company's percentage share in the layer, and aggregate limit of liability) on a first dollar of loss (ground-up) basis may be difficult to collect. This data should be readily available from the policy files for primary companies. For excess

writers and reinsurers, however, this information can be particularly difficult to obtain. For assumed reinsurance business, additional information is required on the ceding company's policies in order to identify the ground-up loss required to penetrate the reinsurer's layer. In other words, we need to restate the reinsurer's limit, percentage share, and attachment point relative to the first dollar of loss in order to determine when the policy is expected to be hit by the aggregate asbestos claims generated by the model.

Adjust the Sample Group Data

To effectively reflect the insurer's or reinsurer's exposure to asbestos loss on a policy, the policy information must be stated on a first dollar of loss, or ground-up, basis. This is necessary for the stated attachment point, percentage share, and policy limit. A first dollar policy does not require adjustment. For a direct excess policy, it may only be necessary to adjust the attachment point by adding the underlying primary limit to the stated attachment point. For an assumed reinsurance policy, especially treaty reinsurance, all three parameters might require a restatement to a first dollar of loss basis. Facultative reinsurance policy information may already be stated on a first dollar of loss basis for stated policy limit and participation share, thereby requiring only an attachment point adjustment similar to that mentioned for direct excess policies.

We examine the restatement of the three policy parameters first when the ceding company policy information is known, and then when it is unknown. To illustrate the adjustments necessary for reinsurance policies, we examine some policies of a reinsurer, ABC Re, with ceding insurer XYZ which wrote policies for insureds, Company 1 and Company 2.

If the cedent's policy information is known, then an adjustment such as the one in Exhibit 1 needs to be made. In Exhibit 1, there are three sets of policy information: cedent XYZ's direct policy information in columns (3) - (5), ABC Re's stated reinsurance policy information in columns (6) - (8), and the calculated ground-up reinsurance policy information for ABC Re in columns (9) - (11). Columns (3), (6), and (9) are the percentage shares. Columns (4), (7), and (10) are the attachment points. Columns (5), (8), and (11) are the policy limits. Expenses are ignored in Exhibit 1 for simplicity.

Definitions of the three restated policy parameters in the context of this paper are in order. All three are adjusted reinsurance policy parameters which express the ground-up exposure to loss for the reinsurer. The restated reinsurance percentage share is the amount that, when multiplied by the restated reinsurance policy limit, equals the reinsurer's maximum dollar share of the ground-up losses. The restated reinsurance attachment point equals the amount of ground-up losses which must be incurred before the reinsurance layer is penetrated. The restated reinsurance limit is the amount that, when added to the restated reinsurance attachment point, equals the amount of ground-up losses necessary to exhaust the reinsurance policy.

Exhibit 2 graphically illustrates the need to make the adjustment to ABC Re's policies shown in Exhibit 1. Note that for some policies, the reinsurer has no exposure to loss, even though the ceding company does. Again, expenses have been ignored in this example for simplicity.

The calculation of the restated reinsurance percentage share in Column (9) is straightforward. Ignoring expenses and extracontractual situations, the ceding company is limited to the

percentage share stated in the policy. ABC Re's percentage share is a portion of the cedent's share of the insurance layer. Hence the restated percentage share relative to first dollar of loss must be the product of the two percentages, or Column (3) x Column (6).

The restated reinsurance attachment point in Column (10) follows similar logic. The ceding company's layer of liability begins at the attachment point in the primary policy. In order for the cedent to incur any losses, the ground-up losses must be greater than the attachment point in the ceding company's policy. Likewise, ABC Re's layer of liability begins at the attachment point on the reinsurance policy. Only when the cedent's losses have reached the reinsurance attachment point will ABC Re's layer be penetrated. If the cedent's percentage share was 100%, ABC Re's layer could only be penetrated if the ground-up losses exceeded the sum of the two attachment points. However, in cases where the cedent's percentage share is less than 100%, the reinsurance attachment point must be divided by the primary policy percentage share and then added to the primary attachment point to calculate the restated ground-up attachment point, or ([(7)/(3)]+(4)). The division by the primary percentage share is required because for every dollar of loss incurred by the cedent, the insured must have incurred the reciprocal of the primary percentage share.

The logic for restated ground-up attachment point and percentage share must be kept in mind to determine the appropriate calculation for the restated reinsurance limit in Column (11). We look at the interaction of the direct policy with the reinsurance policy to understand the calculation. The formula for Column (11) is comprised of two upper constraints, a lower constraint, and an adjustment for the direct policy's percentage share.

First, we examine the intuitive upper constraint of Column (11)'s formula. Ignoring expenses and again assuming the cedent's percentage share is 100%, the maximum restated reinsurance limit relative to first dollar of loss equals the reinsurance limit, or Column (8). Note that this is just the limit of the reinsurance policy; the maximum dollar share of the reinsurance layer would be the reinsurance limit times the reinsurance percentage share. Here we are just concerned with the calculation of the limit. If the ceding company participation share is less than 100%, then this maximum for the restated limit needs to be divided by the cedent's participation share, or (8)/(3), for the same reason this adjustment was made in calculating the restated attachment point.

The second upper constraint for the restated reinsurance limit is the maximum imposed by the ceding company's dollar share of the layer (i.e., cedent's percentage share times cedent's limit, or ((3)x(5)) less the cedent's retention (i.e., the reinsurer's unadjusted attachment point, or Column (7)), all divided by the cedent's percentage share, or Column (3). Once the reinsurance attachment point is exhausted and the reinsurance layer has been penetrated, every dollar which consumes the reinsurance limit is due to ground-up losses equal to the reciprocal of the cedent's percentage share, or \$1/(3). Stated another way, the restated reinsurance limit cannot exceed the cedent's limit minus the quantity of the reinsurance attachment point divided by the cedent's percentage share, ((5) -[(7)/(3)]), equal to the second upper constraint. Remember, in calculating the restated reinsurance limit, we are trying to determine the amount of ground-up dollars that, when added to the restated reinsurance attachment point, will exhaust the reinsurance policy limits.

By including a lower constraint, we complete the formula for the restated reinsurance limit in Column (11). The lower constraint of the formula is zero; the restated reinsurance limit cannot be negative. Combining all the pieces of the restated reinsurance limit, we now have the formula used to derive Column (11), MAX [0, MIN {(8)/(3),(5)-((7)/(3))}]. Thus, if we know the cedent's policy information, we may adjust the reinsurance policy information to restate it on a first dollar of loss basis.

The two upper constraints discussed above contribute to what we refer to as "underlap." That is, the interaction of the cedent's policy terms with the reinsurer's policy terms may reduce the reinsurer's stated exposure. Exhibit 1 shows the calculation of the underlap for each of the policies presented and the underlap factor of 54.5% calculated in total for all policies related to Insureds 1 and 2.

If the ceding company's policy parameters are unknown, an estimation of the adjustment to the reinsurer's percentage share, limit, and attachment point must be made. Note that if the cedent's information is unknown, it is difficult to tell whether the reinsurance policy information is stated on a first dollar basis or not. Nonetheless, estimation of the policy parameters is necessary and requires a representative group of reinsurance policies for which the ceding policy information is known. Given the cedent's policy information and the reinsurance policy information, the restated reinsurance policy parameters for the representative group of policies are calculated using the methodology discussed above and shown in Exhibit 1. The relationships between each unadjusted reinsurance policy parameter and its restated reinsurance policy parameter are then determined for this group of policies.

For each of the three reinsurance parameters, a relationship between the unadjusted and adjusted parameter needs to determined. In our studies of representative sets of unadjusted and adjusted reinsurance policy parameters, we have found that the unadjusted reinsurance percentage share and the adjusted reinsurance percentage share have a linear relationship with a relatively high goodness-of-fit. Similarly, the relationship between the unadjusted limit and restated limit parameters is linear with a high goodness-of-fit. Unfortunately, a simple regression on the unadjusted attachment point and the restated attachment point yields a poor fit.

In one situation, we found that by separating the attachment point data into two segments, one with all sets of attachment points whose unadjusted reinsurance attachment point is $5 million or less and another with all sets whose unadjusted reinsurance attachment point is greater than $5 million, a much better fit is achieved. For the group with attachment points above $5 million, the best predictor of the restated attachment point was the unadjusted attachment point plus $1 million. For the group of policies with an unadjusted attachment point of less than $5 million, a distribution of additive amounts was required to estimate the adjusted attachment point.

We surmised that this discrepancy between the relationship for attachment points and the relationships for the other two parameters was due to a difference in reinsurance purchased by attachment point. Generally, facultative reinsurance is purchased with a higher ceding company retention, while treaty reinsurance is purchased with a lower ceding company retention. Facultative reinsurance is more likely to have its percentage share and policy limit stated on a first dollar of loss basis, needing only the addition of the underlying primary limit

to its attachment point. On the other hand, treaty reinsurance policy parameters are not stated on a first dollar of loss basis. Furthermore, treaty reinsurance is written on portfolios of ceding company business with widely ranging attachment points. The combination of these factors causes relationships between unadjusted and adjusted attachment points to vary.

This estimation procedure is only to be used if policy information is unknown. Ideally, the ceding company policy information would be known. However, the estimated restated percentage share, attachment point, and limit are a more accurate reflection of the policy on a first dollar of loss basis than are the unadjusted policy parameters. Once the predictive relationships for calculating the restated policy information are determined in the representative group of policies, results are applied to the reinsurance policies for which the underlying primary policy information is unknown. For each policy of each insured in the selected sample group, a restated percentage share, limit, and attachment point is predicted based upon the unadjusted reinsurance information and the three relationships determined in the representative group.

Once the ground-up policy information for each of the defendants' products liability policies has been determined and other required information is obtained, the data preparation for the sample group is complete and the model can be used.

Use the Model to Estimate the Insurance or Reinsurance Company's Liability for the Sample Group

The asbestos BI model presented in this paper uses a frequency and severity approach to calculate ground-up losses and applies a policy limits analysis to the ground-up losses. It calculates an estimate of an insurance or reinsurance company's asbestos liability for a sample group of representative underlying insureds. This sample can later be used to estimate the total asbestos liability for the insurer or reinsurer. Whether we are analyzing liabilities for an insurer or a reinsurer, the underlying insureds are the manufacturers, installers, and distributors of asbestos products, and not the reinsured insurance companies. For simplicity of presentation, reinsurer ABC Re will be used in this section of the paper to demonstrate the model for both insurance and reinsurance companies.

For each underlying insured in ABC Re's selected sample group, the model projects by calendar year ground-up reported claim counts, ground-up average severity, and thus ground-up aggregate indemnity costs. Expenses are then loaded based on historical expense-to-indemnity ratios of the particular insured. The projected costs are spread over the policy years in the insured's coverage block. Having projected ground-up indemnity and expense costs for each calendar year by policy year, the model can then carve out ABC Re's liability from the ground-up costs for each policy of each insured in the sample group. Summing ABC Re's liability for all insureds gives ABC Re's estimated liability for the entire sample group.

Exhibit 3 presents a partial list of ABC Re's insureds with a known potential for asbestos loss. Insureds 1-15 are included in sample group; the remaining insureds are not. Exhibits 4-9 demonstrate the use of the asbestos BI model to calculate ABC Re's estimated asbestos liability for one insured company in the sample group, Insured 3. Exhibit 4 presents the required model policy input assumptions for Insured 3; Exhibit 5 presents the required model claim

input assumptions for Insured 3. Exhibits 5.1 - 9.1 show the baseline scenario with selected severity trend of 5% and 15 year coverage block. Exhibits 5.2 - 9.2 have 0% and 15 years selected. Exhibits 5.3 - 9.3 have 5% and 25 years selected. Exhibits 5.4 - 9.4 have 0% and 25 years selected. Exhibit 10 shows the aggregate results of all insured defendants in ABC Re's sample group. ABC Re's percentage shares, limits, and attachment points for Insured 3, presented in Exhibits 4-8, have already been restated on a first dollar of loss basis.

The first step of the asbestos model is to calculate the future aggregate ground-up indemnity and expense costs for each sample insured. For ABC Re's Insured 3, this is done in Exhibit 5. Several inputs are necessary to estimate the future aggregate indemnity and expense costs: a claim count reporting pattern, an average severity, a severity trend, and future expense-to-indemnity ratios.

First, a claim count reporting pattern must be calculated for the insured companies in ABC Re's sample group to be used as input in Exhibit 5. This pattern is not ABC Re's claim reporting pattern but rather that of the underlying insureds. The selected pattern for Insured 3 is shown in Exhibits 5.1 - 5.4. Actual calculation of the reporting pattern is beyond the scope of this paper.

Ideally, the necessary claim count reporting pattern is derived from claim count projections developed by researchers expert in both the asbestos-exposed population and the mathematical models which tie claim incidences to such factors as exposure levels and latency period. Such studies are available through bankruptcy courts, who have overseen the formation of liability trust funds for companies undergoing restructuring, and in academic literature. Judgmental

extrapolation of historical claim reporting patterns can alternatively be made, particularly if a shorter time horizon, such as ten years, rather than an ultimate run-off is selected for the review. If sufficient information is available, claim count patterns by tier should be calculated. However, this may be difficult particularly due to the limited available research on Tier 3 and Tier 4 companies.

The second required input on Exhibit 5 is a selected average severity. Dividing total indemnity paid by total closed claims gives a historical paid severity. Dividing indemnity paid in each recent year by its related number of closed claims gives a starting point for the selection of an average reported indemnity to be used for the projection of future costs. The most recent year's average reported severity should also be examined before making the selection.

The third input for Exhibit 5 is a selected severity trend. A 5% severity trend is chosen for Insured 3. Exhibits 5.1 - 10.1, and Exhibits 5.3 - 10.3 use this assumption. To show the impact of different severity trend selections, Exhibits 5.2 - 10.2 and Exhibits 5.4 - 10.4 use a 0% inflation rate.

The severity trend can be based on a review of historical average claim amounts, but should also consider expected future changes. For example, Tier 3 insureds may be expected to experience greater severity trends and consequently a larger share of the total cost, due to the bankruptcy of Tier 1 and 2 insureds and the impact of courts imposing joint-and-several liability. Changes in the mix of claims by disease type could also affect future trends. A decrease in severe asbestosis cases coupled with an increase in claims filed for pleural plaques

would be expected to reduce future claim trends as plaintiffs with pleural plaques may receive little or no compensation. Given these potential impacts on future average severities, alternative claim trend assumptions should be tested to derive a range of estimated liabilities.

The fourth input required for Exhibit 5 is the selected expense-to-indemnity ratio for each calendar year. A 50% expense-to-indemnity ratio is selected for Insured 3 as shown on Exhibits 5.1 - 5.4 for all future calendar years.

The expense-to-indemnity ratio for each insured in the sample should be based on several factors. The historical expense-to-indemnity ratio for the particular insured is a good starting point. However, other factors must also be considered. The existence of legal precedents for many once hotly debated legal issues relating to asbestos personal injury liability suggests a declining trend in defense costs. The likelihood of out of court settlements must also be considered. A systematic approach by the underlying insured defendant to settlement of asbestos cases, such as a CCR or Johns-Manville matrix of specific dollar ranges for each disease, would suggest that more cases would settle than go to court, lowering defense costs. However, a Tier 3 or Tier 4 company increasingly being named in suits might start aggressively defending suits, thus raising defense costs. Each underlying insured must be examined carefully to determine reasonable expense-to-indemnity ratios for each projected calendar year. Fortunately, the model's flexibility allows different ratios by insured by calendar year.

The second step of the model is to allocate the projected aggregate ground-up indemnity and expense costs to policy years within the insured's coverage block. If an insured's actual coverage block is known, it should be used. Exhibit 6 presents the projected calendar year

ground-up indemnity costs from Exhibit 5 spread across Insured 3's coverage block. Exhibit 7 differs from Exhibit 6 by including both indemnity and expense costs, calculated by applying the selected expense-to-indemnity ratios from Exhibit 5. Insured 3's coverage block is 1960 through 1974. There is a chance that Insured 3 will pursue a coverage block of 1960-1984 to get more insurance coverage. Exhibits 6.1 - 10.1 and Exhibits 6.2 - 10.2 use the 15 year coverage block. To demonstrate the impact of a different coverage block selection, Exhibits 6.3 - 10.3 and Exhibits 6.4 - 10.4 use a coverage block selection of 25 years, 1960 through 1984.

An insured's actual procedure for allocating costs to years within its coverage block should be used if known; otherwise the allocation should be based on a logical procedure. One possible allocation method is to weight each year within the block by the total limits of all insurance policies with all insurers during the coverage block years. However, because the limits from all of the insured's policies may be difficult to ascertain, some subjective weighting to all years in the coverage block may have to suffice. Another possible approach is to give larger weights for more recent years in the insured's coverage block to reflect the general increase in insurance limits purchased over time. A third alternative is to weight each year in the coverage block equally. For simplicity, each year in Insured 3's coverage block receives equal weighting in Exhibits 6 and 7.

The third step in the model is to calculate for each policy year the ground-up indemnity and expense dollars which fall into the insurance or reinsurance company's layers of coverage. ABC Re's liability for Insured 3 is calculated by carving out Insured 3's projected ground-up indemnity and expense dollars that hit ABC Re's layers of insurance as shown in Exhibit 8.

ABC Re's 1958 policy for Insured 3 is not included because policy year 1958 is outside Insured 3's coverage block, 1960 through 1974 for Exhibits 8.1 and 8.2, and 1960 through 1984 for Exhibits 8.3 and 8.4. As long as 1958 is outside Insured 3's coverage block, ABC Re's 1958 policy with Insured 3 is not exposed to potential asbestos losses. Seven ABC Re policies are within Insured 3's coverage block (both the 15 and 25 years). For simplicity of presentation, each of the policies in the example are in distinct policy years. If ABC Re had multiple layers of insurance coverage for Insured 3 in the same policy year, a simple adjustment to Exhibit 8 could be made: each policy's appropriate layer would be carved out of the total indemnity and expense costs allocated to that particular policy year.

To demonstrate the effects of different expense treatments on policies, Exhibit 8 shows each of the three most common expense treatments: indemnity only, expenses included in the limit, and pro-rata expenses in addition to limits. The attachment point, percentage share in the layer, and total limit of liability also vary in these seven policies to show the effects of each. Typically, for a given layer of insurance for a particular company, the expense treatment would be more consistent; expense treatment is varied here for illustrative purposes only. The determination of whether loss and expense hit a layer can be calculated in two ways for policies with expenses included in the limit: either add expenses before applying attachment point or add expenses once indemnity is in the layer. Both ways should be tested in the real world because the lower layer policies' expense treatment determines the appropriate method.

The projected loss and expense in ABC Re's layers shown on Exhibits 8.1 - 8.4 are calculated by carving out the appropriate ground-up loss and expense from Exhibits 5, 6, and 7. The method of carving out the loss and expense varies based on whether the policy for which the

liability is being calculated has expense treatment of indemnity only, expenses included in the limit, or expenses in addition to the limit (pro rata). For all three types of policies, the general methodology to calculate Exhibit 8's cumulative reported liability in the layer is: the prior calendar year's liability in the layer for the policy year (the number to its left on Exhibit 8) added to the incremental increase in indemnity and expense (where appropriate), taking into account attachment point, limit, and percentage share. To illustrate this, the calculation of Exhibit 8.1 calendar year 2003's numbers for policy years 1971, 1969, and 1968 will be shown.

The 1971 policy is an indemnity only policy with a projected reported liability of $1,629 ($ in 000's). The $1,629 equals $1,455 from the prior calendar year added to $174. The $174 is 100% (the policy percentage share in 1971) times ($3,629 - $3,455), the incremental increase in indemnity shown on Exhibit 6.1. Development on this policy year continues until calendar year 2006 when the policy is projected to exhaust its 100% share of the $2 million limit.

The 1969 policy is an ultimate net loss, or expenses included in the limit, policy. As the footnote on Exhibit 8.1 indicates, the process of calculating when losses and expenses hit this layer varies depending on underlying policies. For all policies of this type in Exhibit 8.1, expenses are added to indemnity before applying the attachment point and limits. The $1,944 for policy year 1969 as of calendar year 2003 equals $1,683 from the prior calendar year plus $261. $261 is calculated as 100% (1969 policy's percentage share) times ($5,444 - $5,183), the incremental indemnity and expense during calendar year 2003 from Exhibit 7.1. Note that the 1969 policy is penetrated much earlier than the 1968 policy, one that is identical to

the 1969 policy except for its expense treatment. Also note that the 1969 policy's ultimate liability is $4,000,(000), equaling 100% of $4 million.

The 1968 policy is a pro rata policy. In calendar year 2003 its reported liability is $194. Because this is the first calendar year in which the policy is penetrated, the calculation needs to take into account the attachment point of the policy. Therefore the calculation is $0 added to 100% times ($5,444 - $5,183), incremental indemnity and expense during calendar year 2003 from Exhibit 7.1, times ($3,629 - $3,500)/($3,629 - $3,455), the portion of indemnity that penetrated the 1968 policy layer of $4 million excess $3.5 million. These indemnity amounts come from Exhibit 6.1. Note that ultimately its liability is $5,163, greater than the 1969 liability of $4,000, because expenses are in addition to the limit on the 1968 pro rata policy. Furthermore, the 1970 policy is identical to the 1968 policy except that its percentage share is 25 percent. At every calendar year, the 1970 policy's reported liability is 25 percent of the 1968 policy's liability.

Contrasting the development of ground-up costs in Exhibits 6.1 and 7.1 with the development of costs in the insurance layers in Exhibit 8.1 provides much insight. As expected, Insured 3 has projected reported ground-up losses (in Exhibits 6.1 and 7.1) several years before ABC Re has reported losses in its layer. However ABC Re's loss reporting pattern is not necessarily faster or slower than Insured 3's. In Exhibit 9.1, ABC Re's pattern is ultimately faster because Insured 3 will exhaust some or all of ABC Re's retained layers and yet will continue to incur losses for several years. This is due primarily to ABC Re's attachment points (its ground-up attachment points are low relative to the total amount of ground-up losses) and the size of ABC Re's limits (its ground-up limits are small relative to

total ground-up losses). Exhibit 9.2 demonstrates the reverse. If ABC Re's layers attached at a very high point relative to the total amount of ground-up losses, as is the case for some underlying sample insureds in Exhibit 3, ABC Re's pattern might be slower than the underlying insureds and policies might incur little or no loss, as seen in Exhibit 10. This relationship between attachment point, limit, and asbestos loss development is a point to be considered by both the underlying insureds and insurers in evaluating asbestos insurance coverage issues.

The comparison of the development of costs across policies in Exhibit 8.1 provides further insight. As would be expected, reported development is a function of the magnitude of the attachment point and total limits, while total liability is a function of the percentage share and total limits of the layer. Each of the policy years for Insured 3 were allocated the same ground-up cost. However, the different expense treatment in the 1965 and 1967 reinsurance policies (see Exhibit 8.1) causes the 1967 policy year to report over 200% more liability than the 1965 policy year in calendar year 2000. Furthermore, the 1965 policy year has $0.6 million more reported liability in calendar year 2000 than does the 1968 policy year, even though the 1968 policy has a larger total limit and the policies have the same expense treatment; this is because the higher attachment point on the 1968 policy causes less of the total ground-up indemnity and expenses to hit the layer in that year.

A comparison of the 1968 and 1970 policies in Exhibit 8.1 illustrates the effect of the percentage share. Each has the same attachment point and the same total limit, but the insurer's participation in 1968 was 100% while in 1970 it was 25%. Thus, for every dollar that

penetrates these layers of $4.0 million excess $3.5 million, $1 hits the 1968 policy and only $.25 hits the 1970 policy.

The most important point illustrated on Exhibit 8.1 is that development for asbestos losses is not a function of the age of the accident or policy year. The least mature policy for ABC Re for Insured 3 is 1971. The 1971 policy year develops to ultimate faster than all but one other policy year, 1967. This pattern of development is not unusual because of the long latency of asbestos-related diseases and the allocation to policy year. Therefore, historical asbestos accident or policy year loss development is not representative of future development.

Exhibit 9 gives a comparison of Insured 3's allocation of costs on a ground-up basis versus ABC Re's liability in the layer. Exhibit 9 demonstrates the differences in development for policy year 1968 and across all policy years in the coverage block, both in dollars and as a percentage of ultimate.

The fourth step of the asbestos BI model is to sum the losses in the insurance layers across all sample group defendants. The steps performed in Exhibits 5 through 8 for Insured 3 under the four scenarios are repeated for all other insureds in ABC Re's sample group. The sum of these calculations for all insureds in the sample group is shown on Exhibit 10. The totals from Exhibit 10 represent the estimate of ABC Re's liability under the various scenarios for the sample group.

ABC Re's loss reporting pattern for each insured and for the entire sample group can be derived from Exhibit 10. The sum of the asbestos liabilities for all companies in the sample

group gives an overall loss reporting pattern for ABC Re. If enough companies from each tier are included in the sample group to give credible results by tier, ABC Re's reporting pattern by tier can also be calculated from Exhibit 10. Using ABC Re's estimated reported losses in the insurance layers for each calendar year, overall loss development factors for ABC Re can be calculated.

Conduct Sensitivity Testing of Model

Due to the inherent uncertainty in the asbestos litigation, different scenarios should be examined to: 1) test the model's sensitivity to certain parameters or estimates, and 2) compute a range of estimates of liability for the sample group. The two parameters in the model with the most uncertainty are the future severity trend and the insureds' coverage blocks. Therefore, variations in the assumptions for both of these should be examined, as was done with the four scenarios included in Exhibits 5 - 10. Other parameters, such as the projected expense-to-indemnity ratio should be considered to determine if sensitivity testing is necessary.

Exhibit 10 also shows ABC Re's aggregate exposure to each underlying insured in the sample group. Given an aggregate exposure for each insured and ABC Re's estimated ultimate loss for each insured, a projected percentage of exposure eroded by claims for each insured can be calculated as well as subtotaled by tier. This can be helpful in extrapolating the model results to all of ABC Re's underlying insureds.

Using the results of the different scenarios, a range of estimates can be derived for the sample group's liability. Weights applied to each scenario should be based on the projected likelihood

of the scenario. Exhibit 11 calculates the average ABC Re asbestos liability for its sample group insureds using the results from Exhibits 10.1 - 10.4. The size of the indicated range in Exhibit 11, about $50 million, is large both on a percentage and a dollar basis. However, note that approximately $20 million of the range comes solely from the selection of the severity trend. This emphasizes the need to do sensitivity testing when working with projections so far into the future. We have shown a selected range based on averages of the two 25 year coverage block projections and the two 15 year coverage block projections. Thus, we are averaging the 0% and 5% severity trend indications. Note that this gives a different indication then simply selecting a 2.5% severity trend assumption due to the interaction of the ground-up losses and the policy layers.

Our overall selected estimate is based on a 75%/25% weighting of the 15-year and 25-year coverage block indications. The 25% weight to the 25-year coverage block reflects the assumed likelihood of the insureds' success in pursuing an expanded coverage block.

There may be some final considerations before extrapolating the model results of the sample group to all insureds. First, the range of results may indicate the inappropriateness of some of the model's parameters. Changes to some parameters may be necessary; it is possible that new assumptions may need to be tested.

Second, the loss reporting pattern produced by the model will likely be faster than that experienced by the insurance or reinsurance company because of the inherent lag in reporting between the insured, the insurer, and the reinsurer. That is, the reporting pattern produced by the model is developed from each underlying insured's expected claim reporting pattern

and does not reflect delays in the insurance reporting and reserving process. Likewise, if the insurance or reinsurance company establishes case reserves that incorporate a provision for IBNR claims (as is often the case when it is apparent that with continued claim reporting policy limits will be exhausted) then the model-produced pattern may be too slow. Both of these possibilities need to be considered.

Extrapolation of Model Results

With the model results for the sample group quantified, the estimated ultimate asbestos liabilities for all of ABC Re's underlying insureds can now be calculated. There are several ways to extrapolate the sample group model results to reflect ABC Re's total expected liabilities. The appropriateness of a particular method depends on the nature of the company's exposures as well as its claims handling and reserving procedures. Potential methods are: 1) percent of layer exhausted by tier, 2) development factor by tier, 3) percent of exposed limits exhausted by tier, 4) average ultimate loss by tier times number of insureds, and 5) extrapolation from Tiers 1 and 2.

The first method is a percent of layer exhausted method. By tier, develop estimates of the percent of layers expected to be exhausted by asbestos BI claims. That is, the sample group Tier 2 insureds could be run through the model with the company's policy limits and attachment points overwritten by the following layers:

- primary $500,000;
- $500,000 xs $500,000;

- $4 million xs $1 million;
- $5 million xs $5 million;
- $15 million xs $10 million;
- $25 million xs $25 million;
- $50 million xs $50 million.

The model output would provide an estimate of the percent of these layers expected to be exhausted by BI claims. Thus, exposures for non-sample Tier 2 insureds could be arrayed by layer and the selected percentages applied to derive estimates of the company's ultimate liabilities associated with all Tier 2 insureds. This could then be repeated for other tier categories.

Exhibit 12 provides an example of one part of this analysis, the calculation of ABC Re's liability for Insured 3 in the $5 million excess $5 million layer. To do this, the model is used for Insured 3 policies, with the policies' ground-up limits, attachment points, and percentage shares overridden by $5 million, $5 million, and 100%, respectively. This is done for all Insured 3 policies.

Exhibit 13 shows a grid which would ultimately be completed for use in extrapolation method one. In calculating the percent eroded by layer by tier, all insured's in the sample group would be run through the model using the desired policy layers in place of the actual policy exposures. The exposures from the insureds not in the sample group would be arrayed in a similar matrix as they are in Exhibit 13, by layer by tier. The matrix of exposures would be multiplied by each corresponding cell in the percent eroded matrix to determine the ultimate

liability of the non-sample group. For example, assume ABC Re's exposure in the $5 million excess $5 million layer was $100 million for Tier 2 non-sample group companies. $100 million times 42% from Exhibit 13 gives projected ultimate liability of $42 million for the Tier 2, $5 million excess $5 million layer. This calculation would be repeated for each tier and layer combination and the results would be summed. It would then be necessary to combine this estimate for the non-sample group with the selected estimate of $153 million (Exhibit 11) for the sample group to produce an estimate of ABC Re's total liabilities.

This approach is likely better than the other approaches outlined below. However, it is also the most cumbersome as it requires attachment point and limits information on all exposures. The likelihood of asbestos exclusions applying in certain years or policies falling outside the insureds' coverage blocks should be considered.

The second method is performed by determining the development factor to ultimate by tier implied by the model output relative to the reported case incurred loss and expense held by the company for the sample group. The development factors are then applied to the total incurred loss and expense for each tier category. This approach assumes consistent case reserving for sample group insureds versus other insureds. Grouping the insureds by tier is expected to result in more homogeneous groupings with respect to case reserving and layers exposed, but differences between the sample and non-sample group should be explored in the extrapolation procedure. For example, if the information available for insureds in the sample group is more complete than the non-sample group, then an extrapolation might result in an understatement of total liability because too small a development factor is applied to the less developed losses. Likewise, if the company wrote policies with a wide range of attachment

points and the sample group represents insureds with lower layer policies, case reserving may not be as adequate on the non-sample group with higher layer policies. Thus, the development factors may be expected to differ for the two groups due to the different layers exposed.

The reported case incurred loss and expense development factors by tier by scenario are found on Exhibit 10. The selection of development factors based on all four scenarios is shown on Exhibit 14. These factors by tier would be multiplied by the non-sample group reported loss and expense by tier to calculate an ultimate loss and expense for non-sample group insureds. For example, assuming ABC Re's non-sample group Tier 1's have reported loss and expense of $20 million dollars, the calculated non-sample group Tier 1 ultimate liability would be $20 million times 1.935 from Exhibit 14, or $39 million. This calculation would be repeated for each tier and summed. Adding to this sum the ultimate liability of the sample group, $153 million from Exhibit 11, would yield ABC Re's total asbestos BI liability based on extrapolation method two.

The third extrapolation method is to calculate by tier the percent of exposed policy limits ultimately exhausted by the asbestos BI claims, as projected in the model, and apply these percentages to the total exposed policy limits by tier. Differences in exposed limits by attachment point for the sample versus non-sample group should be considered in applying this procedure.

The ultimate loss and expense as a percentage of exposure can be found on Exhibit 10. The selection of percent of exposure factors based on all four scenarios is shown on Exhibit 15.

These factors by tier would be multiplied by the non-sample group exposure by tier to calculate the estimated liability for the non-sample group. For example, assuming ABC Re's non-sample group Tier 2's have exposure of $50 million for all layers, the estimated Tier 2 liability would be $50 million times 30.7%, or $15 million. This calculation would be repeated for each tier and summed. Note that the non-sample group exposure by tier is the sum of each tier's non-sample group exposure by layer which was used in extrapolation method one. Adding the sample group's ultimate liability of $153 million from Exhibit 11 to the summed estimated ultimate liability for the non-sample group yields ABC Re's total asbestos BI liability based on extrapolation method three.

The fourth method is a frequency times ultimate severity method. By tier, calculate an average ultimate loss and expense amount per insured in the sample group and multiply by the total number of insureds. This approach assumes that the sample group represents a typical distribution of limits written per insured and that the sample group and non-sample group are comprised of insureds with similar exposure distributions. In other words, the sample group should not be selected from the set of claims and the average results applied to the set of precautionary notices. However, extrapolation of the precautionary notice group could be accomplished by estimating the percentage of notices expected to become claims in the future. This could be accomplished by reviewing the magnitude of movement from the notice to the claim category over the past several years.

Exhibit 16 shows the average ultimate loss and expense by tier for each of the four scenarios. From these an average ultimate loss and expense by tier is selected, based on a 75% weight to the 15-year coverage block scenarios and a 25% weight to the 25-year coverage block scenarios.

This selected average amount by tier would be multiplied by the number of non-sample group insureds by tier. For example, if ABC Re had 50 Tier 3 insureds, then ABC Re's projected liability for non-sample group Tier 3 companies would be 50 times $794,000, or $40 million. The $794,000 is from Exhibit 16. This calculation would be repeated for each tier and summed. The sum, equal to the estimated liability for all non-sample group insureds would be added to $138 million, ABC Re's estimated sample group liability, to get the estimate of ABC Re's overall liability based on extrapolation method four.

The fifth method is an extrapolation of Tiers 1 and 2. Use one of the above methods for the Tier 1 and 2 exposures and extrapolate from the Tier 1 and 2 results to the remaining tiers. For example, given the following information for Tiers 1 and 2 versus Tier 3, an extrapolation of the percent of exposed limits exhausted may indicate a range of 6% to 10% for Tier 3 insureds. The selected percentage could then be applied to the aggregate of exposed policy limits for Tier 3 insureds. The assumptions used in this method are presented in Figure 5.

Figure 5

	Average Ground-Up Liabilities (in Millions)	Percent of Exposed Limits Exhausted
Tier 1	3,000	100%-110%
Tier 2	700	25%-35%
Tier 3	50	6%-10%

A subjective extrapolation could also be carried out using the expected percentage reported by tier. For example, if Tier 1 insureds are 55% reported and Tier 2 30% reported, we might estimate that Tier 3 insureds are 15% to 20% reported.

In extrapolating the model results to reflect the company's total liabilities, insureds presenting an unusual type or degree of exposure to the company should be considered separately. For example, an unusual degree of exposure would be when a vast majority of the company's products liability policies were written with aggregate limits but one old policy without an aggregate has surfaced with a Tier 1 named insured. Similarly, if the company generally insured risks categorized as "main street," but a Tier 1 or Tier 2 company was insured for a number of years on a first or second excess of loss layer, the magnitude of the potential asbestos BI liabilities could be substantial relative to other insureds. In addition, a pending dispute regarding significant amounts of potential coverage for a Tier 1 or 2 insured or an applicable settlement agreement would warrant separate consideration. Such cases require discussions with claims department personnel and a review of assumptions underlying case reserves. Estimates for these unusual exposures should be derived on a case-by-case basis and included in the total ultimate loss estimates for the company.

6. Summary and Conclusions

This paper demonstrates a methodology for modeling asbestos BI liabilities. While this policy limits methodology was designed specifically for modeling asbestos BI liability, there may be potential for application to other insurance situations where traditional actuarial techniques do not apply well. There are two clear strengths of this model: 1) its flexibility, and 2) enhanced documentation.

With the model's flexibility, any parameter can be changed for sensitivity analysis. As noted earlier, the average severity trend can be adjusted to test the impact of various inflation

assumptions. The claim count reporting pattern for the sample group can be sped up or lagged. If evidence suggests that certain insureds' expenses are declining relative to indemnity (particularly now that the courts have already resolved many legal issues), the expense-to-indemnity ratio can be adjusted on a year-by-year basis. Finally, if the coverage block of the insured is unknown or changed in a court ruling, the number of years and the weighting of each year in the coverage block can be varied.

Enhanced documentation for modeling asbestos BI liability is another strength of the model and a benefit for claims professionals handling asbestos BI claims. These professionals are often requested to provide input into the process of estimating IBNR claim liabilities on known insureds or are specifically assigned the responsibility of establishing case reserves incorporating unreported claim activity for the foreseeable future. They are likely to follow an approach similar to that used in our model with insureds for which sufficient policy information is known. Benefits of a more formalized model analysis include: 1) an automated process which permits the testing of alternative scenarios and facilitates future updates as additional information emerges, 2) an aggregate view of the company's estimated liabilities to help analyze cash flow requirements or produce benchmarks when historical claims data is not available, and 3) enhanced documentation to support aggregate reserve levels to outside auditors and regulators.

Possible weaknesses of the model include: 1) it is a deterministic rather than a stochastic approach to estimation of the asbestos BI liabilities, and 2) it is dependent on reasonably accurate selection of model parameters. Both of these disadvantages can be minimized

through sensitivity analysis. Several scenarios should be run through the model to estimate the range of potential liabilities and to minimize errors due to parameter mis-estimation.

Possible enhancements to the model or additional areas requiring research in projecting asbestos liabilities include: 1) the inclusion of extra parameters to more comprehensively describe the insurance or reinsurance policy and the potential asbestos exposure associated with the policy, 2) a provision for IBNR associated with insureds who have not yet notified their insurance carriers and are not yet identified by the company, 3) a stochastic approach for analyzing outcomes under different scenarios, 4) a methodology for estimating liabilities associated with premises and operations claims not subject to policy aggregates, and 5) a methodology for estimating property damage claims related to asbestos.

ASBESTOS.ART

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Adjustment to ABC Reinsurance Company's Policy Limits for Policies Assumed from XYZ Insurance Company
Indemnity only*
($ in Millions)

Exhibit 1

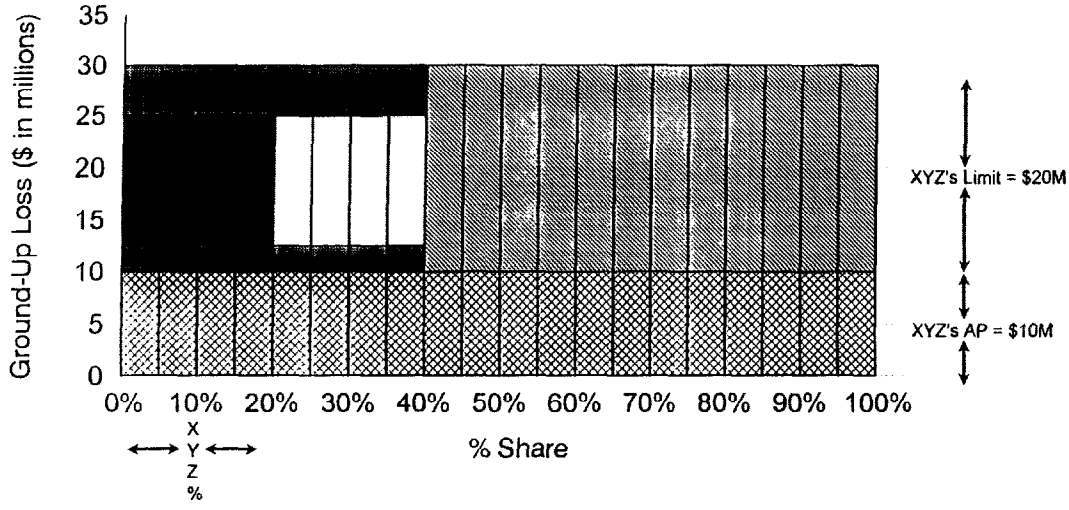
		XYZ Direct Policy Information			ABC Re's Stated Policy Information			ABC Re's Restated Policy Information					
ABC Re Policy Number	Insured Company	Percentage Share	Attachment Point	Limit	Percentage Share	Attachment Point	Limit	Percentage Share	Attachment Point	Limit	ABC Re's Stated Dollar Share	ABC Re's Restated Dollar Share	Underlap Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Insured 1	100.00%	60.00	10.00	7.25%	5.00	5.00	7.25%	65.00	5.00	0.36	0.36	0.00
2	Insured 1	100.00%	5.00	20.00	30.00%	5.00	10.00	30.00%	10.00	10.00	3.00	3.00	0.00
3	Insured 2	40.00%	10.00	20.00	50.00%	1.00	5.00	20.00%	12.50	12.50	2.50	2.50	0.00
4	Insured 2	10.00%	10.00	20.00	50.00%	1.00	5.00	5.00%	20.00	10.00	2.50	0.50	2.00
5	Insured 2	10.00%	10.00	20.00	50.00%	2.25	5.00	5.00%	32.50	0.00	2.50	0.00	2.50
6	Insured 2	50.00%	7.00	25.00	100.00%	5.00	15.00	50.00%	17.00	15.00	15.00	7.50	7.50
7	Insured 2	32.00%	7.00	10.00	100.00%	2.00	2.00	32.00%	13.25	3.75	2.00	1.20	0.80
8	Insured 2	100.00%	7.00	5.00	20.00%	5.00	5.00	20.00%	12.00	0.00	1.00	0.00	1.00
9	Insured 2	100.00%	7.00	5.00	20.00%	2.00	3.00	20.00%	9.00	3.00	0.60	0.60	0.00
10	Insured 2	65.00%	6.00	20.00	20.00%	10.00	5.00	13.00%	21.38	4.62	1.00	0.60	0.40
11	Insured 2	65.00%	11.00	20.00	20.00%	5.00	10.00	13.00%	18.69	12.31	2.00	1.60	0.40
12	Insured 2	10.00%	11.00	50.00	40.00%	4.00	5.00	4.00%	51.00	10.00	2.00	0.40	1.60
13	Insured 2	10.00%	11.00	50.00	40.00%	1.00	5.00	4.00%	21.00	40.00	2.00	1.60	0.40
											36.46	19.86	
									(15) Underlap Factor			54.5%	

Notes:
(3)–(5) Direct policy information. Given.
(6)–(8) Stated reinsurance policy information. Given.
(9) = (3) x (6).
(10) = [(7) / (3)] + (4).
(11) = Max [0 , Min { (8) / (3) , { (5) – ((7) / (3)) } }].
(12) = (6) x (8).
(13) = (9) x (11).
(14) = (12) – (13).
(15) = Total of (13) / Total of (12).

* Expenses are ignored for simplicity of presentation.

ABC Re's Restated Policy Terms for Policy 3 from Exhibit 1

Capped by Upper Constraint 1



a) XYZ attachment point = $10M

b) Other direct writers= 60% of $20M xs $10M

c) Retained by XYZ = 40% of $2.5M xs $10M (for its reinsurance AP), 40%of $5M xs $25M (above its reinsurance layer)

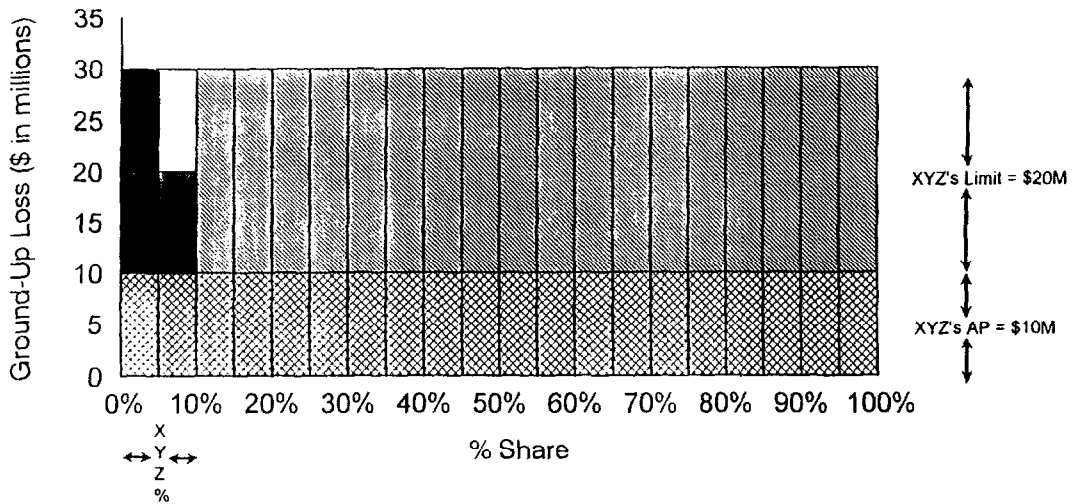
d) XYZ ceded to other reinsurers = 20% of $12.5M xs $12.5M

e) XYZ ceded to ABC = 20% of $12.5M xs $12.5M

(Assume XYZ purchased 1 layer of reinsurance, ABC is one writer of layer. Assume no expenses for simplicity.)

ABC Re's Restated Policy Terms for Policy 4 from Exhibit 1

Capped by Upper Constraint 2



a) XYZ attachment point = $10M

b) Other direct writers= 90%of $20M xs $10M

c) Retained by XYZ = 10% of $10M xs $10M (for its reinsurance AP)

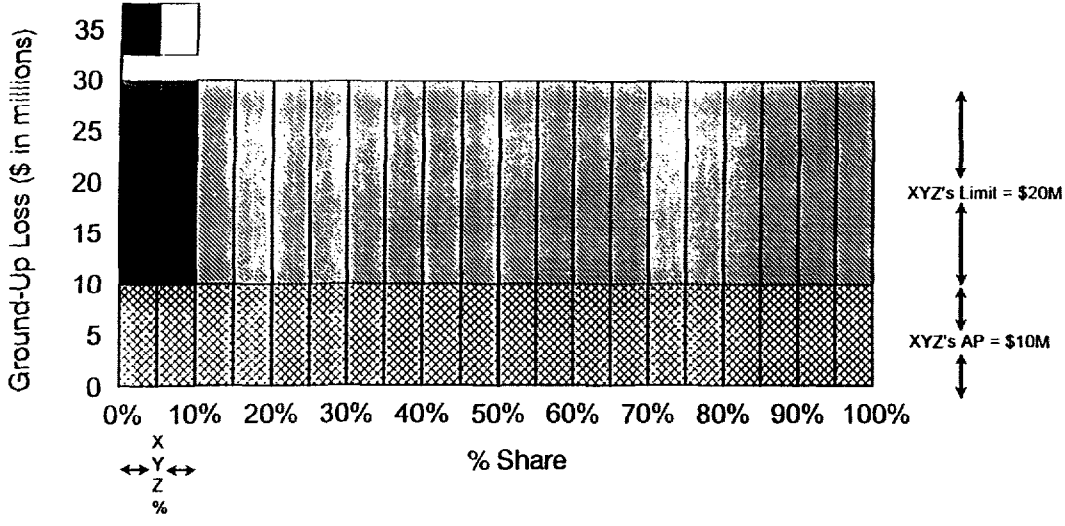
d) XYZ ceded to other reinsurers = 5% of $10M xs $20M

e) XYZ ceded to ABC = 5% of $10M xs $20M

(Assume XYZ purchased 1 layer of reinsurance, ABC is one writer of layer. Assume no expenses for simplicity.)

ABC Re's Restated Policy Terms for Policy 5 from Exhibit 1

Capped by Lower Constraint 1



a) XYZ attachment point = $10M

b) Other direct writers= 90% of $20M xs $10M

c) Retained by XYZ = 10% of $22.5M (capped at $20M) xs $10M (for its reinsurance AP)

d) XYZ ceded to other reinsurers = $0, attaches at $32.5M

e) XYZ ceded to ABC = $0, attaches at $32.5M

(Assume XYZ purchased 1 layer of reinsurance, ABC is one writer of layer. Assume no expenses for simplicity.)

Partial List of ABC Re's Known Asbestos Defendants
($ in Millions)

Exhibit 3

Name of Company	Tier	Ceding Company Policy Information	ABC Re's Policy Information	Included in Sample Group
Insured 1	4	Known	Known	Yes
Insured 2	4	Known	Known	Yes
Insured 3	2	Known	Known	Yes
Insured 4	1	Known	Known	Yes
Insured 5	1	Known	Known	Yes
Insured 6	1	Known	Known	Yes
Insured 7	2	Known	Known	Yes
Insured 8	2	Known	Known	Yes
Insured 9	2	Known	Known	Yes
Insured 10	3	Known	Known	Yes
Insured 11	2	Known	Known	Yes
Insured 12	3	Known	Known	Yes
Insured 13	3	Unknown	Known	Yes
Insured 14	3	Unknown	Known	Yes
Insured 15	3	Unknown	Known	Yes
Insured 16	3	Unknown	Unknown	No
Insured 17	3	Unknown	Unknown	No
Insured 18	3	Unknown	Unknown	No
Insured 19	3	Unknown	Unknown	No
Insured 20	3	Unknown	Unknown	No
Insured 21	3	Unknown	Unknown	No
Insured 22	3	Unknown	Unknown	No
Insured 23	2	Unknown	Unknown	No

ABC Re

Exhibit 4

Asbestos BI Model Policy Information for Underlying Insured 3, a Tier 2 Company

Coverage Block under Baseline Scenario:	1960 – 1974
Coverage Block under Alternative Scenario:	1960 – 1984

25 Year Cov. Block	15 Year Cov. Block	Policy Year	ABC Re Policy w/Insured 3	Restated Percentage Share	Restated Attachment Point	Restated Limits	Expense Treatment
		1958	Yes	100.00%	3,500,000	4,000,000	Pro Rata in Addition to Limit
		1959	None				
1	1	1960	None				
2	2	1961	None				
3	3	1962	None				
4	4	1963	None				
5	5	1964	None				
6	6	1965	Yes	100.00%	2,700,000	2,000,000	Pro Rata in Addition to Limit
7	7	1966	Yes	100.00%	2,700,000	2,000,000	Pro Rata in Addition to Limit
8	8	1967	Yes	100.00%	2,700,000	2,000,000	Expenses included within Limit
9	9	1968	Yes	100.00%	3,500,000	4,000,000	Pro Rata in Addition to Limit
10	10	1969	Yes	100.00%	3,500,000	4,000,000	Expenses included within Limit
11	11	1970	Yes	25.00%	3,500,000	4,000,000	Pro Rata in Addition to Limit
12	12	1971	Yes	100.00%	2,000,000	2,000,000	Indemnity Only
13	13	1972	None				
14	14	1973	None				
15	15	1974	None				
16		1975	None				
17		1976	None				
18		1977	None				
19		1978	None				
20		1979	None				
21		1980	None				
22		1981	None				
23		1982	None				
24		1983	None				
25		1984	None				

Asbestos BI Model for ABC Re's Insured 3
Projection of Future Aggregate Ground-Up Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 15 Years

Exhibit 5.1

Inputs into Model	1993
1) Cumulative Reported Claims to Date	40,000
2) Cumulative Reported Indemnity	28,230,246
3) Historical Exp-to-Indem Ratio	0.5
4) Cumulative Reported Indem & Expense	42,345,369
5) Claims Closed in 1993	2,000
6) Indemnity and Expense Paid in 1993	1,800,000
7) Average Pd Indemnity & Expense in 1993	900
8) Selected average reported claim severity	1,000

	Calendar Year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
9) Projected Incremental Reported Claims	2,500	2,200	2,200	2,200	2,100	2,000	1,900	1,800	1,700	1,600
10) Selected Annual Severity Trend	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
11) Trended Severity	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629
12) Projected Incremental Indemnity Costs	2,625,000	2,425,500	2,546,775	2,674,114	2,680,191	2,680,191	2,673,491	2,658,420	2,637,258	2,608,231
13) Selected Expense-to-Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
14) Projected Incremental Indemnity & Expense Costs	3,937,500	3,638,250	3,820,163	4,011,171	4,020,287	4,020,287	4,010,236	3,988,130	3,955,887	3,909,347
15) Projected Cumulative Indemnity Costs	30,855,246	33,280,746	35,827,521	38,501,635	41,181,826	43,862,018	46,535,508	49,194,928	51,832,186	54,438,418
16) Projected Cumulative Indemnity & Expense Costs	46,282,869	49,921,119	53,741,282	57,752,453	61,772,739	65,793,026	69,803,263	73,792,392	77,748,279	81,657,626

	Calendar Year										Projected
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate*
9) Projected Incremental Reported Claims	1,500	1,400	1,300	1,200	1,100	1,000	900	800	700	600	
10) Selected Annual Severity Trend	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
11) Trended Severity	1,710	1,796	1,886	1,980	2,079	2,183	2,292	2,407	2,527	2,653	
12) Projected Incremental Indemnity Costs	2,565,509	2,514,189	2,451,344	2,375,918	2,288,821	2,182,875	2,062,818	1,925,295	1,768,865	1,591,879	
13) Selected Expense-to-Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
14) Projected Incremental Indemnity & Expense Costs	3,848,264	3,771,298	3,677,016	3,563,877	3,430,231	3,274,312	3,094,225	2,887,943	2,653,298	2,387,968	
15) Projected Cumulative Indemnity Costs	57,003,927	59,518,125	61,969,469	64,345,387	66,632,208	68,815,083	70,877,899	72,803,195	74,572,060	76,164,038	104,131,118
16) Projected Cumulative Indemnity & Expense Costs	85,505,890	89,277,188	92,954,204	96,518,081	99,948,312	103,222,624	106,316,849	109,204,792	111,858,090	114,246,058	156,196,578

Notes:
(1) - (6) From Insured 3's claim experience.
(7) = (6) / (5).
(8),(10) Selected based on historical and anticipated claim severity trends.
(9) See paper for discussion of calculation of reporting pattern.
(11) = Prior (11) x (1.0 + Current (10)).
(12) = (9) x (11).
(13) Selected based on historical and anticipated claim expense to indemnity ratios.
(14) = (12) x (1.0 + (13)).
(15) = Cumulative (12).
(16) = Cumulative (14).

* Ultimate value is calculated by continuation of patterns beyond years shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 5.2

Projection of Future Aggregate Ground-Up Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 15 Years

Inputs into Model	1993
1) *Cumulative Reported Claims to Date*	40,000
2) Cumulative Reported Indemnity	28,230,246
3) Historical Exp - to - Indem Ratio	0.5
4) Cumulative Reported Indem & Expense	42,345,369
5) Claims Closed in 1993	2,000
6) Indemnity and Expense Paid in 1993	1,800,000
7) Average Pd Indemnity & Expense in 1993	900
8) Selected average reported claim severity	1,000

	Calendar Year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
9) Projected Incremental Reported Claims	2,500	2,200	2,200	2,200	2,100	2,000	1,800	1,800	1,700	1,600
10) Selected Annual Severity Trend	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11) *Trended Severity*	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
12) Projected Incremental Indemnity Costs	2,500,000	2,200,000	2,200,000	2,200,000	2,100,000	2,000,000	1,800,000	1,800,000	1,700,000	1,600,000
13) Selected Expense - to - Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
14) Projected Incremental Indemnity & Expense Costs	3,750,000	3,300,000	3,300,000	3,300,000	3,150,000	3,000,000	2,850,000	2,700,000	2,550,000	2,400,000
15) Projected Cumulative Indemnity Costs	30,730,246	32,930,246	35,130,246	37,330,246	39,430,246	41,430,246	43,330,246	45,130,246	46,830,246	48,430,246
16) Projected Cumulative Indemnity & Expense Costs	46,095,369	49,395,369	52,695,369	55,995,369	59,145,369	62,145,369	64,995,369	67,695,369	70,245,369	72,645,369

	Calendar Year										Projected
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate*
9) Projected Incremental Reported Claims	1,500	1,400	1,300	1,200	1,100	1,000	900	800	700	600	
10) Selected Annual Severity Trend	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
11) *Trended Severity*	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
12) Projected Incremental Indemnity Costs	1,500,000	1,400,000	1,300,000	1,200,000	1,100,000	1,000,000	900,000	800,000	700,000	600,000	
13) Selected Expense - to - Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
14) Projected Incremental Indemnity & Expense Costs	2,250,000	2,100,000	1,950,000	1,800,000	1,650,000	1,500,000	1,350,000	1,200,000	1,050,000	900,000	
15) Projected Cumulative Indemnity Costs	49,930,246	51,330,246	52,630,246	53,830,246	54,930,246	55,930,246	56,830,246	57,630,246	58,330,246	58,930,246	65,755,246
16) Projected Cumulative Indemnity & Expense Costs	74,695,369	76,995,369	78,945,369	80,745,369	82,395,369	83,895,369	85,245,369	86,445,369	87,495,369	88,395,369	98,632,869

Notes

(1) - (6) From insured 3's claim experience.

(7) = (6) / (5)

(8),(10) Selected based on historical and anticipated claim severity trends.

(9) See paper for discussion of calculation of reporting pattern.

(11) = Prior (11) x (1.0 + Current (10)).

(12) = (9) x (11).

(13) Selected based on historical and anticipated claim expense to indemnity ratios.

(14) = (12) x (1.0 + (13)).

(15) = Cumulative (12).

(16) = Cumulative (14).

* *Ultimate value is calculated by continuation of patterns beyond years shown.*

Asbestos BI Model for ABC Re's Insured 3 Exhibit 5.3
Projection of Future Aggregate Ground-Up Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 25 Years

Inputs into Model	1993
1) Cumulative Reported Claims to Date	40,000
2) Cumulative Reported Indemnity	28,230,246
3) Historical Exp-to-Indem Ratio	0.5
4) Cumulative Reported Indem & Expense	42,345,369
5) Claims Closed in 1993	2,000
6) Indemnity and Expense Paid in 1993	1,800,000
7) Average Pd Indemnity & Expense in 1993	900
8) Selected average reported claim severity	1,000

	Calendar Year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
9) Projected Incremental Reported Claims	2,500	2,200	2,200	2,200	2,100	2,000	1,900	1,800	1,700	1,600
10) Selected Annual Severity Trend	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
11) Trended Severity	1,050	1,103	1,158	1,216	1,276	1,340	1,407	1,477	1,551	1,629
12) Projected Incremental Indemnity Costs	2,625,000	2,425,500	2,546,775	2,674,114	2,680,191	2,680,191	2,673,491	2,659,420	2,637,258	2,606,231
13) Selected Expense-to-Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
14) Projected Incremental Indemnity & Expense Costs	3,937,500	3,638,250	3,820,163	4,011,171	4,020,287	4,020,287	4,010,236	3,988,130	3,955,887	3,909,347
15) Projected Cumulative Indemnity Costs	30,855,246	33,280,746	35,827,521	38,501,635	41,181,826	43,862,018	46,535,508	49,194,928	51,832,186	54,438,418
16) Projected Cumulative Indemnity & Expense Costs	46,282,869	49,921,119	53,741,282	57,752,453	61,772,739	65,793,026	69,803,263	73,792,392	77,748,279	81,657,626

	Calendar Year										Projected
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate*
9) Projected Incremental Reported Claims	1,500	1,400	1,300	1,200	1,100	1,000	900	800	700	600	
10) Selected Annual Severity Trend	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
11) Trended Severity	1,710	1,796	1,886	1,980	2,079	2,183	2,292	2,407	2,527	2,653	
12) Projected Incremental Indemnity Costs	2,565,509	2,514,199	2,451,344	2,375,818	2,286,821	2,182,875	2,062,816	1,925,295	1,768,885	1,591,979	
13) Selected Expense-to-Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
14) Projected Incremental Indemnity & Expense Costs	3,848,264	3,771,298	3,677,016	3,563,877	3,430,231	3,274,312	3,094,225	2,887,943	2,653,298	2,387,968	
15) Projected Cumulative Indemnity Costs	57,003,927	59,518,125	61,969,469	64,345,287	66,632,208	68,815,083	70,877,899	72,803,195	74,572,080	76,164,038	104,131,118
16) Projected Cumulative Indemnity & Expense Costs	85,505,890	89,277,188	92,954,204	96,518,081	99,948,312	103,222,824	106,316,849	109,204,792	111,858,090	114,246,058	156,196,678

Notes:
(1) - (6) From Insured 3's claim experience.
(7) = (6) / (5).
(8),(10) Selected based on historical and anticipated claim severity trends.
(9) See paper for discussion of calculation of reporting pattern.
(11) = Prior (11) x (1.0 + Current (10)).
(12) = (9) x (11).
(13) Selected based on historical and anticipated claim expense to indemnity ratios.
(14) = (12) x (1.0 + (13)).
(15) = Cumulative (12).
(16) = Cumulative (14).

* Ultimate value is calculated by continuation of patterns beyond years shown.

Asbestos BI Model for ABC Re's Insured 3
Projection of Future Aggregate Ground-Up Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 25 Years

Exhibit 5.4

Inputs into Model	1993
1) Cumulative Reported Claims to Date	40,000
2) Cumulative Reported Indemnity	26,230,246
3) Historical Exp - to - Indem Ratio	0.5
4) Cumulative Reported Indem & Expense	42,345,369
5) Claims Closed In 1993	2,000
6) Indemnity and Expense Paid in 1993	1,800,000
7) Average Pd Indemnity & Expense in 1993	900
8) Selected average reported claim severity	1,000

	Calendar Year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
9) Projected Incremental Reported Claims	2,500	2,200	2,200	2,200	2,100	2,000	1,900	1,800	1,700	1,600
10) Selected Annual Severity Trend	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11) Trended Severity	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
12) Projected Incremental Indemnity Costs	2,500,000	2,200,000	2,200,000	2,200,000	2,100,000	2,000,000	1,900,000	1,800,000	1,700,000	1,600,000
13) Selected Expense - to - Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
14) Projected Incremental Indemnity & Expense Costs	3,750,000	3,300,000	3,300,000	3,300,000	3,150,000	3,000,000	2,850,000	2,700,000	2,550,000	2,400,000
15) Projected Cumulative Indemnity Costs	30,730,246	32,930,246	35,130,246	37,330,246	39,430,246	41,430,246	43,330,246	45,130,246	46,830,246	48,430,246
16) Projected Cumulative Indemnity & Expense Costs	46,095,369	49,395,369	52,695,369	55,995,369	59,145,369	62,145,369	64,995,369	67,695,369	70,245,369	72,645,369

	Calendar Year										Projected
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate*
9) Projected Incremental Reported Claims	1,500	1,400	1,300	1,200	1,100	1,000	900	800	700	600	
10) Selected Annual Severity Trend	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	
11) Trended Severity	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
12) Projected Incremental Indemnity Costs	1,500,000	1,400,000	1,300,000	1,200,000	1,100,000	1,000,000	900,000	800,000	700,000	600,000	
13) Selected Expense - to - Indemnity Ratio	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
14) Projected Incremental Indemnity & Expense Costs	2,250,000	2,100,000	1,950,000	1,800,000	1,650,000	1,500,000	1,350,000	1,200,000	1,050,000	900,000	
15) Projected Cumulative Indemnity Costs	49,930,246	51,330,246	52,630,246	53,830,246	54,930,246	55,930,246	56,830,246	57,630,246	58,330,246	58,930,246	65,755,246
16) Projected Cumulative Indemnity & Expense Costs	74,895,369	76,995,369	78,945,369	80,745,369	82,395,369	83,895,369	85,245,369	86,445,369	87,495,369	88,395,369	98,632,869

Notes:
(1) - (6) From Insured 3's claim experience.
(7) = (6) / (5).
(8),(10) Selected based on historical and anticipated claim severity trends.
(9) See paper for discussion of calculation of reporting pattern.
(11) = Prior (11) x (1.0 + Current (10)).
(12) = (9) x (11).
(13) Selected based on historical and anticipated claim expense to indemnity ratios.
(14) = (12) x (1.0 + (13)).
(15) = Cumulative (12).
(14) = Cumulative (14).

* Ultimate value is calculated by continuation of patterns beyond years shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 6.1

Insurer 3's Cumulative Ground-Up Losses, Indemnity Only, Annual Inflation = 5.0% / Coverage Block = 15 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1961	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1962	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1963	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1964	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1965	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1966	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1967	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1968	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1969	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1970	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1971	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1972	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1973	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1974	6.67%	2,057	2,219	2,389	2,567	2,745	2,924	3,102	3,280	3,455	3,629
1975 - 84	0.00%	0	0	0	0	0	0	0	0	0	0
Total	100.00%	30,855	33,281	35,828	38,502	41,182	43,862	46,536	49,195	51,832	54,438

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1961	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1962	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1963	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1964	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1965	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1966	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1967	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1968	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1969	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1970	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1971	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1972	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1973	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1974	6.67%	3,800	3,968	4,131	4,290	4,442	4,588	4,725	4,854	4,971	5,078	6,942
1975 - 84	0.00%	0	0	0	0	0	0	0	0	0	0	0
Total	100.00%	57,004	59,518	61,969	64,345	66,632	68,815	70,878	72,803	74,572	76,164	104,131

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.1, Item (15).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 6.2

Insurer 3's Cumulative Ground-Up Losses, Indemnity Only, Annual Inflation = 0.0% / Coverage Block = 15 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1961	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1962	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1963	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1964	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1965	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1966	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1967	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1968	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1969	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1970	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1971	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1972	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1973	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1974	6.67%	2,049	2,195	2,342	2,489	2,629	2,762	2,889	3,009	3,122	3,229
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0
Total	100.00%	30,730	32,930	35,130	37,330	39,430	41,430	43,330	45,130	46,830	48,430

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1961	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1962	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1963	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1964	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1965	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1966	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1967	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1968	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1969	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1970	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1971	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1972	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1973	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1974	6.67%	3,329	3,422	3,509	3,589	3,662	3,729	3,789	3,842	3,889	3,929	4,384
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0	0
Total	100.00%	49,930	51,330	52,630	53,830	54,930	55,930	56,830	57,630	58,330	58,930	65,755

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.2, Item (15).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3
Insurer 3's Cumulative Ground-Up Losses, Indemnity Only, Annual Inflation = 5.0% / Coverage Block = 25 Years
($000's)

Exhibit 6.3

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1961	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1962	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1963	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1964	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1965	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1966	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1967	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1968	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1969	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1970	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1971	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1972	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1973	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1974	4.00%	1,234	1,331	1,433	1,540	1,647	1,754	1,861	1,968	2,073	2,178
1975-84	40.00%	12,342	13,312	14,331	15,401	16,473	17,545	18,614	19,678	20,733	21,775
Total	100.00%	30,855	33,280	35,828	38,502	41,182	43,862	46,535	49,195	51,832	54,438

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1961	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1962	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1963	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1964	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1965	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1966	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1967	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1968	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1969	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1970	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1971	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1972	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1973	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1974	4.00%	2,280	2,381	2,479	2,574	2,665	2,753	2,835	2,912	2,983	3,047	4,165
1975-84	40.00%	22,802	23,807	24,788	25,738	26,653	27,526	28,351	29,121	29,829	30,466	41,652
Total	100.00%	57,004	59,518	61,970	64,345	66,632	68,815	70,878	72,803	74,572	76,164	104,131

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.3, Item (15).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3
Insurer 3's Cumulative Ground-Up Losses, Indemnity Only, Annual Inflation = 0.0% / Coverage Block = 25 Years
($000's)

Exhibit 6.4

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1961	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1962	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1963	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1964	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1965	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1966	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1967	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1968	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1969	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1970	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1971	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1972	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1973	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1974	4.00%	1,229	1,317	1,405	1,493	1,577	1,657	1,733	1,805	1,873	1,937
1975-84	40.00%	12,292	13,172	14,052	14,932	15,772	16,572	17,332	18,052	18,732	19,372
Total	100.00%	30,730	32,930	35,130	37,330	39,430	41,430	43,330	45,130	46,830	48,430

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1961	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1962	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1963	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1964	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1965	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1966	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1967	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1968	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1969	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1970	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1971	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1972	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1973	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1974	4.00%	1,997	2,053	2,105	2,153	2,197	2,237	2,273	2,305	2,333	2,357	2,630
1975-84	40.00%	19,972	20,532	21,052	21,532	21,972	22,372	22,732	23,052	23,332	23,572	26,302
Total	100.00%	49,930	51,330	52,630	53,830	54,930	55,930	56,830	57,630	58,330	58,930	65,755

Notes: – Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.4, Item (15).
– Allocation method of calendar year losses to policy year is by equal weighting to each year.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3

Exhibit 7.1

Insurer 3's Cumulative Ground-Up Losses, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 15 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1961	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1962	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1963	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1964	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1965	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1966	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1967	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1968	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1969	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1970	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1971	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1972	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1973	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1974	6.67%	3,086	3,328	3,583	3,850	4,118	4,386	4,654	4,919	5,183	5,444
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0
Total	100.00%	46,283	49,921	53,741	57,752	61,773	65,793	69,803	73,792	77,748	81,658

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1961	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1962	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1963	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1964	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1965	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1966	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1967	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1968	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1969	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1970	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1971	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1972	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1973	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1974	6.67%	5,700	5,952	6,197	6,435	6,663	6,882	7,088	7,280	7,457	7,616	10,413
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0	0
Total	100.00%	85,506	89,277	92,954	96,518	99,948	103,223	106,317	109,205	111,858	114,246	156,197

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.1, Item (16).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3

Insurer 3's Cumulative Ground-Up Losses, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block -- 15 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1961	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1962	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1963	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1964	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1965	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1966	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1967	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1968	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1969	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1970	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1971	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1972	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1973	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1974	6.67%	3,073	3,293	3,513	3,733	3,943	4,143	4,333	4,513	4,683	4,843
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0
Total	100.00%	46,095	49,395	52,695	55,995	59,145	62,145	64,995	67,695	70,245	72,645

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1961	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1962	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1963	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1964	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1965	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1966	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1967	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1968	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1969	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1970	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1971	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1972	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1973	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1974	6.67%	4,993	5,133	5,263	5,383	5,493	5,593	5,683	5,763	5,833	5,893	6,576
1975-84	0.00%	0	0	0	0	0	0	0	0	0	0	0
Total	100.00%	74,895	76,995	78,945	80,745	82,395	83,895	85,245	86,445	87,495	88,395	98,633

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.2, Item (16).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 7.3

Insurer 3's Cumulative Ground-Up Losses, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 25 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1961	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1962	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1963	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1964	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1965	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1966	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1967	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1968	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1969	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1970	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1971	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1972	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1973	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1974	4.00%	1,851	1,997	2,150	2,310	2,471	2,632	2,792	2,952	3,110	3,266
1975-84	40.00%	18,513	19,968	21,497	23,101	24,709	26,317	27,921	29,517	31,099	32,663
Total	100.00%	46,283	49,921	53,742	57,752	61,773	65,793	69,803	73,792	77,748	81,658

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1961	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1962	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1963	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1964	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1965	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1966	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1967	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1968	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1969	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1970	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1971	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1972	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1973	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1974	4.00%	3,420	3,571	3,718	3,861	3,998	4,129	4,253	4,368	4,474	4,570	6,248
1975-84	40.00%	34,202	35,711	37,182	38,607	39,979	41,289	42,527	43,682	44,743	45,698	62,479
Total	100.00%	85,506	89,277	92,955	96,518	99,948	103,223	106,317	109,205	111,858	114,246	156,197

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.3, Item (16).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 7.4

Insurer 3's Cumulative Ground-Up Losses, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 25 Years

($000's)

Policy Year	Selected Weights	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1961	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1962	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1963	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1964	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1965	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1966	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1967	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1968	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1969	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1970	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1971	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1972	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1973	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1974	4.00%	1,844	1,976	2,108	2,240	2,366	2,486	2,600	2,708	2,810	2,906
1975-84	40.00%	18,438	19,758	21,078	22,398	23,658	24,858	25,998	27,078	28,098	29,058
Total	100.00%	46,095	49,395	52,695	55,995	59,145	62,145	64,995	67,695	70,245	72,645

Policy Year	Selected Weights	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1961	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1962	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1963	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1964	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1965	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1966	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1967	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1968	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1969	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1970	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1971	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1972	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1973	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1974	4.00%	2,996	3,080	3,158	3,230	3,296	3,356	3,410	3,458	3,500	3,536	3,945
1975-84	40.00%	29,958	30,798	31,578	32,298	32,958	33,558	34,098	34,578	34,998	35,358	39,453
Total	100.00%	74,895	76,995	78,945	80,745	82,395	83,895	85,245	86,445	87,495	88,395	98,633

Notes: - Cumulative projected calendar year ground-up indemnity costs losses from Exhibit 5.4, Item (16).
- Allocation method of calendar year losses to policy year is by equal weighting to each year.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 8.1
Insured 3's Losses in ABC Re's Reinsurance Layer, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 15 Years
($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	68	336	604	869	1,133	1,394
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	68	336	604	869	1,133	1,394
1967	2.0/2.7/100.0% / Included in Limit	386	628	883	1,150	1,418	1,686	1,954	2,000	2,000	2,000
1968	4.0/3.5/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	194
1969	4.0/3.5/100.0% / Included in Limit	0	0	83	350	618	886	1,154	1,419	1,683	1,944
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	48
1971	2.0/2.0/100.0% / Indem Only	57	219	389	567	745	924	1,102	1,280	1,458	1,629
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		443	847	1,354	2,067	2,918	4,169	5,417	6,438	7,405	8,603

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	1,650	1,902	2,147	2,385	2,613	2,832	3,000	3,000	3,000	3,000	3,000
1966	2.0/2.7/100.0% / Pro Rata	1,650	1,902	2,147	2,385	2,613	2,832	3,000	3,000	3,000	3,000	3,000
1967	2.0/2.7/100.0% / Included in Limit	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1968	4.0/3.5/100.0% / Pro Rata	450	702	947	1,185	1,413	1,632	1,838	2,030	2,207	2,366	5,163
1969	4.0/3.5/100.0% / Included in Limit	2,200	2,452	2,697	2,935	3,163	3,382	3,588	3,780	3,957	4,000	4,000
1970	4.0/3.5/25.0% / Pro Rata	113	175	237	296	353	408	459	508	552	592	1,291
1971	2.0/2.0/100.0% / Indem Only	1,800	1,968	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		9,864	11,101	12,175	13,184	14,156	15,084	15,885	16,318	16,716	16,958	20,454

Notes: – Policy information from Exhibit 4. Only policies in Insured 3's coverage block for this scenario, 1960 through 1974, are included.
– Losses in layer are calculated by using the policy information to carve out losses and expenses from Exhibits 5.1, 6.1, and 7.1.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 8.2

Insured 3's Losses in ABC Re's Reinsurance Layer, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 15 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	93	283	463	633	793
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	93	283	463	633	793
1967	2.0/2.7/100.0% / Included in Limit	373	593	813	1,033	1,243	1,443	1,633	1,813	1,983	2,000
1968	4.0/3.5/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	4.0/3.5/100.0% / Included in Limit	0	0	13	233	443	643	833	1,013	1,183	1,343
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	2.0/2.0/100.0% / Indem Only	49	195	342	489	629	762	889	1,009	1,122	1,229
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975-84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		422	788	1,168	1,755	2,315	3,034	3,921	4,761	5,554	6,158

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	943	1,083	1,213	1,333	1,443	1,543	1,633	1,713	1,783	1,843	2,526
1966	2.0/2.7/100.0% / Pro Rata	943	1,083	1,213	1,333	1,443	1,543	1,633	1,713	1,783	1,843	2,526
1967	2.0/2.7/100.0% / Included in Limit	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
1968	4.0/3.5/100.0% / Pro Rata	0	0	13	133	243	343	433	513	583	643	1,326
1969	4.0/3.5/100.0% / Included in Limit	1,493	1,633	1,763	1,883	1,993	2,093	2,183	2,263	2,333	2,393	3,076
1970	4.0/3.5/25.0% / Pro Rata	0	0	3	33	61	86	108	128	146	161	331
1971	2.0/2.0/100.0% / Indem Only	1,329	1,422	1,509	1,589	1,662	1,729	1,789	1,842	1,889	1,929	2,000
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975-84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		6,708	7,221	7,714	8,304	8,845	9,337	9,779	10,172	10,517	10,812	13,783

Notes: - Policy information from Exhibit 4. Only policies in Insured 3's coverage block for this scenario, 1960 through 1974, are included.
- Losses in layer are calculated by using the policy information to carve out losses and expenses from Exhibits 5.2, 6.2, and 7.2.
- Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3

Exhibit 8.3

Insured 3's Losses in ABC Re's Reinsurance Layer, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 25 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	2.0/2.7/100.0% / Included in Limit	0	0	0	0	0	0	92	252	410	566
1968	4.0/3.5/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	4.0/3.5/100.0% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	2.0/2.0/100.0% / Indem Only	0	0	0	0	0	0	0	0	73	178
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975-84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	92	252	483	744

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	79	203	318	424	520	2,198
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	79	203	318	424	520	2,198
1967	2.0/2.7/100.0% / Included in Limit	720	871	1,018	1,161	1,298	1,429	1,553	1,668	1,774	1,870	2,000
1968	*4.0/3.5/100.0% / Pro Rata*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*998*
1969	4.0/3.5/100.0% / Included in Limit	0	71	218	361	498	629	753	868	974	1,070	2,748
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0	249
1971	2.0/2.0/100.0% / Indem Only	280	381	479	574	665	753	835	912	983	1,047	2,000
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975-84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		1,000	1,323	1,715	2,095	2,461	2,968	3,546	4,085	4,580	5,026	12,391

Notes: – Policy information from Exhibit 4. Only policies in Insured 3's coverage block for this scenario, 1960 through 1984, are included.
– Losses in layer are calculated by using the policy information to carve out losses and expenses from Exhibits 5.3, 6.3, and 7.3.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3

Exhibit 8.4

Insured 3's Losses in ABC Re's Reinsurance Layer, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 25 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	2.0/2.7/100.0% / Included in Limit	0	0	0	0	0	0	0	8	110	206
1968	4.0/3.5/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	4.0/3.5/100.0% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	2.0/2.0/100.0% / Indem Only	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	8	110	206

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1966	2.0/2.7/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1967	2.0/2.7/100.0% / Included in Limit	296	380	458	530	596	656	710	758	800	836	1,245
1968	4.0/3.5/100.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1969	4.0/3.5/100.0% / Included in Limit	0	0	0	0	0	0	0	0	0	36	445
1970	4.0/3.5/25.0% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1971	2.0/2.0/100.0% / Indem Only	0	53	105	153	197	237	273	305	333	357	630
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		296	433	563	683	793	893	983	1,063	1,133	1,229	2,321

Notes: – Policy information from Exhibit 4. Only policies in Insured 3's coverage block for this scenario, 1960 through 1984, are included.
– Losses in layer are calculated by using the policy information to carve out losses and expenses from Exhibits 5.4, 6.4, and 7.4.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3
Comparison of Ground-Up Indemnity & Expense vs. Indemnity & Expense in Layer
Annual Inflation = 5.0% / Coverage Block = 15 Years
($000's)

Exhibit 9.1

Calendar Year	Insured 3's 1968 Policy Year Cumulative Indemnity and Expense: On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern	All Policy Years for Insured 3 in its Coverage Block Cumulative Indemnity and Expense: On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994		3,086	29.63%	0	0.00%	46,283	29.63%	443	2.16%
1995		3,328	31.96%	0	0.00%	49,921	31.96%	847	4.14%
1996		3,583	34.41%	0	0.00%	53,741	34.41%	1,354	6.62%
1997		3,850	36.97%	0	0.00%	57,752	36.97%	2,067	10.11%
1998		4,118	39.55%	0	0.00%	61,773	39.55%	2,918	14.27%
1999		4,386	42.12%	0	0.00%	65,793	42.12%	4,169	20.38%
2000		4,654	44.69%	0	0.00%	69,803	44.69%	5,417	26.48%
2001		4,919	47.24%	0	0.00%	73,792	47.24%	6,438	31.48%
2002		5,183	49.78%	0	0.00%	77,748	49.78%	7,405	36.20%
2003		5,444	52.28%	194	3.75%	81,658	52.28%	8,603	42.06%
2004		5,700	54.74%	450	8.72%	85,506	54.74%	9,864	48.23%
2005		5,952	57.16%	702	13.59%	89,277	57.16%	11,101	54.27%
2006		6,197	59.51%	947	18.34%	92,954	59.51%	12,175	59.52%
2007		6,435	61.79%	1,185	22.94%	96,518	61.79%	13,184	64.46%
2008		6,663	63.99%	1,413	27.37%	99,948	63.99%	14,156	69.21%
2009		6,882	66.09%	1,632	31.60%	103,223	66.09%	15,084	73.75%
2010		7,088	68.07%	1,838	35.59%	106,317	68.07%	15,885	77.66%
2011		7,280	69.91%	2,030	39.32%	109,205	69.91%	16,318	79.78%
2012		7,457	71.61%	2,207	42.75%	111,858	71.61%	16,716	81.73%
2013		7,616	73.14%	2,366	45.83%	114,246	73.14%	16,958	82.91%
Ultimate		10,413	100.00%	5,163	100.00%	156,197	100.00%	20,454	100.00%

Notes:
(2),(6) From Exhibit 7.1.
(3) = (2) / (2) at Ultimate.
(4),(8) From Exhibit 8.1.
(5) = (4) / (4) at Ultimate.
(7) = (6) / (6) at Ultimate.
(9) = (8) / (8) at Ultimate.

Asbestos BI Model for ABC Re's Insured 3
Comparison of Ground-Up Indemnity & Expense vs. Indemnity & Expense in Layer
Annual Inflation = 0.0% / Coverage Block = 15 Years
($000's)

	Insured 3's 1968 Policy Year Cumulative Indemnity and Expense				All Policy Years for Insured 3 in its Coverage Block Cumulative Indemnity and Expense			
Calendar Year (1)	On a Ground-Up $ Basis (2)	Implied Ground-Up Reporting Pattern (3)	In ABC Re's Reinsurance Layer (4)	ABC Re's Implied Reporting Pattern (5)	On a Ground-Up $ Basis (6)	Implied Ground-Up Reporting Pattern (7)	In ABC Re's Reinsurance Layer (8)	ABC Re's Implied Reporting Pattern (9)
1994	3,073	46.73%	0	0.00%	46,095	46.73%	422	3.06%
1995	3,293	50.08%	0	0.00%	49,395	50.08%	788	5.72%
1996	3,513	53.43%	0	0.00%	52,695	53.43%	1,168	8.47%
1997	3,733	56.77%	0	0.00%	55,995	56.77%	1,755	12.73%
1998	3,943	59.97%	0	0.00%	59,145	59.97%	2,315	16.79%
1999	4,143	63.01%	0	0.00%	62,145	63.01%	3,034	22.01%
2000	4,333	65.90%	0	0.00%	64,995	65.90%	3,921	28.45%
2001	4,513	68.63%	0	0.00%	67,695	68.63%	4,761	34.54%
2002	4,683	71.22%	0	0.00%	70,245	71.22%	5,554	40.30%
2003	4,843	73.65%	0	0.00%	72,645	73.65%	6,158	44.67%
2004	4,993	75.93%	0	0.00%	74,895	75.93%	6,708	48.67%
2005	5,133	78.06%	0	0.00%	76,995	78.06%	7,221	52.39%
2006	5,263	80.04%	13	0.98%	78,945	80.04%	7,714	55.97%
2007	5,383	81.86%	133	10.04%	80,745	81.86%	8,304	60.25%
2008	5,493	83.54%	243	18.33%	82,395	83.54%	8,845	64.17%
2009	5,593	85.06%	343	25.88%	83,895	85.06%	9,337	67.74%
2010	5,683	86.43%	433	32.67%	85,245	86.43%	9,779	70.95%
2011	5,763	87.64%	513	38.70%	86,445	87.64%	10,172	73.80%
2012	5,833	88.71%	583	43.98%	87,495	88.71%	10,517	76.30%
2013	5,893	89.62%	643	48.51%	88,395	89.62%	10,812	78.44%
Ultimate	6,576	100.00%	1,326	100.00%	98,633	100.00%	13,783	100.00%

Notes:
(2),(6) From Exhibit 7.2.
(3) = (2) / (2) at Ultimate.
(4),(8) From Exhibit 8.2.
(5) = (4) / (4) at Ultimate.
(7) = (6) / (6) at Ultimate.
(9) = (8) / (8) at Ultimate.

Asbestos BI Model for ABC Re's Insured 3
Comparison of Ground-Up Indemnity & Expense vs. Indemnity & Expense in Layer
Annual Inflation = 5.0% / Coverage Block = 25 Years
($000's)

Exhibit 9.3

	Insured 3's 1968 Policy Year Cumulative Indemnity and Expense				All Policy Years for Insured 3 in its Coverage Block Cumulative Indemnity and Expense			
Calendar Year	On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern	On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994	1,851	29.63%	0	0.00%	46,283	29.63%	0	0.00%
1995	1,997	31.96%	0	0.00%	49,921	31.96%	0	0.00%
1996	2,150	34.41%	0	0.00%	53,742	34.41%	0	0.00%
1997	2,310	36.97%	0	0.00%	57,752	36.97%	0	0.00%
1998	2,471	39.55%	0	0.00%	61,773	39.55%	0	0.00%
1999	2,632	42.12%	0	0.00%	65,793	42.12%	0	0.00%
2000	2,792	44.69%	0	0.00%	69,803	44.69%	92	0.74%
2001	2,952	47.24%	0	0.00%	73,792	47.24%	252	2.03%
2002	3,110	49.78%	0	0.00%	77,748	49.78%	483	3.90%
2003	3,266	52.28%	0	0.00%	81,658	52.28%	744	6.00%
2004	3,420	54.74%	0	0.00%	85,506	54.74%	1,000	8.07%
2005	3,571	57.16%	0	0.00%	89,277	57.16%	1,323	10.68%
2006	3,718	59.51%	0	0.00%	92,955	59.51%	1,715	13.84%
2007	3,861	61.79%	0	0.00%	96,518	61.79%	2,095	16.91%
2008	3,998	63.99%	0	0.00%	99,948	63.99%	2,461	19.86%
2009	4,129	66.09%	0	0.00%	103,223	66.08%	2,968	23.95%
2010	4,253	68.07%	0	0.00%	106,317	68.07%	3,546	28.62%
2011	4,368	69.91%	0	0.00%	109,205	69.91%	4,085	32.97%
2012	4,474	71.61%	0	0.00%	111,858	71.61%	4,580	36.96%
2013	4,570	73.14%	0	0.00%	114,246	73.14%	5,026	40.56%
Ultimate	6,248	100.00%	998	100.00%	156,197	100.00%	12,391	100.00%

Notes:
(2),(6) From Exhibit 7.3.
(3) = (2) / (2) at Ultimate.
(4),(8) From Exhibit 8.3.
(5) = (4) / (4) at Ultimate.
(7) = (6) / (6) at Ultimate.
(9) = (8) / (8) at Ultimate.

Asbestos BI Model for ABC Re's Insured 3
Comparison of Ground-Up Indemnity & Expense vs. Indemnity & Expense in Layer
Annual Inflation = 0.0% / Coverage Block = 25 Years
($000's)

Exhibit 9.4

	Insured 3's 1968 Policy Year Cumulative Indemnity and Expense				All Policy Years for Insured 3 in its Coverage Block Cumulative Indemnity and Expense			
Calendar Year	On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern	On a Ground-Up $ Basis	Implied Ground-Up Reporting Pattern	In ABC Re's Reinsurance Layer	ABC Re's Implied Reporting Pattern
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994	1,844	46.73%	0	NA	46,095	46.73%	0	0.00%
1995	1,976	50.08%	0	NA	49,395	50.08%	0	0.00%
1996	2,108	53.43%	0	NA	52,695	53.43%	0	0.00%
1997	2,240	56.77%	0	NA	55,995	56.77%	0	0.00%
1998	2,366	59.97%	0	NA	59,145	59.97%	0	0.00%
1999	2,486	63.01%	0	NA	62,145	63.01%	0	0.00%
2000	2,600	65.90%	0	NA	64,995	65.90%	0	0.00%
2001	2,708	68.63%	0	NA	67,695	68.63%	8	0.34%
2002	2,810	71.22%	0	NA	70,245	71.22%	110	4.73%
2003	2,906	73.65%	0	NA	72,645	73.65%	206	8.87%
2004	2,996	75.93%	0	NA	74,895	75.93%	296	12.75%
2005	3,080	78.06%	0	NA	76,995	78.06%	433	18.66%
2006	3,158	80.04%	0	NA	78,945	80.04%	563	24.26%
2007	3,230	81.86%	0	NA	80,745	81.86%	683	29.43%
2008	3,296	83.54%	0	NA	82,395	83.54%	793	34.17%
2009	3,356	85.06%	0	NA	83,895	85.06%	893	38.48%
2010	3,410	86.43%	0	NA	85,245	86.43%	983	42.36%
2011	3,458	87.64%	0	NA	86,445	87.64%	1,063	45.80%
2012	3,500	88.71%	0	NA	87,495	88.71%	1,133	48.82%
2013	3,536	89.62%	0	NA	88,395	89.62%	1,229	52.95%
Ultimate	3,945	100.00%	0	NA	98,633	100.00%	2,321	100.00%

Notes:
(2),(6) From Exhibit 7.4.
(3) = (2) / (2) at Ultimate.
(4),(8) From Exhibit 8.4.
(5) = (4) / (4) at Ultimate.
(7) = (6) / (6) at Ultimate.
(9) = (8) / (8) at Ultimate.

Asbestos BI Model for ABC Re's Sample Group Exhibit 10.1
Indemnity and Expenses with ABC Re's Layer of Coverage for All Sample Insureds , Annual Inflation = 5.0% / Coverage Block = 15 Years
($000's)

Sample Insureds	Tier	Average Ground-Up Attachment Pt	Total Exposure	ABC Re's Reported Loss & Exp	Projected losses and expenses from all policies with Insured in calendar year: 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Insured 1	4	37,500	3,363	0	0	0	0	0	0	0	0	0	0	0
Insured 2	4	20,757	19,683	20	143	158	173	188	203	218	233	248	263	278
Insured 3	2	2,943	17,000	2,300	443	847	1,354	2,067	2,916	4,169	5,417	6,438	7,405	8,603
Insured 4	1	48,750	38,480	21,500	44,301	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334
Insured 5	1	50,357	30,280	19,300	30,212	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344
Insured 6	1	48,333	40,680	22,450	44,059	45,224	46,371	47,233	47,233	47,233	47,233	47,233	47,233	47,233
Insured 7	2	37,813	13,581	1,500	1,500	1,500	1,500	1,556	1,668	1,777	2,394	3,473	4,482	5,008
Insured 8	2	40,000	14,290	300	300	300	300	300	300	529	869	1,198	1,317	1,423
Insured 9	2	40,313	10,233	300	300	300	300	300	457	673	858	937	1,016	1,093
Insured 10	3	17,143	6,000	150	188	190	193	197	276	391	488	531	574	618
Insured 11	2	37,813	31,940	200	281	300	300	300	300	300	300	300	300	300
Insured 12	3	26,429	16,300	0	0	0	0	0	0	0	0	0	0	0
Insured 13	3	25,938	24,800	15	0	0	0	0	0	0	7	47	87	127
Insured 14	3	21,111	9,500	15	0	0	0	0	0	42	86	129	172	200
Insured 15	3	25,313	6,400	200	236	253	270	312	415	533	644	714	750	788
	Subtotal Tier 1		109,440	63,250										
	Subtotal Tier 2		87,045	4,600										
	Subtotal Tier 3		63,000	380										
	Subtotal Tier 4		23,225	20										
	Total		282,710	68,250	121,961	125,750	127,439	129,132	130,452	132,544	135,207	137,927	140,257	142,344
	% of Ultimate				70.48%	72.67%	73.65%	74.62%	75.39%	76.60%	78.13%	79.71%	81.05%	82.26%

Sample Insureds	Tier	Projected losses and expenses from all policies with Insured in calendar year: 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate	Ultimate as % of Exposure	Case Inc'd Loss Devel. Factor
Insured 1	4	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 2	4	292	306	320	334	348	359	371	383	395	403	411	2.1%	20.529
Insured 3	2	8,864	11,101	12,175	13,184	14,156	15,084	15,885	16,318	16,716	16,958	20,454	120.3%	8.893
Insured 4	1	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334	46,334	120.4%	2.155
Insured 5	1	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	100.2%	1.572
Insured 6	1	47,233	47,233	47,233	47,233	47,233	47,233	47,233	47,233	47,233	47,233	47,233	116.1%	2.104
Insured 7	2	5,258	5,503	5,741	5,972	6,195	6,407	6,619	6,830	7,039	7,248	7,449	54.8%	4.966
Insured 8	2	1,527	1,629	1,729	1,825	1,918	2,007	2,095	2,183	2,270	2,357	5,475	38.3%	18.250
Insured 9	2	1,169	1,243	1,316	1,387	1,454	1,518	1,584	1,648	1,691	1,709	3,314	32.4%	11.045
Insured 10	3	658	698	738	777	831	892	953	1,013	1,083	1,099	1,928	32.1%	12.853
Insured 11	2	300	300	300	300	300	300	313	1,027	1,735	2,435	4,290	13.4%	21.450
Insured 12	3	0	0	0	0	0	0	0	0	0	0	586	3.6%	0.000
Insured 13	3	166	200	200	200	200	200	200	200	200	200	2,057	8.3%	137.164
Insured 14	3	200	200	200	200	200	200	200	200	200	200	1,595	16.8%	106.351
Insured 15	3	821	856	889	922	962	1,005	1,047	1,090	1,126	1,152	1,575	24.6%	7.873
	Subtotal Tier 1											123,911	113.2%	1.959
	Subtotal Tier 2											40,981	47.1%	8.909
	Subtotal Tier 3											7,741	12.3%	20.372
	Subtotal Tier 4											411	1.8%	20.127
	Total	144,166	145,947	147,519	149,011	150,474	151,883	153,178	154,804	156,348	157,670	173,044	61.2%	2.535
	% of Ultimate	83.31%	84.34%	85.25%	86.11%	86.96%	87.77%	88.52%	89.46%	90.35%	91.12%	100.00%		

Notes: – This exhibit is a compilation of Exhibit 8.1 for each insured in the sample group.
– Average ground-up attachment point and total exposure from insured policy information are given.
– ABC Re's reported loss & expense from ABC Re's claim files are given. The amount could be lower than implied by model because of reporting lags to ABC Re or higher because of additional reserves.

Asbestos BI Model for ABC Re's Sample Group
Indemnity and Expenses with ABC Re's Layer of Coverage for All Sample Insureds , Annual Inflation = 0.0% / Coverage Block = 15 Years
($000's)

Exhibit 10.2

Sample Insureds	Tier	Average Ground-Up Attachment Pt	Total Exposure	ABC Re's Reported Loss & Exp	Projected losses and expenses from all policies with insured in calendar year: 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Insured 1	4	37,500	3,363	0	0	0	0	0	0	0	0	0	0	0
Insured 2	4	20,757	19,863	20	141	154	168	178	190	200	210	220	229	236
Insured 3	2	2,943	17,000	2,300	422	788	1,168	1,755	2,315	3,034	3,921	4,781	5,554	6,156
Insured 4	1	48,750	38,480	21,500	43,967	45,878	46,318	46,318	46,318	46,318	46,318	46,318	46,318	46,318
Insured 5	1	50,357	30,280	19,300	30,115	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344
Insured 6	1	48,333	40,680	22,450	43,890	44,901	45,845	46,728	47,200	47,200	47,200	47,200	47,200	47,200
Insured 7	2	37,813	13,581	1,500	1,500	1,500	1,500	1,500	1,564	1,642	1,714	1,781	1,843	2,574
Insured 8	2	40,000	14,290	300	300	300	300	300	300	300	320	532	733	922
Insured 9	2	40,313	10,233	300	300	300	300	300	300	401	543	674	799	871
Insured 10	3	17,143	6,000	150	185	189	192	195	197	250	324	392	457	495
Insured 11	2	37,813	31,940	200	269	300	300	300	300	300	300	300	300	300
Insured 12	3	26,429	16,300	0	0	0	0	0	0	0	0	0	0	0
Insured 13	3	25,938	24,800	15	0	0	0	0	0	0	0	0	0	18
Insured 14	3	21,111	9,500	15	0	0	0	0	0	0	19	47	73	98
Insured 15	3	25,313	6,400	200	234	248	262	278	318	388	467	541	611	665
	Subtotal Tier 1		109,440	63,250										
	Subtotal Tier 2		87,045	4,600										
	Subtotal Tier 3		63,000	360										
	Subtotal Tier 4		23,225	20										
	Total		282,710	68,250	121,323	124,903	126,695	128,193	129,346	130,378	131,680	133,111	134,560	136,202
	% of Ultimate				81.33%	83.73%	84.93%	85.94%	86.71%	87.40%	88.27%	89.23%	90.20%	91.30%

Sample Insureds	Tier	Projected losses and expenses from all policies with insured in calendar year: 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate	Ultimate as % of Exposure	Case Inc'd Loss Devel. Factor
Insured 1	4	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 2	4	246	253	260	267	273	278	283	288	292	297	301	1.5%	15.034
Insured 3	2	6,708	7,221	7,714	8,304	8,845	9,337	9,779	10,172	10,517	10,812	13,783	81.1%	5.993
Insured 4	1	46,318	46,318	46,318	46,318	46,318	46,318	46,318	46,318	46,318	46,318	46,318	120.4%	2.154
Insured 5	1	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	30,344	100.2%	1.572
Insured 6	1	47,200	47,200	47,200	47,200	47,200	47,200	47,200	47,200	47,200	47,200	47,200	116.0%	2.102
Insured 7	2	3,161	3,681	4,126	4,555	4,873	4,968	5,054	5,137	5,218	5,290	5,358	39.5%	3.573
Insured 8	2	1,099	1,231	1,281	1,328	1,370	1,409	1,446	1,481	1,514	1,544	1,958	13.7%	6.528
Insured 9	2	814	853	890	1,024	1,055	1,083	1,110	1,135	1,159	1,182	1,484	14.5%	4.948
Insured 10	3	518	540	560	578	595	611	626	640	653	665	817	13.6%	5.447
Insured 11	2	300	300	300	300	300	300	300	300	300	300	300	0.9%	1.500
Insured 12	3	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 13	3	40	60	79	98	112	127	141	154	166	177	200	0.8%	13.333
Insured 14	3	122	143	164	182	200	200	200	200	200	200	200	2.1%	13.333
Insured 15	3	705	723	740	756	770	783	795	806	819	829	909	14.2%	4.546
	Subtotal Tier 1											123,862	113.2%	1.958
	Subtotal Tier 2											22,885	26.3%	4.975
	Subtotal Tier 3											2,128	3.4%	5.595
	Subtotal Tier 4											301	1.3%	14.739
	Total	137,674	138,948	140,077	141,253	142,255	142,956	143,598	144,176	144,697	145,158	149,174	52.8%	2.188
	% of Ultimate	92.29%	93.15%	93.90%	94.68%	95.36%	95.83%	96.26%	96.65%	97.00%	97.31%	100.00%		

Notes: – This exhibit is a compilation of Exhibit 8.2 for each insured in the sample group.
– Average ground-up attachment point and total exposure from insured policy information are given.
– ABC Re's reported loss & expense from ABC Re's claim files are given. The amount could be lower than implied by model because of reporting lags to ABC Re or higher because of additional reserves.

Asbestos BI Model for ABC Re's Sample Group

Exhibit 10.3

Indemnity and Expenses with ABC Re's Layer of Coverage for All Sample Insureds , Annual Inflation = 5.0% / Coverage Block = 25 Years

($000's)

Sample Insureds	Tier	Average Ground-Up Attachment Pt	Total Exposure	ABC Re's Reported Loss & Exp	Projected losses and expenses from all policies with insured in calendar year: 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Insured 1	4	37,500	3,363	0	0	0	0	0	0	0	0	0	0	0
Insured 2	4	20,757	19,883	20	40	48	53	60	67	74	83	92	101	110
Insured 3	2	2,943	17,000	2,300	0	0	0	0	0	0	92	252	483	744
Insured 4	1	48,750	38,480	21,500	21,011	22,026	23,025	24,568	26,127	27,780	29,616	31,396	33,186	34,913
Insured 5	1	50,357	30,280	19,300	19,628	20,344	20,344	20,778	21,365	22,253	23,185	24,091	24,990	25,878
Insured 6	1	48,333	40,680	22,450	22,484	24,860	26,048	27,015	28,367	29,988	31,567	33,101	34,823	36,127
Insured 7	2	37,813	13,581	1,500	0	0	333	675	1,011	1,339	1,500	1,500	1,500	1,500
Insured 8	2	40,000	14,290	300	0	62	135	207	277	300	300	300	300	300
Insured 9	2	40,313	10,233	300	52	129	205	278	300	300	300	300	300	300
Insured 10	3	17,143	6,000	150	36	76	118	155	167	168	171	173	175	178
Insured 11	2	37,813	31,840	200	0	0	0	0	0	0	0	0	0	11
Insured 12	3	26,429	16,300	0	0	0	0	0	0	0	0	0	0	0
Insured 13	3	25,838	24,800	15	0	0	0	0	0	0	0	0	0	0
Insured 14	3	21,111	9,500	15	0	0	0	0	0	0	0	0	0	0
Insured 15	3	25,313	8,400	200	58	84	111	137	150	158	168	178	189	199
	Subtotal Tier 1		109,440	63,250										
	Subtotal Tier 2		87,045	4,600										
	Subtotal Tier 3		63,000	380										
	Subtotal Tier 4		23,225	20										
	Total		282,710	68,250	63,309	67,627	70,370	73,892	77,830	82,360	86,982	91,386	95,827	100,259
	% of Ultimate				45.36%	48.45%	50.41%	52.94%	55.76%	59.00%	62.32%	65.47%	68.65%	71.83%

Sample Insureds	Tier	Projected losses and expenses from all policies with insured in calendar year: 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate	Ultimate as % of Exposure	Case Inc'd Loss Devel. Factor
Insured 1	4	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 2	4	119	128	136	144	152	159	167	174	181	188	195	1.0%	9.770
Insured 3	2	1,000	1,323	1,715	2,095	2,461	2,968	3,548	4,085	4,580	5,026	12,391	72.9%	5.387
Insured 4	1	36,633	38,318	39,961	41,554	42,774	43,683	43,975	44,182	44,182	44,182	44,182	114.8%	2.055
Insured 5	1	26,752	27,606	28,443	29,252	29,769	30,068	30,344	30,344	30,344	30,344	30,344	100.2%	1.572
Insured 6	1	37,607	39,058	40,472	41,843	42,848	43,754	44,312	44,812	45,307	45,548	45,548	112.0%	2.029
Insured 7	2	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,502	1,552	1,801	11.8%	1.087
Insured 8	2	300	300	300	300	300	300	300	300	300	300	1,848	12.9%	8.161
Insured 9	2	300	300	300	300	300	300	300	300	300	300	1,403	13.7%	4.678
Insured 10	3	180	182	184	186	188	190	192	193	195	197	751	12.5%	5.004
Insured 11	2	56	100	143	184	224	263	300	300	300	300	300	0.9%	1.500
Insured 12	3	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 13	3	0	0	0	0	0	0	0	0	0	0	200	0.8%	13.333
Insured 14	3	0	0	0	0	0	0	0	0	0	0	200	2.1%	13.333
Insured 15	3	209	219	228	237	246	254	262	271	282	313	618	9.7%	3.092
	Subtotal Tier 1											120,074	109.7%	1.096
	Subtotal Tier 2											17,543	20.2%	3.814
	Subtotal Tier 3											1,789	2.8%	4.855
	Subtotal Tier 4											185	0.8%	9.578
	Total	104,655	109,035	113,383	117,596	120,862	123,436	125,197	126,460	127,474	128,250	139,581	49.4%	2.045
	% of Ultimate	74.98%	78.12%	81.23%	84.25%	86.59%	88.43%	89.69%	90.60%	91.33%	91.88%	100.00%		

Notes: – This exhibit is a compilation of Exhibit 8.3 for each insured in the sample group.
– Average ground-up attachment point and total exposure from insured policy information are given.
– ABC Re's reported loss & expense from ABC Re's claim files are given. The amount could be lower than implied by model because of reporting lags to ABC Re or higher because of additional reserves.

Asbestos BI Model for ABC Re's Sample Group Exhibit 10.4

Indemnity and Expenses with ABC Re's Layer of Coverage for All Sample Insureds , Annual Inflation = 0.0% / Coverage Block = 25 Years

($000's)

Sample Insureds	Tier	Average Ground-Up Attachment Pt	Total Exposure	ABC Re's Reported Loss & Exp	Projected losses and expenses from all policies with insured in calendar year: 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Insured 1	4	37,500	3,363	0	0	0	0	0	0	0	0	0	0	0
Insured 2	4	20,757	19,863	20	39	45	50	55	61	65	70	75	80	85
Insured 3	2	2,943	17,000	2,300	0	0	0	0	0	0	0	8	110	206
Insured 4	1	48,750	38,480	21,500	20,868	21,744	22,567	23,512	24,662	25,732	26,726	27,706	28,681	29,903
Insured 5	1	50,357	30,280	19,300	19,395	20,344	20,344	20,369	20,807	21,215	21,677	22,281	22,812	23,331
Insured 6	1	48,333	40,680	22,450	22,149	24,201	25,732	26,262	27,077	27,953	29,012	30,001	30,935	31,814
Insured 7	2	37,813	13,581	1,500	0	0	173	442	692	925	1,142	1,342	1,500	1,500
Insured 8	2	40,000	14,290	300	0	42	102	158	210	259	300	300	300	300
Insured 9	2	40,313	10,233	300	41	107	170	228	283	300	300	300	300	300
Insured 10	3	17,143	6,000	150	30	65	97	128	156	166	166	169	170	171
Insured 11	2	37,813	31,940	200	0	0	0	0	0	0	0	0	0	0
Insured 12	3	26,429	16,300	0	0	0	0	0	0	0	0	0	0	0
Insured 13	3	25,938	24,800	15	0	0	0	0	0	0	0	0	0	0
Insured 14	3	21,111	9,500	15	0	0	0	0	0	0	0	0	0	0
Insured 15	3	25,313	6,400	200	54	77	99	119	139	149	154	159	165	171
	Subtotal Tier 1		109,440	63,250										
	Subtotal Tier 2		87,045	4,600										
	Subtotal Tier 3		63,000	380										
	Subtotal Tier 4		23,225	20										
	Total		282,710	68,250	62,577	66,625	69,334	71,273	74,086	76,764	79,547	82,409	85,253	87,782
	% of Ultimate				51.44%	54.77%	57.00%	58.59%	60.91%	63.11%	65.39%	67.75%	70.09%	72.16%

Sample Insureds	Tier	Projected losses and expenses from all policies with insured in calendar year: 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate	Ultimate as % of Exposure	Case Inc'd Loss Devel. Factor
Insured 1	4	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 2	4	90	95	99	103	107	110	113	116	119	122	124	0.6%	6.206
Insured 3	2	296	433	583	683	793	893	983	1,063	1,133	1,229	2,321	13.7%	1.009
Insured 4	1	30,860	31,754	32,584	33,350	34,052	34,691	35,297	35,872	36,414	36,925	43,240	112.4%	2.011
Insured 5	1	23,818	24,272	24,694	25,083	25,440	25,764	26,073	26,365	26,640	26,900	29,804	98.8%	1.549
Insured 6	1	32,638	33,408	34,122	34,781	35,388	35,935	36,457	36,952	37,419	37,858	43,315	108.5%	1.929
Insured 7	2	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	11.0%	1.000
Insured 8	2	300	300	300	300	300	300	300	300	300	300	300	2.1%	1.000
Insured 9	2	300	300	300	300	300	300	300	300	300	300	300	2.9%	1.000
Insured 10	3	173	174	175	176	177	178	178	179	180	180	181	3.0%	1.207
Insured 11	2	0	0	0	0	0	5	21	36	50	64	242	0.8%	1.209
Insured 12	3	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 13	3	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 14	3	0	0	0	0	0	0	0	0	0	0	0	0.0%	0.000
Insured 15	3	177	182	187	191	195	199	202	206	209	212	215	3.4%	1.073
	Subtotal Tier 1											116,459	106.4%	1.841
	Subtotal Tier 2											4,663	5.4%	1.014
	Subtotal Tier 3											396	0.6%	1.041
	Subtotal Tier 4											124	0.5%	6.085
	Total	90,152	92,417	94,523	96,468	98,250	99,875	101,425	102,888	104,264	105,590	121,842	43.0%	1.782
	% of Ultimate	74.11%	75.97%	77.71%	79.30%	80.77%	82.11%	83.38%	84.58%	85.71%	86.80%	100.00%		

Notes: – This exhibit is a compilation of Exhibit 8.4 for each Insured in the sample group.
– Average ground-up attachment point and total exposure from insured policy information are given.
– ABC Re's reported loss & expense from ABC Re's claim files are given. The amount could be lower than implied by model because of reporting lags to ABC Re or higher because of additional reserves.

Asbestos BI Model for ABC Re's Sample Group
Calculation of Range of Estimates of ABC Re's Liabilities for the Sample Group
($000's)

Exhibit 11

Estimated Ultimate Loss & Expense for Sample Group of ABC Re's policies

Inflation=5.0% 15 yr Cov Blck Baseline Scenario (1)	Inflation=0.0% 15 yr Cov Blck Scenario (2)	Inflation=5.0% 25 yr Cov Blck Scenario (3)	Inflation=0.0% 25 yr Cov Blck Scenario (4)
$173,044	$149,174	$139,581	$121,642

(5) Selected Low End of Range	$130,612
(6) Selected High End of Range	$161,109
(7) Selected Best Estimate	$153,485

Notes:
(1) From Exhibit 10.1.
(2) From Exhibit 10.2.
(3) From Exhibit 10.3.
(4) From Exhibit 10.4.
(5) Average of Columns (3) and (4).
(6) Average of Columns (1) and (2).
(7) Weighted average of Items (5) and (6). The weights are 25% and 75% respectively. The weights were selected based on likelihood of each scenario.

Asbestos BI Model for ABC Re's Insured 3

Insured 3's Losses in $5M XS $5M Layer, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 15 Years

($000's)

Exhibit 12.1

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	183	444
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	183	444
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975 - 84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	366	888

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	116	2,913
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	116	2,913
1967	5 / 5 / 100% / Included in Limit	700	952	1,197	1,435	1,663	1,882	2,088	2,280	2,457	2,616	5,000
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	116	2,913
1969	5 / 5 / 100% / Included in Limit	700	952	1,197	1,435	1,663	1,882	2,088	2,280	2,457	2,616	5,000
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	116	2,913
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	78	1,942
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975 - 84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		1,401	1,904	2,394	2,869	3,326	3,763	4,176	4,561	4,914	5,776	23,595

Notes: - $5M XS $5M layer for all policies. Only policies in Insured 3's coverage block for this scenario, 1960 through 1974, are included.
- Losses in layer are calculated by using $5M XS $5M to carve out losses and expenses from Exhibits 5.1, 6.1, and 7.1.
- Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969). When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached. In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point. Both scenarios should be examined.
- Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 12.2

Insured 3's Losses in $5M XS $5M Layer, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 15 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	133	263	383	493	593	683	763	833	893	1,576
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	133	263	383	493	593	683	763	833	893	1,576
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		0	266	526	766	986	1,186	1,366	1,526	1,666	1,786	3,151

Notes: – $5M XS $5M layer for all policies. Only policies in Insured 3's coverage block for this scenario, 1960 through 1974, are included.
– Losses in layer are calculated by using $5M XS $5M to carve out losses and expenses from Exhibits 5.2, 6.2, and 7.2.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 12.3

Insured 3's Losses in $5M XS $5M Layer, Indemnity and Expenses, Annual Inflation = 5.0% / Coverage Block = 25 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975~84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0	1,248
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0	1,248
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975~84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	2,496

Notes: – $5M XS $5M layer for all policies. Only policies in Insured 3's coverage block for this scenario, 1960 through 1984, are included.
– Losses in layer are calculated by using $5M XS $5M to carve out losses and expenses from Exhibits 5.3, 6.3, and 7.3.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Asbestos BI Model for ABC Re's Insured 3 Exhibit 12.4

Insured 3's Losses in $5M XS $5M Layer, Indemnity and Expenses, Annual Inflation = 0.0% / Coverage Block = 25 Years

($000's)

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1963	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1965	*5 / 5 / 100% / Pro Rata*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0

Policy Year	Width/Attch Pt/ % Share / Expenses ($ in millions)	Calendar Year 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Ultimate
1960	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1961	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1962	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1963	*No ABC Re Policy*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
1964	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1965	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1966	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1967	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0	0
1968	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1969	5 / 5 / 100% / Included in Limit	0	0	0	0	0	0	0	0	0	0	0
1970	5 / 5 / 100% / Pro Rata	0	0	0	0	0	0	0	0	0	0	0
1971	5 / 5 / 100% / Indem Only	0	0	0	0	0	0	0	0	0	0	0
1972	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1973	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1974	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
1975–84	No ABC Re Policy	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0

Notes: –$5M XS $5M layer for all policies. Only policies in Insured 3's coverage block for this scenario, 1960 through 1984, are included.
– Losses in layer are calculated by using $5M XS $5M to carve out losses and expenses from Exhibits 5.4, 6.4, and 7.4.
– Expenses are added to indemnity before applying attachment point and limits for expenses included in limits policies. (Policy Years 1967 and 1969).
When all lower layer policies are indemnity only or pro rata, this would not be true. In this case, indemnity only should be used to determine if the attachment point is reached.
In the real world the true answer is somewhere between adding expenses to indemnity or just indemnity in determining satisfaction of the attachment point.
Both scenarios should be examined.
– Ultimate value is calculated by continuation of patterns beyond months shown.

Extrapolation Method 1 using ABC Re's Sample Group
Calcialtion of Percent of Exposure Eroded by Layer by Tier

Exhibit 13

Example Calculation of Matrix Box for Tier 2, $5M XS $5M

Name	Tier	Exposure Assuming each Policy $5M XS $5 M	Projected Ultimate Loss and Expense from BI Model in the Layer Assuming each ABC Re Policy is $5M XS $5M: 5 % Inflt'n 15 Yr Spread Scenario	0 % Inflt'n 15 Yr Spread Scenario	Average of 15 Yr Spread Scenarios	5 % Inflt'n 25 Yr Spread Scenario	0 % Inflt'n 25 Yr Spread Scenario	Average of 25 Yr Spread Scenarios	Wtd 75% 15 Yr Wtd 25% 25 Yr Average	Percent of $5M XS $5M Layer Eroded
Insured Co 3	2	35.0	23.6	3.2	13.4	2.5	0.0	1.3	10.4	30%
Insured Co 7	2	40.0	33.6	7.8	20.7	6.0	0.0	3.0	16.3	41%
Insured Co 8	2	40.0	37.9	10.9	24.4	8.5	0.0	4.3	19.4	48%
Insured Co 9	2	40.0	35.7	9.4	22.6	7.2	0.0	3.6	17.8	45%
Insured Co 11	2	40.0	35.7	9.4	22.6	7.2	0.0	3.6	17.8	45%
		195.0	166.5	40.7	103.6	31.4	0.0	15.7	81.6	42%

Selected Percent of Layer Eroded

Tier	Layer .5M xs 0	.5M xs .5M	4M xs 1M	5M xs 5M	15M xs 10M	25M xs 25M	50M xs 50M
1							
2				42%			
3							
4							

Notes:
- The exposure for an insured here is the number of policies with the insured times the $5M layer.
- *Ultimate loss and expense from Exhibit 12 for each Tier 2 insured in the sample group.*
- Average ultimate loss and expense judgmentally selected based upon weighted average of four scenarios.

Extrapolation Method 2 using ABC Re's Sample Group
Calculation of Case Incurred Loss Development Factors

Exhibit 14

	Case Incurred Loss and Expense Development Factor by Tier for			
Tier	5 % Inflt 15 Yr Spread Scenario	0 % Inflt 15 Yr Spread Scenario	5 % Inflt 25 Yr Spread Scenario	0 % Inflt 25 Yr Spread Scenario
Tier 1	1.959	1.958	1.898	1.841
Tier 2	8.909	4.975	3.814	1.014
Tier 3	20.372	5.595	4.655	1.041
Tier 4	20.127	14.739	9.578	6.085

	Case Incurred Loss and Expense Percent Reported by Tier for							
Tier	5 % Inflt 15 Yr Spread Scenario	0 % Inflt 15 Yr Spread Scenario	Average of 15 Yr Spread Scenarios	5 % Inflt 25 Yr Spread Scenario	0 % Inflt 25 Yr Spread Scenario	Average of 25 Yr Spread Scenarios	Wtd 75% 15 Yr Wtd 25% 25 Yr Average % Reported by Tier	Selected Development Factor by Tier
Tier 1	51.05%	51.07%	51.06%	52.69%	54.32%	53.50%	51.67%	1.935
Tier 2	11.22%	20.10%	15.66%	26.22%	98.62%	62.42%	27.35%	3.656
Tier 3	4.91%	17.87%	11.39%	21.48%	96.06%	58.77%	23.24%	4.304
Tier 4	4.97%	6.78%	5.88%	10.44%	16.43%	13.44%	7.77%	12.875

Notes:
- Development factors from Exhibit 10.
- Percent reported equals reciprocal of appropriate development factor.
- Weighted average of percent reported for the four scenarios judgmentally selected.
- Selected development factor equals reciprocal of weighted average percent reported.

Extrapolation Method 3 using ABC Re's Sample Group
Calculation of Percent of Exposure Exhausted by Tier

Exhibit 15

Tier	Ultimate Loss & Expense as a Percent of Exposure for: 5 % Inflt 15 Yr Spread Scenario	0 % Inflt 15 Yr Spread Scenario	Average of 15 Yr Spread Scenarios	5 % Inflt 25 Yr Spread Scenario	0 % Inflt 25 Yr Spread Scenario	Average of 25 Yr Spread Scenarios	Wtd 75% 15 Yr Wtd 25% 25 Yr Average Percent of Exposure Exhausted by Tier
Tier 1	113.2%	113.2%	113.2%	109.7%	106.4%	108.1%	111.9%
Tier 2	47.1%	26.3%	36.7%	20.2%	5.4%	12.8%	30.7%
Tier 3	12.3%	3.4%	7.9%	2.8%	0.6%	1.7%	6.3%
Tier 4	1.8%	1.3%	1.6%	0.8%	0.5%	0.7%	1.3%

Notes:
- Percent of exposure factors from Exhibit 10.
- Weighted average of four scenarios judgmentally selected.
- Some percent of exposure factors bigger than 100% because of policies with pro rata expense treatment.

Extrapolation Method 4 using ABC Re's Sample Group
Calculation of Average Ultimate Loss and Expense by Tier
($ in 000's)

Exhibit 16

	Ultimate Loss & Expense by Scenario by Tier				
Tier	5 % Inflin 15 Yr Spread Scenario	0 % Inflin 15 Yr Spread Scenario	5 % Inflin 25 Yr Spread Scenario	0 % Inflin 25 Yr Spread Scenario	Number of Sample Group Insureds by Tier
Tier 1	123,911	123,862	120,074	116,459	3
Tier 2	40,981	22,885	17,543	4,663	5
Tier 3	7,741	2,126	1,769	396	5
Tier 4	411	301	195	124	2

	Average Ultimate Loss & Expense by Scenario by Tier						Wtd 75% 15 Yr Wtd 25% 25 Yr Average
Tier	5 % Inflin 15 Yr Spread Scenario	0 % Inflin 15 Yr Spread Scenario	Average of 15 Yr Spread Scenarios	5 % Inflin 25 Yr Spread Scenario	0 % Inflin 25 Yr Spread Scenario	Average of 25 Yr Spread Scenarios	Ultimate Loss & Expense
Tier 1	41,304	41,287	41,296	40,025	38,820	39,422	40,827
Tier 2	8,196	4,577	6,387	3,509	933	2,221	5,345
Tier 3	1,548	425	987	354	79	217	794
Tier 4	206	151	178	98	62	80	153

Notes:
- Ultimate loss and expense from Exhibit 10.
- Number of sample group insureds by Tier from Exhibit 10.
- Weighted average of four scenarios judgmentally selected.